



I.

WESTPORT BOARD OF EDUCATION
110 MYRTLE AVENUE
WESTPORT, CT 06880
203 341-1002
SPECIFICATION COVER SHEET
BID # 17-009-BOE

STAPLES HIGH SCHOOL POOL AND LOCKER ROOM REFURBISHMENT PROJECT

VENDOR MUST ENCLOSE TWO COPIES OF THIS SPECIFICATION COVER SHEET and TWO COPIES OF THE BID SPECIFICATIONS PRICING SHEETS WHEN RESPONDING TO THIS BID.

The Westport Board of Education (“Owner” or “WBOE”) reserves the right to reject any and all bids, or any part thereof, may waive informalities or minor defects in the Bids, or accept any proposal it deems to be in the best interest of the Board of Education and/or the Town of Westport (“Town”). The Westport Board of Education is exempt from the payment of Federal Excise Taxes and Connecticut Sales and Use Tax according to State Statute. Such taxes must not be included in bid prices nor added to any items specified.

INSTRUCTIONS ON BID DEADLINES AND REQUIREMENTS:

NAME OF BID: STAPLES HIGH SCHOOL POOL AND LOCKER ROOM REFURBISHMENT PROJECT
TYPE OF BID: Sealed BID BID # 17-009-BOE
BID CLOSURE DATE: Received Until: DATE: 03/16/2017 TIME: 10:00 A.M.

LOCATION TO FORWARD BID: Elio Longo, Director of School Business Operations

Westport Board of Education

110 Myrtle Avenue, Room 300

Westport, CT 06880

BID SECURITY: Bid Security Required YES, 10% of Bid BID Security *Not* Required _____

PREVAILING WAGE: Required _____ Yes _____ *Not Required* _____

FORMS TO COMPLETE BID: Submit two copies of the Bid Specification Sheets and Proposals
Identify Name of BID and BID Number on Envelope:

STAPLES HIGH SCHOOL POOL AND LOCKER ROOM REFURBISHMENT PROJECT BID # 17-009-BOE
THERE WILL BE A MANDATORY WALK THROUGH ON 2/24/2017 AT 10 AM. AT THE STAPLES HIGH SCHOOL MAIN ENTRANCE, FRONT DOOR.

LENGTH OF TIME PRICES WILL BE HONORED: 120 DAYS
START DATE: June 20, 2017
COMPLETION DATE: August 23, 2017

Experience: Provide a detailed written summary of the Proposer’s experience, qualifications, financial strength, and capability in providing similar services elsewhere. The Proposer should also include three (3) references from similar engagements for Connecticut Municipal and School clients along with individual names and telephone numbers.

Staff Plan: Identify key staff that will provide any portion of the services required under the contract. For each identified individual, provide background and experience, and areas and levels of responsibility.

Engagement Team: The key personnel assigned to this engagement are considered essential to the work being performed. Substitutions may only be made upon mutual agreement between the Town and/or BOE and the selected firm.

WESTPORT BOARD OF EDUCATION
Elio Longo
Office of Director of School Business Operations
110 Myrtle Avenue
Westport, CT 06880
203 341-1001



BID # 17-009-BOE
STAPLES HIGH SCHOOL POOL AND LOCKER ROOM REFURBISHMENT PROJECT

Notice is hereby given that sealed bids on the following will be received at the Office of the Director of School Business Operations until:

DATE 03/16/2017 at 10:00 a.m.

at which time they will be publicly opened and read aloud:

BID # 17-009-BOE
STAPLES HIGH SCHOOL POOL AND LOCKER ROOM REFURBISHMENT PROJECT

The Board of Education reserves the right to reject any and all bids, or any part thereof, to waive defects in the same, or to accept any proposal it deems to be in the best interest of the Board of Education and/or the Town of Westport.

Questions regarding this bid should be directed to Theodore Hunyadi, Director of Facilities, at 203-341-1271.

I have read and understand the bid requirements of this bid specifications included for my review herein:

Signature of Company Representative *Date*

TYPED NAME AND TITLE: _____

COMPANY: _____

ADDRESS: _____

CITY: _____ **STATE:** _____ **ZIP:** _____

TELEPHONE NUMBER: _____ **FAX NUMBER:** _____

EMAIL ADDRESS: *(Please print clearly or attach business card):* _____

II. **WESTPORT PUBLIC SCHOOLS**
STAPLES HIGH SCHOOL POOL AND LOCKER ROOM REFURBISHMENT PROJECT
BID # 17-009-BOE

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III.

DRUG-FREE PLACE CERTIFICATE

I hereby certify that this company:

1. Has a published statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the place and that this statement specifies the actions which will be taken against employees for violations of such prohibition.
2. Has a written policy informing employees about the dangers of drug abuse in the place, the firm's policy of maintaining a drug free place, any available counseling, rehabilitation, and employee assistance programs, and the penalties which may be imposed upon employees for drug abuse violations.
3. Each employee engaged in providing the commodities or contractual services which are being bid was given a copy of the statements specified in paragraphs 1 and 2, above.
4. In the statement specified in paragraph 1, the employees have been notified that, as a condition of working on the commodities or contractual services which are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of "guilty" or of "nolo contendere" to any violation of any controlled substance law of the United States or of any state, for a violation occurring in the place no later than five (5) days after such conviction or plea.
5. This firm will impose a sanction on or require the satisfactory participation in a drug abuse assistance program or a rehabilitation program, if such are available in the employee's community, by any employee who is so convicted.
6. This firm will make a good faith effort to continue to maintain a drug free place.

As the person authorized to sign this statement, I certify that this firm fully complies with the above requirements.

Signature: _____ *Date:* _____

Print Name: _____ *Telephone #:* _____ *Fax #:* _____

Company: _____ *Email:* _____

IV.

CONDITIONS FOR BIDDING

1. The Board of Education reserves the right to reject any bid if it is deemed to be in the best interests of the Town of Westport, Connecticut, Westport Board of Education and its students.
2. The Board of Education reserves the right to grant an award in total or for any part thereof for the items or services being bid. In addition, the Board of Education reserves the right to award this bid as a package in conjunction with other bids for similar services/supplies/equipment. The Board reserves the right to award with preference to State of Connecticut contract holders and/or local vendors.
3. The submission of a bid shall be conclusive evidence that the bidder has satisfied himself as to the requirements of the bid specifications and any controlling conditions which may exist.
4. Bidders may not withdraw their bid for a period of 120 days from the date of bid opening. The Board of Education and the bidder may mutually agree to extend the time limit.
5. In determining the ranking of responsible bidders, the Board of Education may consider, in addition to price, the quality, availability and type of items, the experience of the bidder, the sufficiency of the financial resources of the bidder and the reputation of the bidder for ability, integrity, judgment and performance, as well as the ability of the bidder to provide future service/supplies/equipment.
6. It is anticipated that the goods will be needed for the current school year, but the Board of Education reserves the right to cancel or alter this service because of enrollment changes, budget consideration or unforeseen circumstances which require a change.
7. All bid prices are to include the complete costs, which include inside delivery to each school or location with installation and assembly of same, if applicable, and training, if applicable. All deliveries must be made prepaid and must be delivered to the location subsequently designated on the purchase orders at no cost over and above the bid price indicated in your bid.

Deliveries must be made inside building indicated. In no case will collect shipments or sidewalk deliveries be accepted. A packing slip shall be included in each shipment. All packages must be clearly marked as to content.
8. The Board of Education of the Town of Westport supports efforts to reduce the use of illegal drugs in the place. In instances where responsible prospective bidders submit identical tie bids, preference shall be given to the businesses with drug-free place programs. Whenever two or more bids which are equal with respect to price, quality, and service are received by the Board of Education for the procurement of commodities or contractual services which are bid, a bid received from a business which has certified that it has implemented a drug-free place program shall be given preference in the award process. The drug-free place program certification is attached and is to be submitted with the bid package by the bidder along with other bid documents in order to receive preference. This policy shall become effective in accordance with the provisions of the Charter of the Town of Westport regarding bidding procedure.
9. **ALTERNATIVES:** When proposing an alternate item, indicate the Brand and Model identification on the bid specification sheets. To have alternates considered, complete specifications and catalogues describing the product must accompany the bid. The Westport Board of Education reserves the right to request equipment samples on specific items.

10. **SUBSTITUTIONS:** Indicate on the Specification Sheet substitutions identified by name or catalogue number and the net difference in cost to the Westport Board of Education. Listed substitutions will be considered for approval only after the award of contract; the Board reserves the right to require the originally specified material or equipment at the price submitted by the bidder in his bid, notwithstanding the fact that the bidder may have based a price for a specific item on a proposed substitution. In this regard, the determination shall be made in good faith, on the basis of the quality and type of the article listed. Any benefit in price reduction due to a substitution shall accrue to the Board.
11. **FORM AND STYLE OF BID:** All blanks on the Specification Form, except where otherwise requested, shall be filled in by typewriter or manually in ink.
12. **WARRANTIES:** Whenever an item or service is covered by a specified product or service warranty, such warranties must be submitted with the official bid or quotation specification sheets. All such warranties shall inure to the benefit of the Board.
13. See attached Specification Cover Sheet to be used.

NOTE: By bidding on this contract the vendor agrees that any or all past clients may be contacted by the Westport School System. The vendors bidding on this contract also agree, for themselves, their heirs, executors, administrators, successors and assigns, to release, acquit and forever discharge the Westport School System, the Westport Board of Education, the Town of Westport, their officials, employees and representatives from and against any and all actions, causes of actions, claims or demands for damages, costs, loss of services, expenses, compensation, consequential damage or any other thing whatsoever, on account of, or in any way arising out of or relating to any former client of the bidder contacted by or on behalf of the Westport School System, the Westport Board of Education and/or the Town of Westport to obtain an opinion regarding any project or work performed by your company. The above release shall also include and apply to any former client contacted.

V. INSURANCE AND BOND REQUIREMENTS

The Vendor/Contractor/User of Town Property shall purchase and maintain for the life of the contract, from a company or companies with an A.M. Best rating of A- (VII) or better, insurance as required below. Such insurance will protect the WBOE and the Town from claims set forth below which may arise out of or result from the Vendor/Contractor/User of Town Property obligation under the contract, whether such obligations are those of the Vendor/Contractor/User of Town Property or those of a subcontractor or any person or entity directly or indirectly employed by said Vendor/Contractor/User of Town Property or by anyone for whose acts said Vendor/Contractor/User of Town Property may be liable.

A. Workers Compensation:

Vendor/Contractor/User of Town Property shall provide workers compensation insurance required by law with employers liability limits for at least the amounts of liability for bodily injury by accident of \$ 500,000 each accident and bodily injury by disease of \$500,000.including a waiver of subrogation. If the work is on the water, the Longshore and Harbor Workers Compensation Act coverage is required.

B. Commercial General Liability Insurance:

Vendor/Contractor/User of Town Property shall provide commercial general liability insurance policy with an edition date of 1986 or later including products and completed operations. Limits should be at least: Bodily injury & property damage with an occurrence limit of \$1,000,000: Personal & advertising injury limit of \$1,000,000 per occurrence: General aggregate limit of \$2,000,000 (other than products and completed operations): Products and completed operations aggregate limit of \$2,000,000. Coverage will continue three years after the completion of the work.

- The policy shall name WBOE and the Town as an additional insureds and include ISO Form CG 2010 (07/04) and CG 2037 (07/04).
- Such coverage will be provided on an occurrence basis and will be primary and shall not contribute in any way to any insurance or self-insured retention carried by WBOE and/or the Town.
- The policy shall contain a waiver of liability in favor of the WBOE and the Town.
- Such coverage shall contain a broad form contractual liability endorsement or wording within the policy form to comply with the hold harmless and indemnity provision of the contract
- A per project aggregate limit of liability endorsement shall apply for any construction contract.
- Deductible and self-insured retentions shall be declared and are subject to the approval of the WBOE and/or the Town.

C. Commercial Automobile Insurance:

Vendor/Contractor/User of Town Property shall provide commercial automobile insurance for any owned autos (symbol 1 or equivalent) in the amount of \$1,000,000 each accident covering bodily injury and property damage on a combined single limit basis. Such coverage shall also include hired and non-owned automobile coverage. Policy shall name WBOE and the Town as additional insureds.

D. Umbrella or Excess Liability Insurance:

Vendor/Contractor/User of Town Property shall provide an umbrella or excess liability policy in excess (without restriction or limitation) of those limits and coverages described in items (A) through (C). Such policy shall contain limits of liability in the amount of \$5,000,000 each occurrence and \$5,000,000 in the aggregate.

E. Errors & Omissions Insurance:

If the agreement is for professional services, the Vendor/Contractor/User of Town Property shall provide errors & omissions insurance for liability resulting from the negligent performance of professional duties or operations. Such policy shall contain limits of liability in the amount of \$1,000,000 each occurrence and \$3,000,000 in the aggregate. The policy shall name WBOE and the Town as additional insureds.

F. Educators Errors & Omissions Insurance:

If the agreement is for educational services, the Vendor/Contractor/User of Town Property shall provide educator errors & omissions for liability resulting arising out of any breach of duty, neglect, error, misstatement, or omission committed in the course of their duties. Such policy shall contain limits of liability in the amount of \$1,000,000 each occurrence and \$1,000,000 in the aggregate. The policy shall name WBOE and the Town as additional insureds.

G. Contractors Pollution Liability:

If the agreement includes work involving abatement, removal, clean-up or handling of any pollutant or hazardous material, the Vendor/Contractor/User of Town Property shall provide pollution liability insurance, including products and completed operations and contractual liability coverage of not less than \$5,000,000 each occurrence and \$5,000,000 in the aggregate for this project. The policy shall name WBOE and the Town as additional insureds and waive subrogation in favor of WBOE and the Town.

As to the insurance required, the insurer(s) and/or their authorized agents shall provide WBOE with certificates of insurance prior to execution of the contract by WBOE and the successful bidder, describing the coverage and prior to 30 days of any renewal. The certificate will include a copy of the additional insured and contractual liability endorsements.

H. Bid Bond:

Each Bid must be accompanied by a Bid Bond payable to the Owner for ten percent (10%) of the total amount of the Bid, including both the base bid amount and all alternates. As soon as the Bid prices have been compared, the Owner will return the bonds of all except the three lowest responsible Bidders. When the contract for the project is executed, the bonds of the two remaining unsuccessful bidders will be returned. The Bid Bond of the successful Bidder will be retained until the payment bond and performance bond for the project have been executed and approved, after which it will be returned. The surety on the bid bond must be a corporate surety licensed to issue surety bonds in the State of Connecticut and also listed by the United States Treasury department in its latest list as a qualified surety acceptable to the United States Government. No Bid Bond will be accepted if the amount is less than ten percent (10%) of the total estimated Bid, including both base bid and all alternates, or if the amount exceeds the limit for which the United States Treasury Department has qualified the surety for any one bond. A certified check may provided in lieu of a Bid Bond, subject to the same ten percent (10%) requirement applicable to the Bid Bond.

I. Performance and Payment Bonds: A Performance Bond and Payment Bond, each in the amount of 100 percent (100%) of the Contract Price, will be required for the faithful performance of the contract. The surety on the performance and payments bonds must be a corporate surety licensed to issue surety bonds in the State of Connecticut and also listed by the United States Treasury Department in its latest list as a qualified surety acceptable to the United States Government.

Attorneys-in-fact who sign the Bid Bond or Performance and Payment bonds must file with each bond a certified and effective dated copy of their power of attorney.

The party to whom the contract is awarded will be required to execute the contract and furnish the Performance and Payment Bonds within ten (10) calendar days from the date when Notice of award is delivered to the bidder. In case of failure of the bidder to execute the contract and furnish the bonds, the Owner at its option may consider the Bidder in default, in which case the Bid Bond accompanying the bid shall become the property of the Owner.

The owner, upon its receipt of acceptable Performance and Payment Bonds and the Contract executed by Contractor, shall sign the Contract and return an executed copy to the Contractor within ten (10) days thereafter, accompanied by a Notice to Proceed.

VI.

HOLD-HARMLESS AND INDEMNIFICATION AGREEMENT

The Vendor/Contractor/User of Town Property shall fully indemnify, defend and hold harmless the Westport Board of Education and the Town of Westport and all of their respective officers, employees, agents, servants and volunteers to the fullest extent allowed by law for any claim for personal injury, bodily injury, death, property damage, emotional injury or any other injury, loss or damage of any kind occurring during the term of the contract and alleged to have been caused in whole or in part by the Contractor, and even if caused by the negligence of individuals and entities indemnified hereunder. This obligation shall further apply to:

- (1) actions, suits, claims, demands, investigations and legal, administrative or arbitration proceedings pending or threatened, whether mature, unmatured, contingent, known or unknown, at law or in equity, in any forum (collectively, "Claims") arising, directly or indirectly, in connection with this contract, including any environmental matters, and including the acts of commission or omission (collectively, the "Acts") of the Contractor or any of its members, directors, officers, shareholders, representatives, agents, servants, consultants, employees or any other person or entity with whom the contractor is in privity of oral or written contract (collectively "Contractor Parties");
- (2) liabilities arising, directly or indirectly, in whole or in part, in connection with the contract, out of the Contractor's or Contractor Parties' Acts concerning its or their duties and obligations as set forth in the contract, and;
- (3) all damages, losses, costs and expenses, including but not limited to, attorneys' and other professional fees, that may arise out of such claims and/or liabilities for personal injury, bodily injury, workers' compensation, emotional injury, death, property damage or any other injury or loss caused in whole or in part by the Acts of the Contractor or any Contractor's Parties.

The Contractor hereby covenants and agrees that WBOE and the Town shall be endorsed on the Contractor's policies of insurance as additional insureds.

The Vendor/Contractor/User of Town Property hereby further covenants and agrees to obtain a policy of insurance, with minimum limits of liability as shown in this Section under Paragraph A containing an endorsement that covers this agreement to indemnify, defend and hold harmless WBOE and the Town or any of their officers, employees, agents, servants and volunteers.

The Vendor/Contractor/User of Town Property hereby further covenants and agrees to obtain an endorsement to said policy of insurance policy that the Contractor's insurance is primary and any insurance obtained, or self insurance provided, by WBOE and/or the Town is excess.

The Vendor/Contractor/User of Town Property insurance carrier will waive all rights of subrogation against WBOE and the Town, and all of their respective officers, employees, agents, servants and volunteers.

The Vendor/Contractor/User of Town Property hereby further covenants and agrees to furnish a copy of the insurance policy that meets all of the above requirements before any work or use of the property commences.

Signature

Date

Company Name

VII.

SCOPE OF WORK

The Westport Public Schools is seeking qualified Vendors for STAPLES HIGH SCHOOL POOL AND LOCKER ROOM REFURBISHMENT PROJECT. Once awarded the contract the vendor must supply a Certificate of Insurance, W-9, (SDS Sheets for materials on site)

1. Location/Contact:

SCHOOL/ADDRESS

CONTACT PERSON/TELEPHONE NO.

Staples High School
70 North Avenue
Westport, CT 06880

Horace Lewis, Head Custodian
(203) 341- 1274
(203) 943-9428 – Cell

Refer to cusato ARCHITECTURE drawings dated 1/31/17, titled "Pool and locker room refurbishment project" Documents attach.

Safety

All work done and equipment used shall comply with all pertinent O.S.H.A., Federal, State and Local regulations.

References

Each Bidder shall include phone numbers and contact persons of the companies and/or Cities or Towns where they have done similar projects.

Termination

The Contract may be terminated by the Westport Public Schools if at any time, work is unnecessarily delayed, or willful violations of Contract conditions exist, or the conditions are being executed in bad faith. The Westport Public Schools' written termination notice to the Contractor will allow five (5) days thereafter to commence corrective measures satisfactory to the school system. In the event of non-compliance, the Westport Public Schools shall notify the Contractor in writing to immediately discontinue any further work and vacate the buildings, ceasing any rights to plant and material. Subsequently the Westport Public Schools shall take the necessary action to complete the remaining contract work.

Equal Opportunity – Affirmative Action

The successful Contractor shall comply in all aspects with the Equal Employment Opportunity Act. Each Contractor with 15 or more employees shall be required to have an Affirmative Action Plan which declares that the Contractor does not discriminate on the basis of race, color, religion, sex, national origin or age and which specifies goals and target dates to assure the implementation of equal employment. Each Contractor with fewer than 15 employees shall be required to have a written equal opportunity policy statement declaring that it does not discriminate on the basis of race, color, religion, sex, national origin or age. Findings of non-compliance with applicable State and Federal equal opportunity laws and regulations could be sufficient reason for revocation or cancellation of this Contract.

Awards

The Assistant Superintendent for Business reserves the right to reject any or all bids, or the bids for any one or more commodities or contractual services included in any or all bids, to waive any informality in bids and unless otherwise specified to buy any part or the whole from one or more bidders when it is to the Board of Education's best interest to do so.

VIII.

BID FORM



WESTPORT PUBLIC SCHOOLS
STAPLES HIGH SCHOOL POOL AND LOCKER ROOM REFURBISHMENT PROJECT
BID # 17-009-BOE .

COMPANY NAME & ADDRESS: _____

TELEPHONE: _____ FAX : _____

EMAIL ADDRESS: _____

REPRESENTED BY: _____
(Name & Title)

INSTRUCTIONS:

The undersigned, attesting to be a duly authorized representative of the Company, hereby Proposes to furnish all services required to perform the scope of work in accordance with the project specifications, for the price indicated below.

BID PRICE: _____

(Name of Bidder)

By _____

Title: _____

Duly Authorized, _____

ITEM	COST	NOTES
Division 01. General Requirements		
Permit		
Dumpsters		
Demo		
Port-o-let		
Cleaning		
Division 04. Masonry		
CMU walls		
Division 05. Metals		
CMU reinforcing		
Stainless ADA shower floor drain guard		
Division 06. Carpentry		
New metal stud/GWB walls atop CMU		
Division 07. Thermal Protection		
New mtl stud walls acoustic insulation		
Division 08. Doors & Windows		
New doors, frames, hdwr		
Division 09. Finishes		
Acoustical ceiling and grid		
Ceiling paint patching		
Wall paint / epoxy		
Floor paint / epoxy		
Neolith panels		
Division 10. Specialties		
Glass railings in pool		
Division 13. Special Construction		
Bleachers and benches		
Phenolic panels, curtains, rods, hooks		
Division 15. Mechanical		
HVAC diffusers		
Plumbing / fixtures		
Division 16. Electrical		
Lighting		
Fire Alarm		
SUBTOTAL	\$ _____	
Contractor OH&P	\$ _____	
Project total	\$ _____	
		COMPANY NAME: _____
		BID # 17-009-BOE .

IX.

EEOC COMPLIANCE

Conn. Gen. Stat. Sec. 4a-60:

The contractor agrees and warrants that in the performance of the contract such contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, mental retardation or physical disability, including but not limited to, blindness, unless it is shown by such contractor that such disability prevents performance of the involved, in any manner prohibited by the laws of the United States or of the State of Connecticut. The contractor further agrees to take affirmative action to insure that applicants with job related qualifications are employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, mental retardation or physical disability, including but not limited to, blindness, unless it is shown by such contractor that such disability prevents performance of the involved;

The contractor agrees, in all solicitations or advertisements for employees placed for or on behalf of the contractor, to state that is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the commission;

The contractor agrees to provide each labor union or representative of ers with which such contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such contractor has a contract or understanding, a notice to be provided by the commission on human rights and opportunities advising the labor union or representative of the contractor's commitments under Conn. Gen. Stat. 4a-60 and to post copies of the notice in conspicuous places available to employees and applicants for employment;

The contractor agrees to comply with Conn. Gen. Stat. 46a-68e (requiring contractor to file compliance reports with the commission) & 46a-68f (requiring compliance reports contain information on labor union practices) and with each regulation or relevant order issued by the commission;

The contractor agrees to provide the Commission on Human Rights and Opportunities with any information it requests, and permit access to pertinent books, records and accounts, concerning employment practices and procedures or the contractor as relate to the provisions of Conn. Gen. Stat. 4a-60 & 46a-56;

The contractor agrees and warrants that he will make good faith efforts to employ minority business enterprises as subcontractors and supplies of materials.

Conn. Gen. Stat. Sec. 4a-60(a):

The contractor agrees and warrants that in the performance of the contract such contractor will not discriminate of permit discrimination against any person or group of persons on the grounds of sexual orientation, in any manner prohibited by the laws of the United States or of the State of Connecticut, and that employees are treated when employed without regard to their sexual orientation;

The contractor agrees to provide each labor union or representative of ers with which such contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such contractor has a contract or understanding, a notice to be provided by the commission on human rights and opportunities advising the labor union or representative of the contractor's commitments under Conn. Gen. Stat. 4a-60 and to post copies of the notice in conspicuous places available to employees and applicants for employment;

The contractor agrees to comply with Conn. Gen. Stat. 4a-60a and with each regulation or relevant order issued by the commission; The contractor agrees to provide the Commission on Human Rights and Opportunities with any information it requests, and permit access to pertinent books, records and accounts, concerning employment practices and procedures of the contractor as relate to the provisions of Conn. Gen. Stat. 4a-60 & 46a-56.

END OF NOTIFICATION TO BIDDERS

X.

**ADVERTISEMENT
WESTPORT PUBLIC SCHOOLS**



TO: All Interested Bidders

FROM: Theodore Hunyadi

DATE: February 10, 2017

SUBJECT: **SPECIFICATIONS AND BID FORMS
STAPLES HIGH SCHOOL POOL AND LOCKER ROOM REFURBISHMENT
PROJECT
BID # 17-009-BOE**

Sealed bids will be received in the office of the Director of School Business Operations, Westport Public Schools, 110 Myrtle Avenue, 3rd Floor, Westport, CT no later than 03/16/2017 TIME: 10:00 A.M. for POOL AND LOCKER ROOM REFURBISHMENT PROJECT – STAPLES HIGH SCHOOL as described herein. All bid envelopes shall be marked "**BID #17-009-BOE - POOL AND LOCKER ROOM REFURBISHMENT PROJECT – STAPLES HIGH SCHOOL.**"

Bid packages are available in our website: <http://www.westport.k12.ct.us>

STAPLES HIGH SCHOOL POOL AND LOCKER ROOM REFURBISHMENT PROJECT BID # 17-009-BOE
THERE WILL BE A MANDATORY WALK THROUGH ON 2/24/2017 AT 10 AM. AT THE STAPLES HIGH SCHOOL MAIN ENTRANCE, FRONT DOOR.

PROJECT TITLE:

STAPLES HIGH SCHOOL WESTPORT CT

POOL AND LOCKER ROOM REFURBISHMENT PROJECT

cusatoARCHITECTURE
architecture - planning - interiors



41 otter trail westport ct 06880
www.cusatoARCHITECTURE.COM
203.395.4663

BID SET 013117

REVISIONS:

SCHEDULE OF DRAWINGS

- A1 - POOL LOCKER ROOMS DEMOLITION PLAN
- A2 - POOL LOCKER ROOMS NEW CONSTRUCTION PLAN
- A3 - POOL LOCKER ROOMS REFLECTED CEILING PLAN
- A4 - POOL LOCKER ROOMS FINISH PLAN
- A5 - BOYS LOCKER ROOM DEMO AND NEW CONST PLANS
- A6 - BOYS LOCKER ROOM REFLECTED CEILING PLAN
- A7 - BOYS LOCKER ROOM FINISH PLAN
- A8 - POOL DECK PLANS, DETAILS

General Notes:

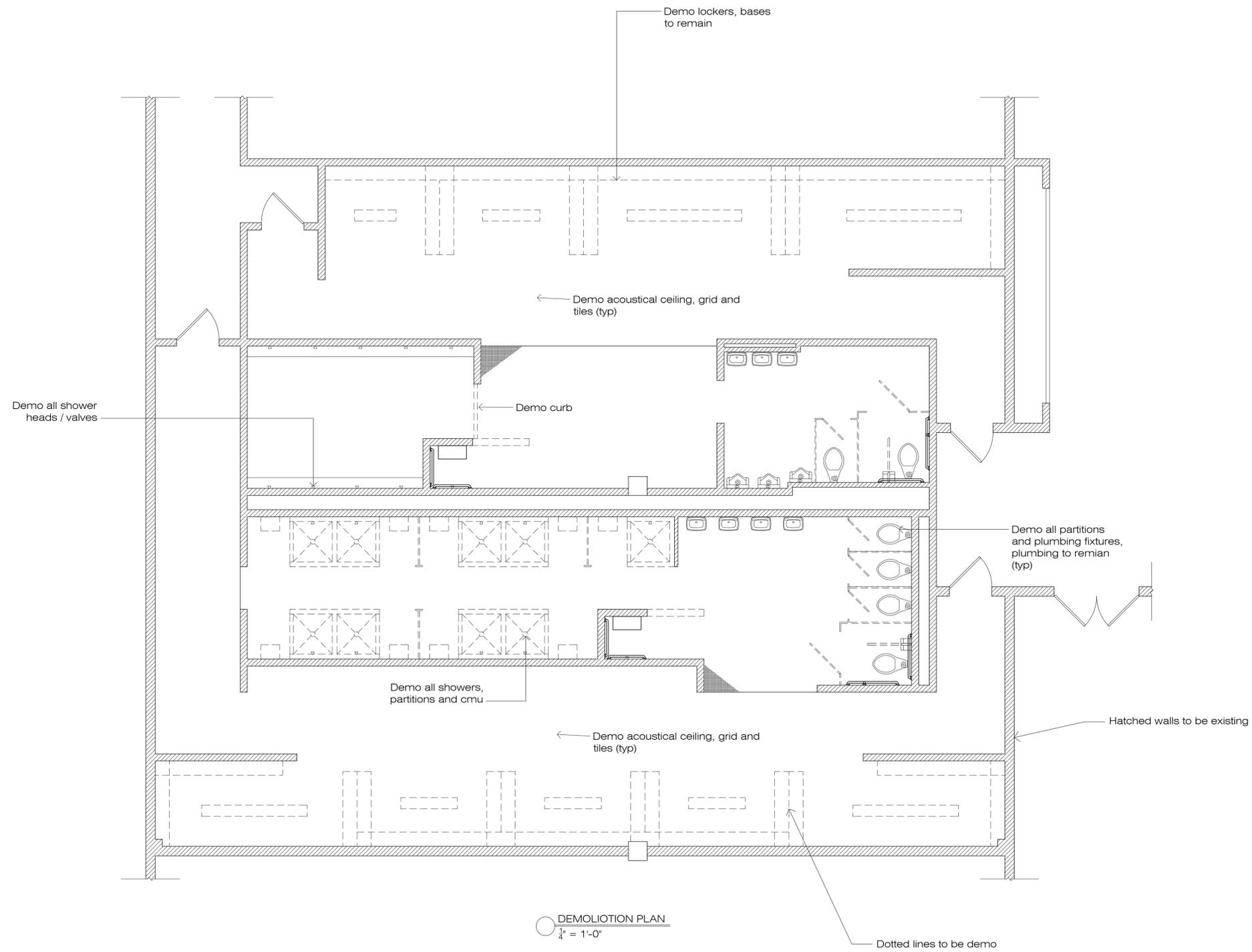
- 1) The contractor shall check and verify all dimensions and conditions prior to starting work and notify the architect of any discrepancies.
- 2) Contractor(s) shall obtain any and all permits as required by the town.
- 3) All work shall be as per OSHA, building construction code of the State of CT and per zoning regulation for the town.
- 4) Contractor shall field measure and verify all existing conditions. Discrepancies shall be reported to the architect or engineer and resolved prior to proceeding with work.
- 5) The contractor shall be responsible for visiting the site and familiarizing themselves with existing conditions.
- 6) The contractor shall be solely responsible for all safe working conditions and shall observe all safety requirements established by jurisdictional agencies and the owner. Where conflicts exist, the more stringent will apply. Care shall be taken to avoid endangering personnel or the structure.
- 7) All drawings to be used in conjunction with the specifications.
- 8) All dimensions shall be verified by the contractor. The general contractor shall coordinate and be responsible for the approved size and location of all openings through roofs, floors and walls.
- 9) All sections and details are to be considered typical and apply for the same and similar conditions unless otherwise specifically noted.
- 10) Contractor shall furnish and be solely responsible for all temporary bracing required to maintain stability of the structure during construction.
- 11) The general contractor shall coordinate the work of all trade and sub contractors unless otherwise noted.
- 12) All contractors shall cooperate in coordinating construction.
- 13) All cutting and patching shall be done by the General Contractor and shall be the responsibility of the GC to see that the final patch is not visible after finishes.
- 14) The contractor shall protect, with appropriate fencing, and not damage trees, plantings or shrubs where work or operation of work is required at exterior of the building.
- 15) The storage of materials and equipment on site shall be located where directed by owner and architect.
- 16) All glass within 18' of floor shall be tempered safety glass.
- 17) All operable windows to be adequately flashed caulked and weather-stripped.
- 18) The contractor, by submitting his bid, represents that they have visited the site and agrees with plans and details as representing the full extent of construction. If contractor has found that plans and details vary significantly from what is physically in the field, they shall notify the architect or owner before submitting bid.
- 19) Contractor to carry appropriate insurance, workmen's comp and liability in the sums prescribed by authorities having jurisdiction over the project.
- 20) Contractor to be responsible for contacting Call Before You Dig to locate and familiarize themselves all existing underground utilities

DEMOLITION NOTES:

- Obtain necessary demolition permits.
- Check with the Fire Department and Utility Companies.
- Inspect for Hazardous Materials.
- Demolish building components completely and remove from the site.
- Use methods required to complete Work within limitations of all governing regulations.
- Remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
- Demolish concrete and masonry in sizes that will be suitable for acceptance at recycling or disposal facilities, unless otherwise shown to remain.
- Remove all disconnected, abandoned utilities on site.
- Take care to protect utilities, fences, landscaping, etc. to remain on site
- Completely remove below-grade construction, including foundation walls and footings.
- Below-Grade Areas: Completely fill below-grade areas and voids resulting from building demolition operations to average grade level with satisfactory soil materials.
- Damages: Promptly repair damages to adjacent facilities caused by demolition operations.
- Do not burn demolished materials.
- Disposal: Transport demolished materials off [Owner's] property and legally reuse, salvage, recycle, or dispose of materials.
- Consult owner for coordination of valuable material removal before demo

The following codes are to be followed as amended by 2016 Connecticut State Building Code:

- 2012 International Code Council (ICC) International Building Code
- 2012 International Code Council (ICC) International Residential Code
- 2012 International Code Council (ICC) International Existing Building Code
- 2012 International Code Council (ICC) International Mechanical Code
- 2012 International Code Council (ICC) International Plumbing Code
- 2012 International Code Council (ICC) International Energy Conservation Code
- 2014 National Fire Protection Association (NFPA) 70 - National Electrical Code
- 2009 International Code Council (ICC) ANSI A117.1 - Accessible and Usable Buildings and Facilities



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PROJECT TITLE:
 STAPLES HIGH SCHOOL
 INTERIOR RENOVATIONS

Pool Locker Room
 Demolition Plan

DATE: 013117

SCALE: as noted

DRAWN BY: MFC

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DATE / REVISION:
 xx-xx-xxxx
 Revison

DWG NO: **A1**

Supply and replace lockers with Scranton Products Tufftex Lockers built from HDPE-NFPA 286 fire-rated material. Lockers must not support bacteria mold or mildew growth and are power washable and steam cleanable. Locker doors and sides to have full lattice mesh along with padlock hasp locking mechanism. Lockers to have no legs, sloping tops, interior coat hooks, number plates, continuous door hinges and finished solid end panels. No locks. Typical both locker rooms. Existing masonry bases to remain (typ)

New one piece shower valve, head and dish Bradley HSC 95 SafeCare front mounted panel shower / TTST valve (typ for 9 locations)

Bradley HN200 Recess mounted ADA wall shower.

5x10 Neolith panels, floor to ceiling, 6 mil thickness, provide owner with color selection chart

New one piece shower valve, head and dish Bradley HSC 95 SafeCare front mounted panel shower / TTST valve (typ for 9 locations)

Benches to be same HDPE materials as lockers, provided by locker co.

New CMU walls for storage closet see detail A/A5

New CMU walls for storage closet half on existing curb see detail A/A5

ADA shower and clearances

24" jan sink base

All plumbing fixtures swapped 1 for 1, see attached plumbing fixture submittal package. ADA grab bars to remain

New phenolic toilet partitions, same configuration, provide shop drawings for approval

ADA shower and clearances

New CMU walls for storage closet half on existing curb see detail A/A5

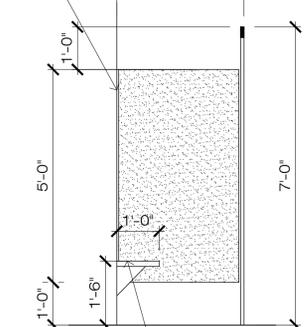
NEW CONSTRUCTION PLAN
1/4" = 1'-0"

Drains to be relocated to new location

New phenolic toilet partitions, curtain rods and curtains for shower and changing areas, provide shop drawings for approval

All new phenolic partitions to be mounted to CMU, Neolith panel to be cut tight around mounting hardware and caulked (typ)

3'-0"



New composite bench by pool locker company

PHENOLIC SHOWER & CHANGING PARTITIONS
1/4" = 1'-0"

ENLARGED SHOWER PLAN
1/4" = 1'-0"

Benches to be same HDPE materials as lockers, provided by locker co.

Stainless steel towel hook

DOOR SCHEDULE

Door	Manufacturer	Model #	Type	Hand	Qty	Rough Opening	Hdwr	Location	Notes
1			FRP	RH	1	3'-0" x 6'-8"	CONSULT OWNER	GIRLS LR TO POOL	90 MIN RATED, CLOSER, PANIC
2			FRP	LH	1	3'-0" x 6'-8"	CONSULT OWNER	BOYS LR TO POOL	90 MIN RATED, CLOSER, PANIC
3			FRP	LH	1	3'-0" x 6'-8"	CONSULT OWNER	JAN CLOSET	
4			FRP	LH	1	3'-0" x 6'-8"	CONSULT OWNER	GIRLS STORAGE	60 MIN RATED, CLOSER, PANIC
5			FRP	RH	1	3'-0" x 6'-8"	CONSULT OWNER	GIRLS LR TO HALL	90 MIN RATED, CLOSER, PANIC
6			FRP	LH	1	3'-0" x 6'-8"	CONSULT OWNER	BOYS LR TO LOBBY	90 MIN RATED, CLOSER, PANIC
7			FRP	RH	1	3'-0" x 6'-8"	CONSULT OWNER	BOYS STORAGE	60 MIN RATED, CLOSER, PANIC
E									Existing to remain

FRP doors by Edgewater or approved equal, contractor to provide submittals

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PROJECT TITLE:
STAPLES HIGH SCHOOL
INTERIOR RENOVATIONS

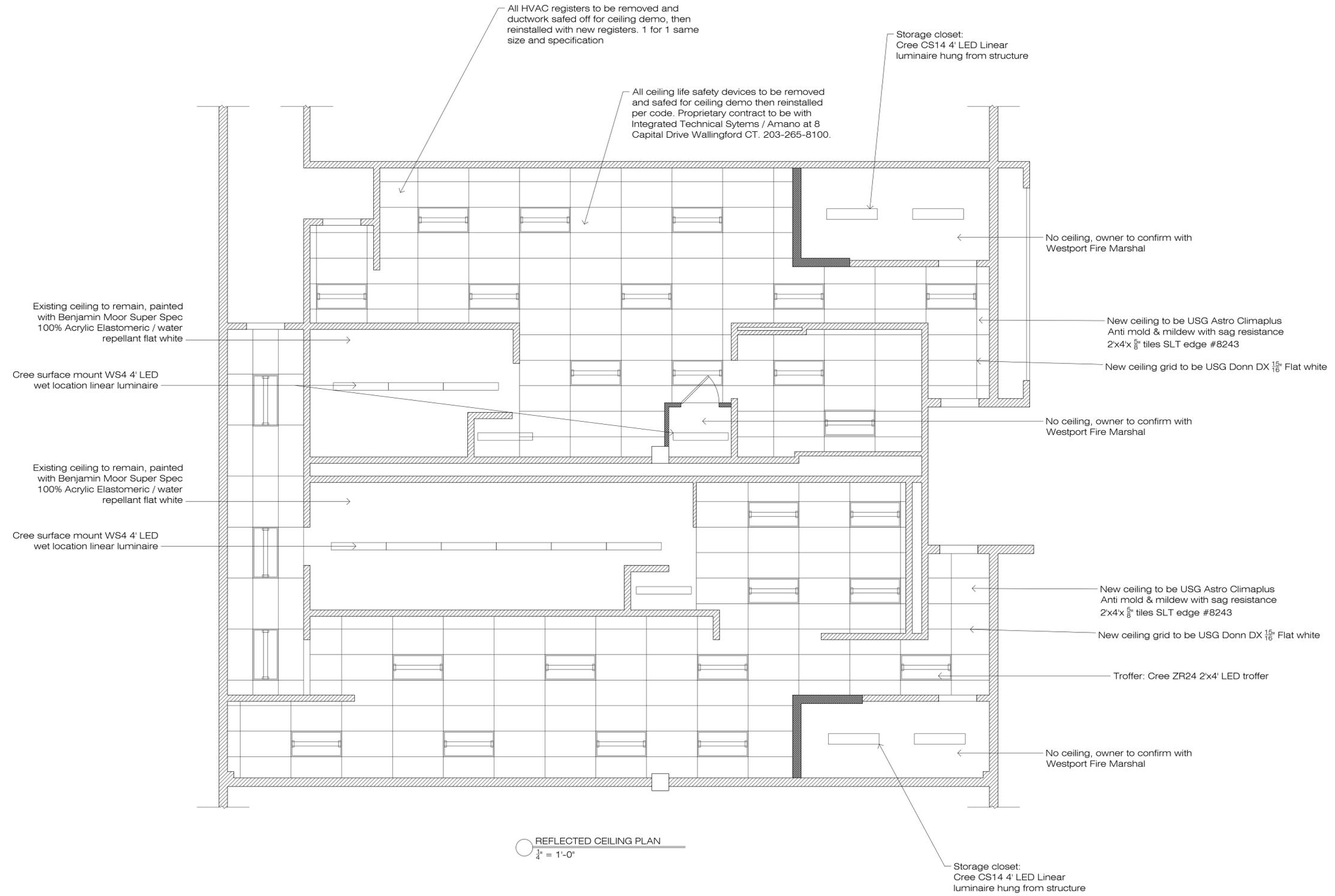
Pool Locker Room
New Construction Plan

DATE: 013117
SCALE: as noted
DRAWN BY: MFC

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DWG NO: A2



DATE: 013117

SCALE: as noted

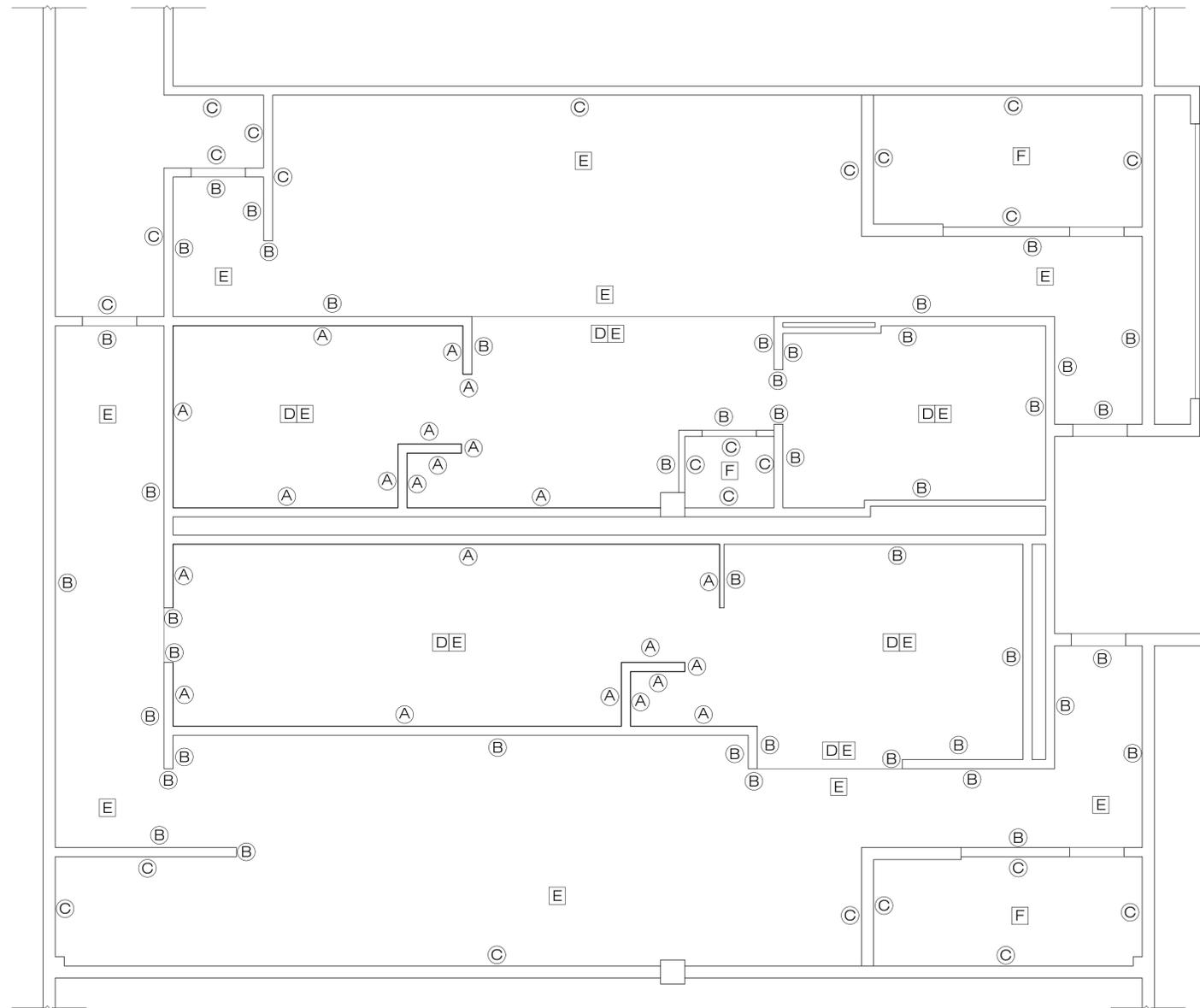
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FINISHES PLAN
1/4" = 1'-0"

FINISH SCHEDULE

LOCATION	SURFACE	MANUFACTURER	PRODUCT
Ⓐ	WALL	NEOLITH	5'X10' PANEL, TIMBER NIGHT, 6 MIL
Ⓑ	WALL	DEX-O-TEX BENJAMIN MOOR	FLEX-GLAZE EPOXY WALL COATING FLOOR TO 5' AFF SUPER SPEC LATEX ENAMEL, EGGSHELL, 5' AFF TO 6' ABOVE ACT GRID
Ⓒ	WALL	BENJAMIN MOOR	SUPER SPEC LATEX ENAMEL, EGGSHELL, FLOOR TO 6' ABOVE ACT GRID
Ⓓ	FLOOR	DEX-O-TEX	DEX-O-TEX A-81 UNDERLAYMENT (OVER EX. TILE)
Ⓔ	FLOOR	DEX-O-TEX	DEX-O-TEX FLEX-SHIELD EPOXY FLOOR COATING
Ⓕ	FLOOR		NO FLOOR COATING

*SEE REFLECTED CEILING PLANS FOR CEILING FINISHES
*PROVIDE PRODUCT SUBMITTALS FOR OWNER COLOR CHOICES

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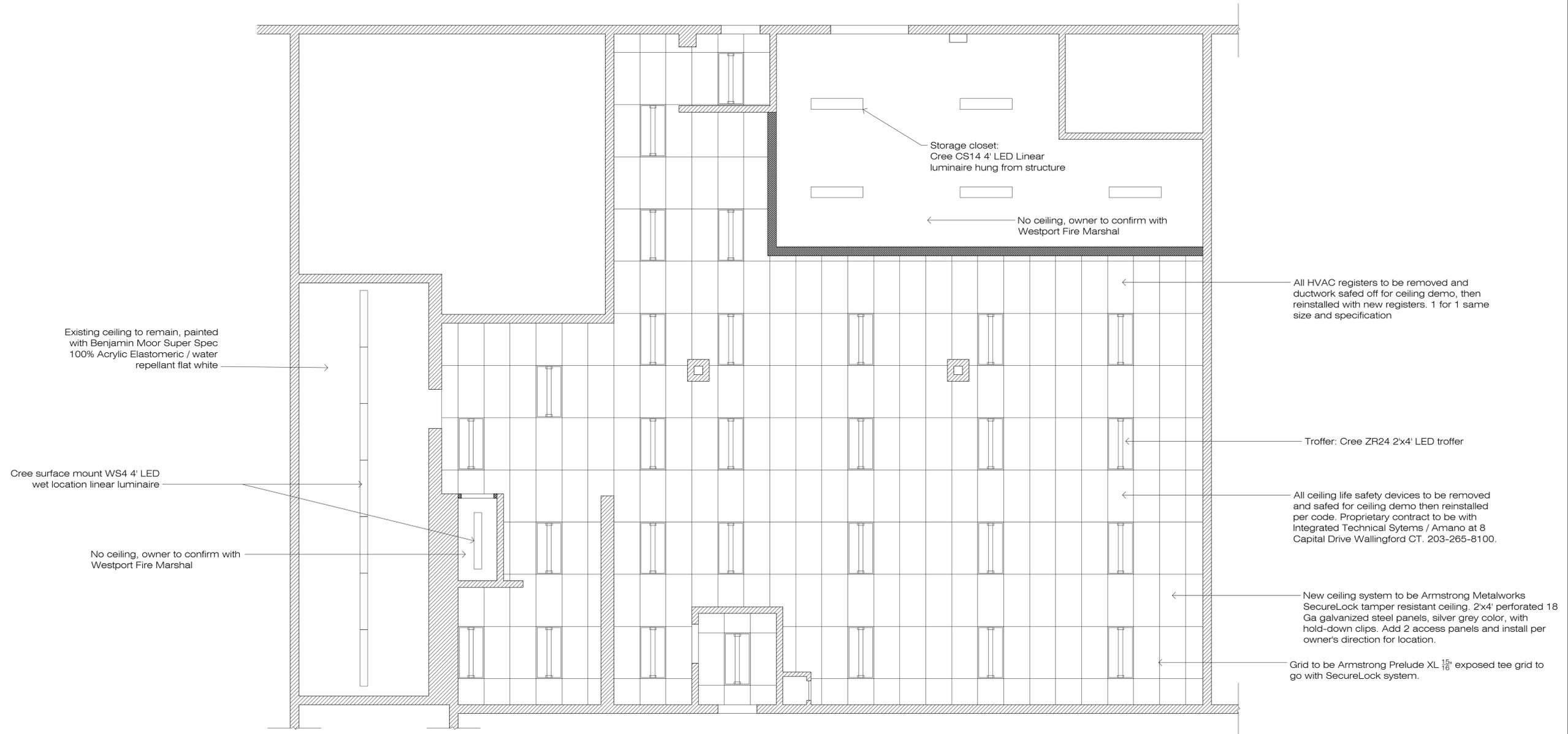
PROJECT TITLE:
STAPLES HIGH SCHOOL
INTERIOR RENOVATIONS

Pool locker room
Finish Plan

DATE: 013117
SCALE: as noted
DRAWN BY: MFC

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REFLECTED CEILING PLAN
 1/4" = 1'-0"

DATE: 013117

SCALE: as noted

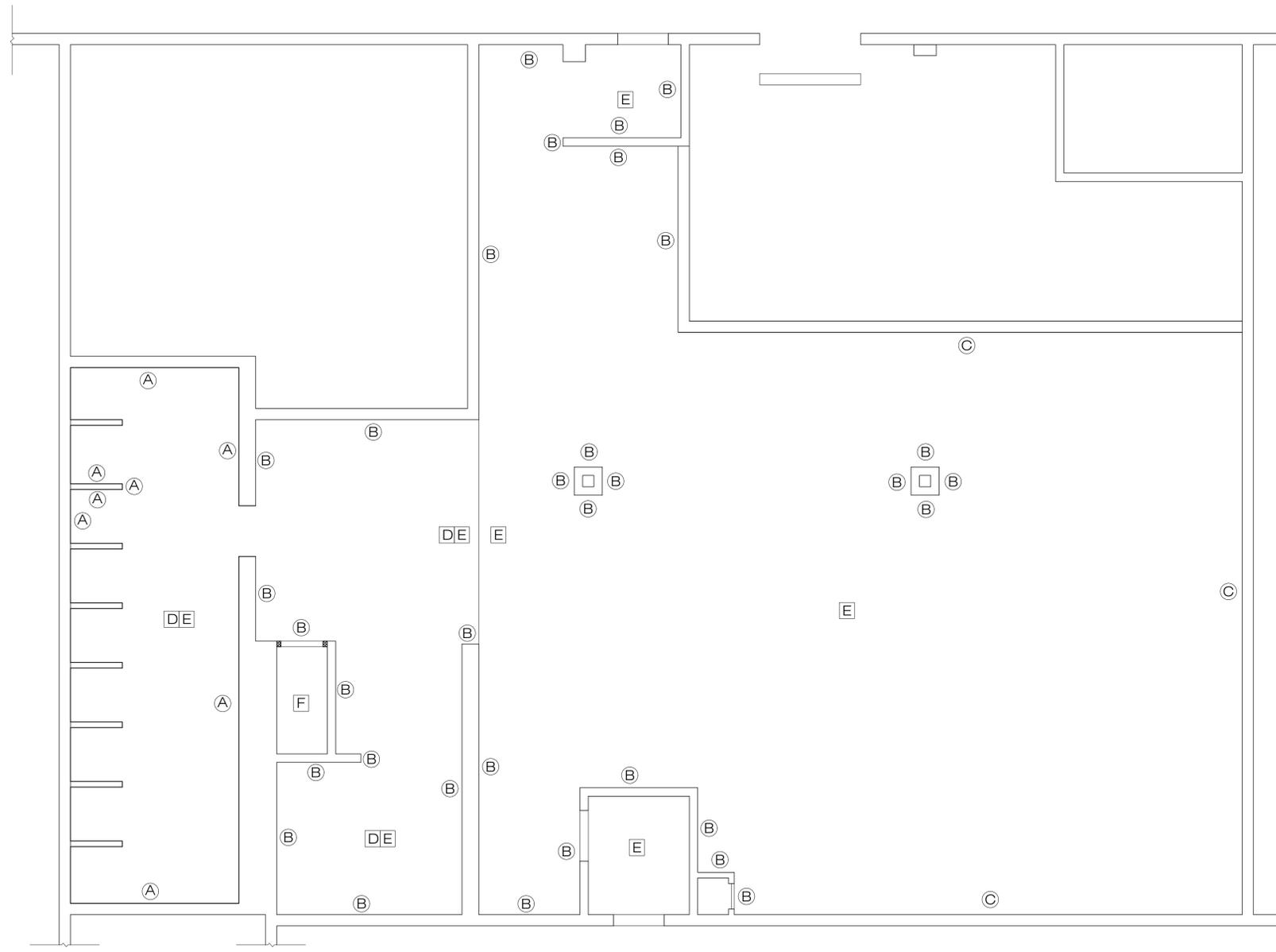
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Revision



FINISHES PLAN
1/4" = 1'-0"

FINISH SCHEDULE

LOCATION	SURFACE	MANUFACTURER	PRODUCT
(A)	WALL	NEOLITH	5'X10' PANEL, TIMBER NIGHT, 6 MIL
(B)	WALL	DEX-O-TEX BENJAMIN MOOR	FLEX-GLAZE EPOXY WALL COATING FLOOR TO 5' AFF SUPER SPEC LATEX ENAMEL, EGGSHELL, 5' AFF TO 6" ABOVE ACT GRID
(C)	WALL	BENJAMIN MOOR	SUPER SPEC LATEX ENAMEL, EGGSHELL, FLOOR TO 6" ABOVE ACT GRID
(D)	FLOOR	DEX-O-TEX	DEX-O-TEX A-81 UNDERLAYMENT (OVER EX. TILE)
(E)	FLOOR	DEX-O-TEX	DEX-O-TEX FLEX-SHIELD EPOXY FLOOR COATING
(F)	FLOOR		NO FLOOR COATING

*SEE REFLECTED CEILING PLANS FOR CEILING FINISHES
*PROVIDE PRODUCT SUBMITTALS FOR OWNER COLOR CHOICES

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PROJECT TITLE:
STAPLES HIGH SCHOOL
INTERIOR RENOVATIONS

Boys Locker Room
Finish Plan

DATE: 013117

SCALE: as noted

DRAWN BY: MFC

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DWG NO: A7

**WESTPORT BOARD OF EDUCATION
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WESTPORT, CT 06880
203 341-1002**

**STAPLES HIGH SCHOOL
POOL AND LOCKER ROOM
REFURBISHMENT PROJECT**

MATERIAL / PRODUCT SPECIFICATIONS

EDGEWATER FRP DOOR

Commercial Fiberglass Doors & Frames

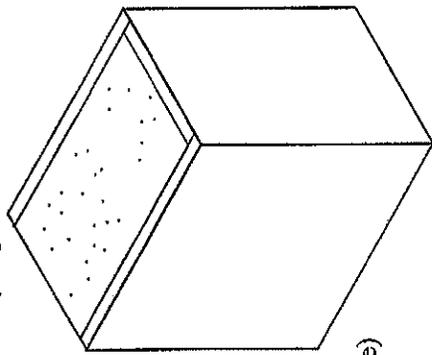
EF Series

45, 60, 90 Minute Fire-rated Door

Specifications

Doors shall be EF series Manufactured by Edgewater FRP Door, Neenah, Wisconsin. Doors shall be of full flush construction 1-3/4" in thickness, manufactured utilizing pultruded fiberglass components for flexibility, durability, superior strength and chemical resistance. Laminated composite door faces shall be resin fused to the stile and rail assembly, including the entire surface area of core material, utilizing a fire-resistant adhesive, and then cured under pressure until completely bonded. Both lock and hinge stiles and top and bottom rails of the door shall be filled and ground smooth for a completely sealed construction. Doors shall have a beveled (1/8" in 2") lock edge.

Please note: astragals for pairs supplied by Edgewater.

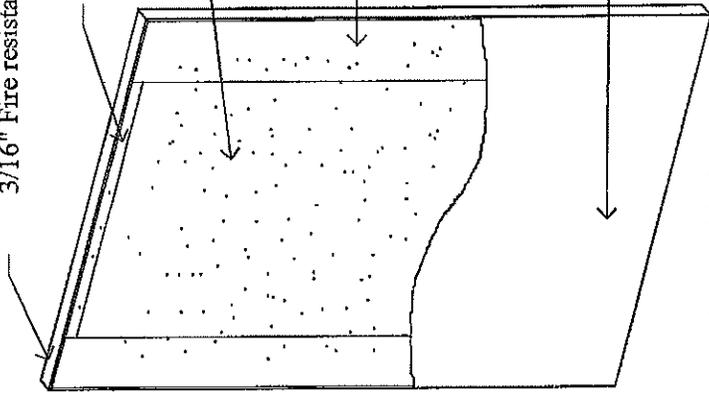


3/16" Fire resistant FRP Edge
1-1/2" x 1-1/2"
Fire-defender
(top and bottom of door)

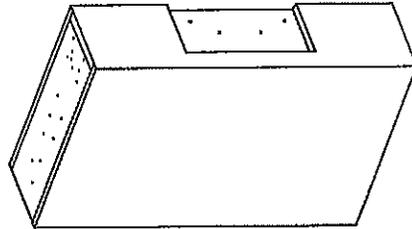
Fire-rated
Mineral Core

7" x 1-1/2"
Fire-defender
full height of door
(lock and hinge side)

Prime coat or
Acrylic enamel
(standard)



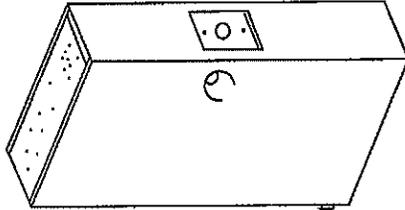
Door hinge
Reinforcement



Butt hinge
preps
Pre-drilled
for screws

Fire-Defender (FS)
Hinge Reinforcement

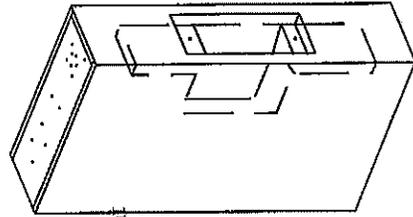
161 Cylindrical
Lock reinforcement



Fire-Defender (FS)
Lock Reinforcement

40" from floor
to centerline
of strike (standard)

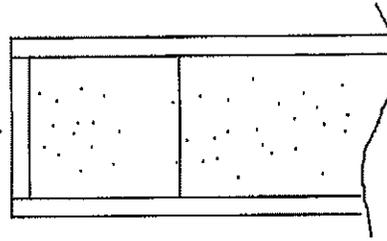
86 Mortise lock
reinforcement



Fire-Defender (FS)
Lock Reinforcement

40" from floor
to centerline
of strike (standard)

Hinge & lock stiles
Top & bottom rails
(seamless)



Tested in accordance with "Positive Pressure Fire Tests of Door Assemblies" ANSI/UL10C (2nd Edition, 2009) and UBC 7-2 (1997)

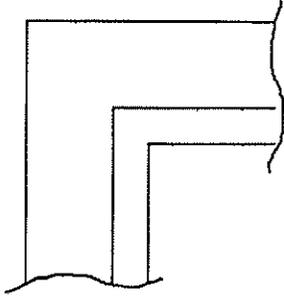
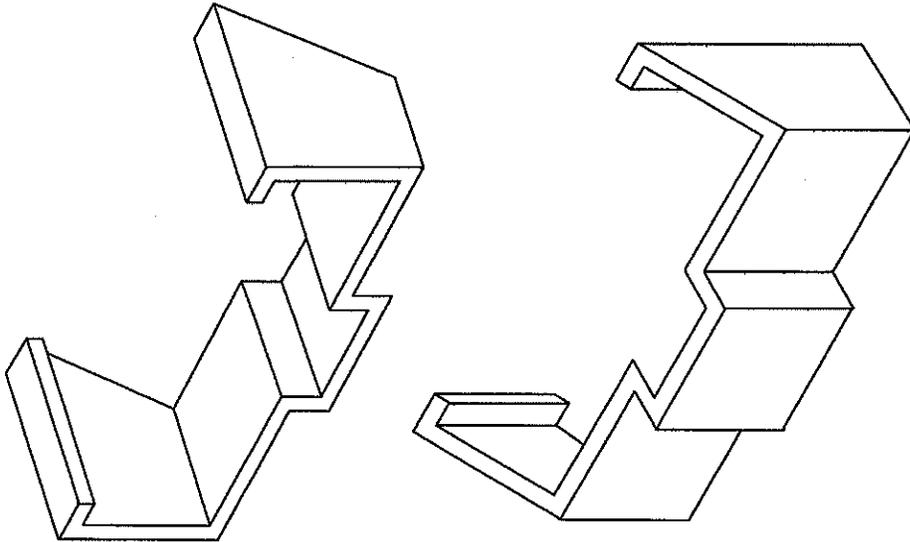
EF Series Frame

90 Minute Fire-rated Frame

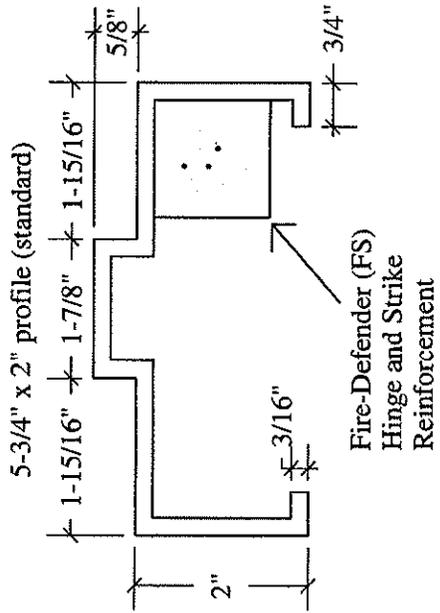
Specifications

Frames for E-F (fire) series fiberglass frames to be manufactured from 0.1875 inch (4.8mm) thick fiberglass pultrusions by Edgewater FRP Door, Neenah, Wisconsin. Profile shall be of standard hollow type to permit installation into new concrete or block walls.

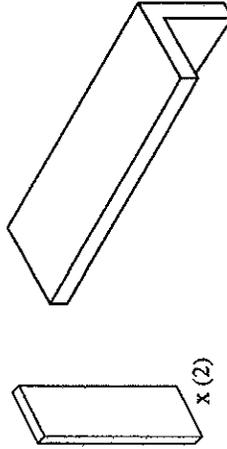
Frames shall be supplied with plaster guards or mortar boxes at back of hardware cutouts where mortar or other materials might obstruct hardware operation. Frames shall be fabricated with mitered resin-welded corners and seamless face joints (set-up and resin welded frames with temporary spreader bars). Frames must be grouted solid with mortar in the field.



Please note: Frames to be set-up and resin face welded, unless specified otherwise



Miters are bonded together utilizing (2) 1" x 1-1/2" x 3/16" FRP plates and (1) 5-1/4" x 2" equal leg FRP angle



LIMITED DOOR AND FRAME WARRANTY

Edgewater FRP Door warrants that all doors sold under this warranty (except those expressly excluded from this warranty), will provide satisfactory performance (as defined below) for their normal recommended use for the time periods listed below:

Warranty: Fiberglass doors and frames are warranted for the life of the initial installation against failure due to corrosion, and for a period of ten (10) years from the date of the initial installation against failure due to defects in materials and workmanship. The foregoing warranty commences on the date of the substantial completion of the initial installation.

Edgewater FRP Door will have no liability under this warranty unless the doors and frames have been handled, stored, finished, installed and maintained in accordance with the manufacturer's recommendations. This warranty does not extend to failure caused by physical abuse, misuse, or improper installation.

Doors and frames which do not exceed the following dimensional tolerances will not be considered to be defective:

1. Telegraphing: Stile, rail and core show-through is not considered a defect unless the faces of the doors vary from a true plane in excess of 1/100" in any three inch span.
2. Size tolerance: thickness +/- 1/16", length +/- 1/16", standard width +/- 1/16", pre-fit width +/- 1/32".
3. Factory hardware preparation tolerance: +/- 1/32" on hinge preparation cutouts, + 1/32" minus 0 on lock front preparation cutouts.
4. Square tolerance: diagonal measurement difference will not exceed 1/16".
5. Warp: Is any distortion in the door itself and does not refer to the door in relation to the frame or jamb in which it is installed. Warp is not considered a defect unless it exceeds 1/4" in the plane of the door itself. Warp is measured by placing a straightedge on the concave face and determining the maximum distance from the straightedge to the door face. For doors 1-3/4" or thicker, warp will not exceed 1/4" in doors 3/6 x 7/0 or smaller, nor will it exceed 1/4" in any 3/6 x 7/0 section of larger doors. For doors 1-3/8" in thickness, warp will not exceed 1/4" in 3/0 x 7/0 or smaller.

The following items are expressly excluded from this warranty:

1. The appearance of field finished doors and frames.
2. Unsatisfactory appearance or service caused by failure to follow recommended storage, handling, finishing, installation and maintenance instructions.
3. The warranty against warp will not apply to the following:
 - A. Doors with dissimilar face materials, such as smooth on one side textured on the other.
 - B. Doors that are improperly hung or do not swing freely, or doors hung in improperly installed frames.
 - C. Doors that have lite and/or louver cutout area exceeding 40% of the door surface area, or 50% of door height.
 - D. Exterior doors which have a polyurethane core and are finished with a dark color.
4. Doors with lite or louver closer than five inches to the door edge or doors with less than five inches between cutouts for lites, louvers, locks, closers, and/or other hardware cutouts.
5. Hardware items manufactured by others and supplied by Edgewater FRP Door are covered by manufacturers' warranty.
6. Hairline splits in the resin welded frame face seams are not considered a defect.

Because there can be no factory supervision of delivery and jobsite handling, Edgewater FRP Door cannot be responsible for products damaged during shipping or at the jobsite. All claims of shipping damage must be noted on the bill of lading, followed by immediate notification to a factory representative. A reasonable amount of time must be given for inspection and follow-up action. If an Edgewater FRP Door product becomes defective, Edgewater FRP Door will at its option either: (1) repair the defective product; (2) replace with a comparable product in the same state of fitting and/or finishing as was originally supplied; (3) issue a cash refund not to exceed the delivered purchase price of the original product. Edgewater FRP Door shall not be liable for products repaired or replaced without prior written consent. Action on any claim for warp or telegraphing may be deferred at the option of Edgewater FRP Door for a period not to exceed 12 months from the date of claim being made, as the door must remain in the original installation during the period of deferment to permit conditioning to humidity and temperature. Factory finishes will be warranted for a period of one (1) year only. The foregoing warranty is in lieu of all other expressed or implied warranties of any kind, including any warranties of merchantability or fitness for a particular use. The responsibility of Edgewater FRP Door with respect to any door frame subject to this warranty shall be as stated above. Edgewater FRP Door shall not be liable for any direct, indirect, incidental, consequential or other damages of any kind whether based upon breach of contract, warranty, negligence, strict liability or product liability.

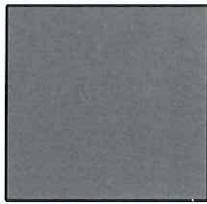
Color Selection

175 N. Western Avenue | Neenah, WI 54956
Phone: 920-886-1995 | Fax: 920-886-1998
www.edgewaterfrp.com

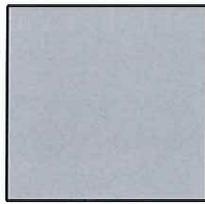
Colors may differ slightly from actual finished products



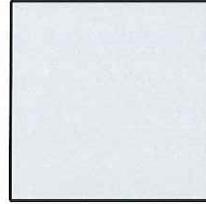
Black - #01



Dark Gray - #02



Med. Gray - #03



Light Gray - #04



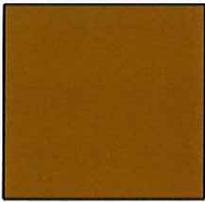
Slate - #05



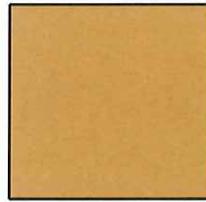
Dark Bronze - #06A



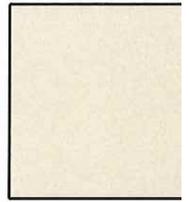
Dark Brown - #07A



Med. Brown - #08



Beach - #31



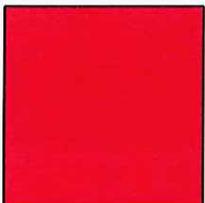
Beige - #10A



Burgundy - #11



Dark Red - #12



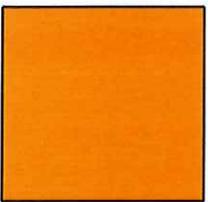
Red - #13A



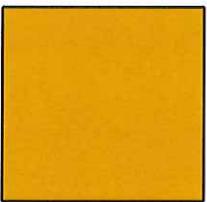
Rust - #14



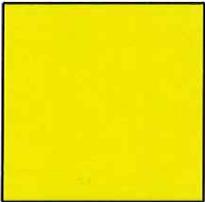
Light Brown - #0



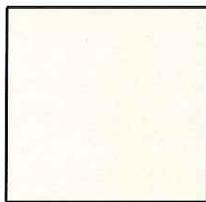
Orange - #16A



Gold - #17



Yellow - #18



Ivory - #19



White - #20A



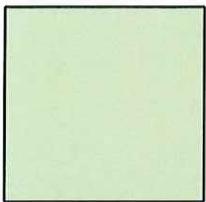
Hunter Green - #21



Med. Green - #22A



Green - #23



Lime - #25

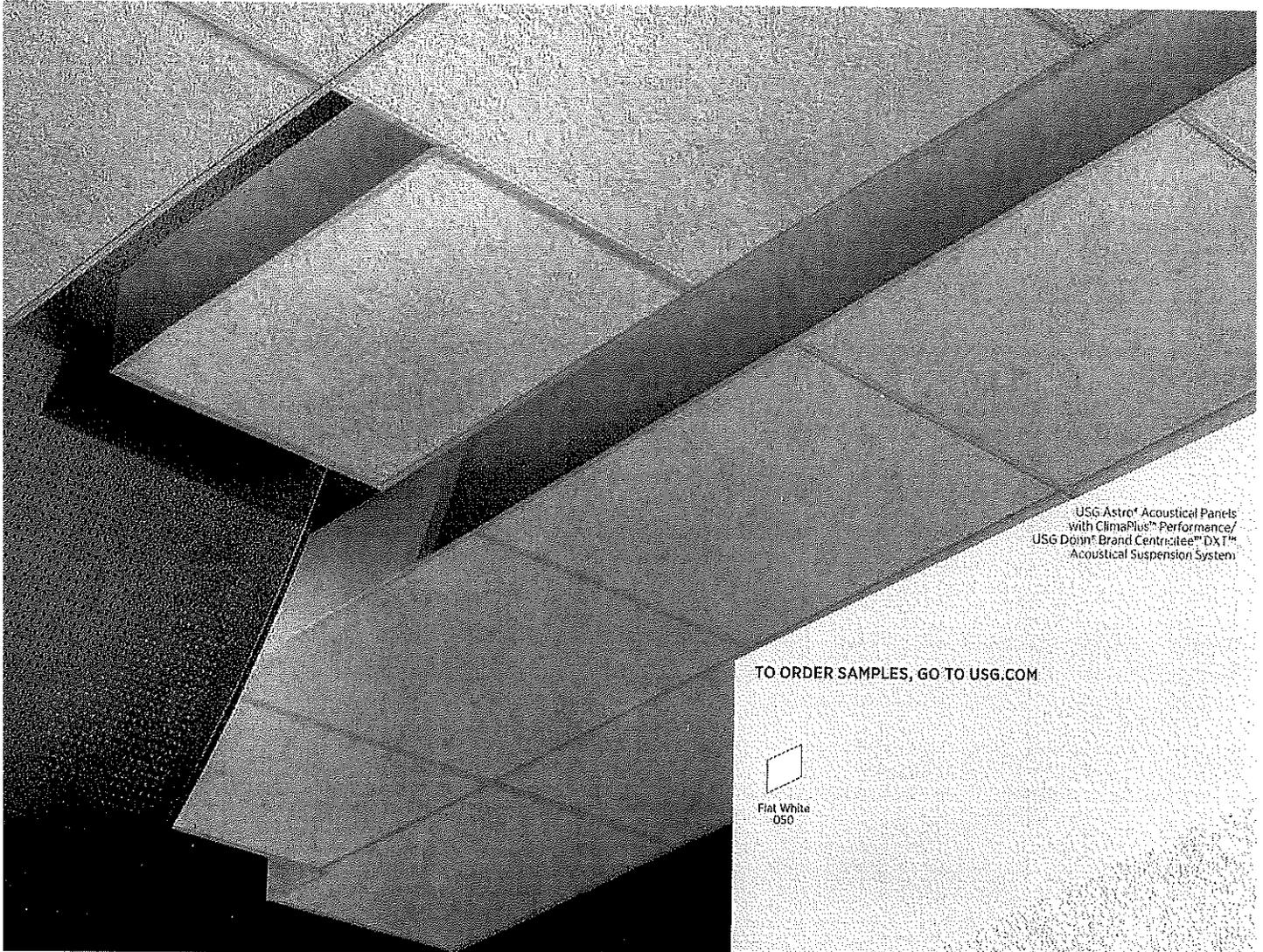


Granite - #32



USG ASTRO® ACOUSTICAL PANELS

CLIMAPLUS™ PERFORMANCE



USG Astro® Acoustical Panels
with ClimaPlus™ Performance/
USG Down® Brand Centriscitee™ DX I™
Acoustical Suspension System

TO ORDER SAMPLES, GO TO USG.COM



Flat White
050

FEATURES AND BENEFITS

- Fine-textured, unperforated and nonfissured appearance offers highly desired aesthetic.
- ClimaPlus™ 30-year lifetime system warranty against visible sag, mold and mildew.
- Optional Firecode® product designed to meet life-safety codes.

APPLICATIONS

- Schools
- Hospitals
- Healthcare facilities
- General offices
- Municipal buildings

SUBSTRATE

- Wet-formed mineral fiber

Fine-Textured Panel

USG ASTRO[®] ACOUSTICAL PANELS

CLIMAPLUS[™] PERFORMANCE

ORDER SAMPLES/LITERATURE
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fax: 888-874-2348

SEE LEED REPORT TOOL
for detailed sustainability
information, as well as the
MOST UP-TO-DATE
TECHNICAL INFORMATION
at usgdesignstudio.com



UL Classified

Edge	Panel Size	Fire Rating ²	Item No.	NRC	CAC Min.	LR ¹	Color	Grid Options	VOC Emissions	Anti-Mold & Mildew/Sag Resistance	Recycled Content ¹	Panel Cost
SQ	2'x2'x5/8"	Class A	8221	.55	35	.86	White	A,B,C	Low		67%	\$\$
	2'x2'x3/4"		8122	.50	35	.86	White	A,D	Low		68%	\$\$
	2'x4'x5/8"	Class A	8241	.55	35	.86	White	A,B	Low		67%	\$\$
SLT	2'x2'x5/8"	Class A	8223	.55	35	.86	White	E	Low		67%	\$\$
	2'x2'x3/4"		8322	.50	35	.86	White	E	Low		68%	\$\$
	2'x4'x5/8"	Class A	8243	.55	35	.86	White	E	Low		67%	\$\$
FLB	2'x2'x5/8"	Class A	8227	.55	35	.86	White	F,H,I,K	Low		67%	\$\$
	2'x2'x3/4"		8722	.50	35	.86	White	G,J	Low		68%	\$\$
	2'x4'x5/8"	Class A	8247	.55	35	.86	White	F,H,I,K	Low		67%	\$\$
SLT ⁴	2'x4'x3/4"	Class A	8742	.55	35	.86	White	E	Low		65%	\$\$
ILT ⁵	2'x4'x3/4"	Class A	8744	.55	35	.86	White	L	Low		65%	\$\$

USG ASTRO[®] PANELS

USG ASTRO[®] ILLUSION TWO/24 PANELS

PATTERNS



USG Astro[®] Illusion Two/24 The look of 2'x2' panels

GRID PROFILE OPTIONS

A USG DX [®] /DXL [™]	B USG DXW [™]	C ⁷ USG Centricitee [™] DXT [™]	D USG Centricitee [™] DXL [™]	E USG DX [®] /DXL [™]	F USG Centricitee [™] DXT [™]	G USG Centricitee [™] DXLT [™]	H USG Fineline [®] DXF [™]	I USG Fineline [®] 1/8 DXFF [™]	J USG Fineline [®] DXLF [™]	K USG Identitee [™] DXI [™]	L USG Centricitee [™] DXT [™]

Product literature
Data sheet: SC2321

ASTM E1264 classification
USG Astro[®]: Type III, Form 1
and 2; Pattern G; USG Astro[®]
Illusion: Type II,
Form 1, Pattern GK

ASTM E84 surface-burning characteristics
Class A
Flame spread: 25
Smoke developed: 50

Weight
0.85 lbs./sq. ft. (Class A)
1.10 lbs./sq. ft. (Firecode[®])

Thermal resistance
R-2.0 (Class A 5/8")
R-2.4 (Class A 3/4")
R-2.4 (Firecode[®] 3/4")

Maximum backloading
See USG 30-Year Limited Warranty
Commercial Applications (SC2102).

Maintenance
Can be cleaned easily with a soft brush or
vacuum.

Texture
Because the manufacturing process for
USG Astro[®] ClimaPlus[™] ceiling panels can
potentially create subtle texture variations,
we recommend ordering and installing this
product by production lot number.

Notes
1. For details, see LEED report tool at
usgdesignstudio.com.
2. Fire-rated items: see UL design details.

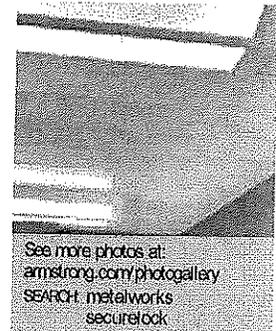
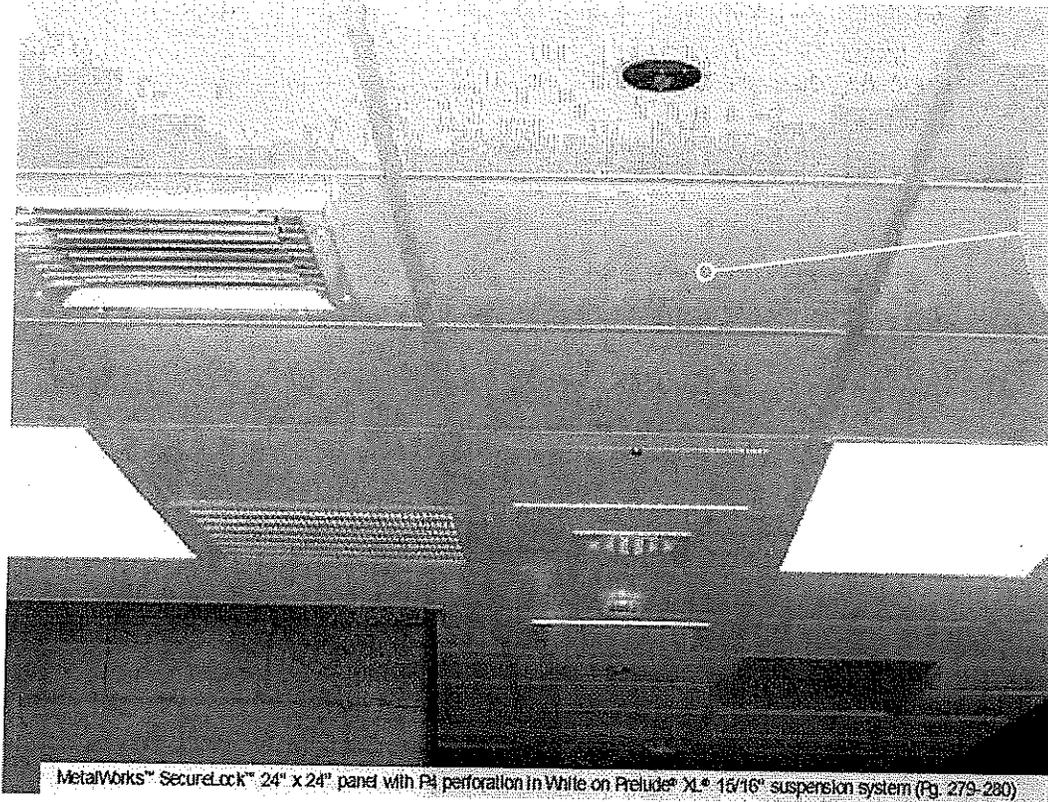
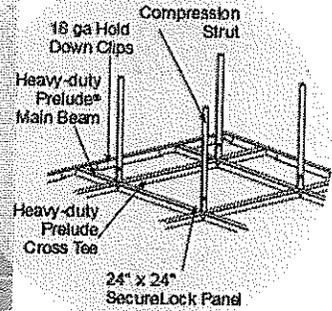
- LR values are shown as averages.
- Panels have a 15/16" routing.
- Panels have a 9/16" routing.
- Panel face and back surfaces treated with a proprietary, broad-spectrum antimicrobial additive that inhibits and retards the growth of mold and mildew. For details, see Ceiling Systems Limited Warranty Commercial Applications (SC2102) and ClimaPlus[™] Ceilings Certification of Performance (SC2451).
- Maximum 2'x2' with SQ Edge panels.

PHYSICAL DATA/
FOOTNOTES

METALWORKS™ SecureLock™ and SecureLock Plus

Lay-in & Screw-in
smooth texture

CAD/Revit® drawings at:
armstrong.com/details



See more photos at:
armstrong.com/photogallery
SEARCH: metalworks
securelock

Tamper-resistant ceiling system from 18-gauge galvanized steel panels.

KEY SELECTION ATTRIBUTES

SecureLock Lay-in

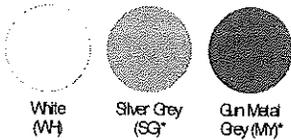
- Point load tested to withstand up to 850 lbs and a minimum of 430 lbs
- Concealed locking
- Installs on a heavy-duty Armstrong® suspension system
- Protection against contraband concealment

SecureLock Plus Screw-in (custom)

- Tamper-proof plank ceiling
- System capable of withstanding 600 impacts with 200 ft lb of energy
- Screw-in point load plank system tested to withstand 960 – 3,100 lbs of force
- 12-, 14-, and 16-gauge galvanized steel planks for added strength and durability

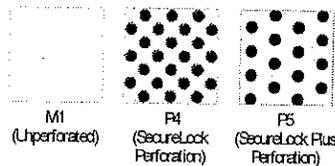
- Available in 12", 18", and 24" widths and up to 10' lengths
- Protection against contraband concealment
- Stainless steel planks

COLOR SELECTION Due to printing limitations, shade may vary from actual product.



* Premium Finish options

PERFORATION OPTIONS (1/2 scale shown)



DETAILS



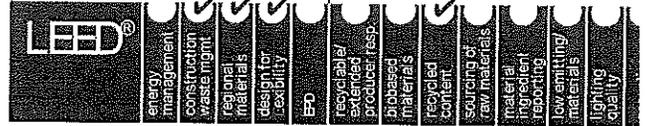
1. MetalWorks SecureLock Perforated
2. MetalWorks SecureLock Plus Perforated

METALWORKS™ SecureLock™ and SecureLock Plus

Lay-in & Screw-in
smooth texture

30% RECYCLED CONTENT

Calculate LEED contribution at armstrong.com/greengenie

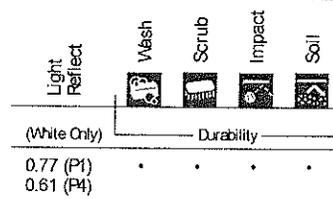


VISUAL SELECTION

Edge Profile	Item Number*	Dimensions (Inches)	Fire Rating	Perforations
METALWORKS™ SecureLock™				
15/16" Lay-in	5488__WH	24 x 24"	Class A	P1, P4

* Add 2-letter perforation suffix to item number when specifying or ordering (e.g., 5488P1WH).
NOTE: 24" x 48" panels and SecureLock Plus Custom panels are available by contacting TechLine at 1 877 ARMSTRONG

PERFORMANCE



LOCATION DEPENDENT

ACOUSTICAL INFORMATION

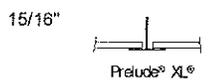
Perforation	NRC**	CAC*
P1	—	36
P4	0.80	38*

* With optional field-cut item 747 mineral fiber backing (cannot be used in addition to fiberglass in-fill item 8200100).
** NRC 0.80 (microperforated) with optional fiberglass in-fill item 8200100.

ACCESSORIES

Item Number	Description	Dimensions (Inches)	Pieces/ Carton
5396	24 x 24" Hold Down Border Clips – 18 gauge	22-1/8"	Bulk
5594	Compression Strut	—	Bulk
5596	Security Screws	—	100
5597	Security Screwdriver (to be used with item 5596)	—	1
5598	Tek Screws	—	100
5650WH	C Channel – 18 gauge	120"	Bulk
5398	Access Door – 18 gauge	24 x 24 x 1"	Bulk
5965P1WH	24 x 24" Exit Panel Unperforated	24 x 24 x 1"	8
5965P4WH	24 x 24" Exit Panel Perforated	24 x 24 x 1"	8
8200100	1" Fiberglass Infill Panel	24 x 24 x 1"	12

SUSPENSION SYSTEMS (See pg. 279-280 for components.)



PHYSICAL DATA

Material
Electrogalvanized Steel – thickness 18 gauge

Surface Finish
Factory-applied powder-coated finish (post-coated)

Fire Performance
Tested per ASTM E84 and CAN/ULC S102. Flame Spread Index 25 or less. Smoke Developed Index 50 or less.

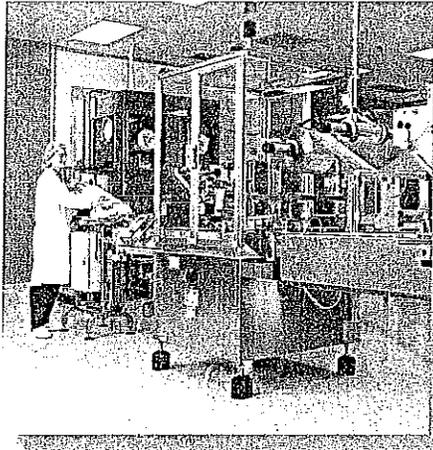
Design/Installation Considerations
Panels installed in correctional facilities are recommended for supervised areas. For detailed impact and point load test results, contact TechLine.

Warranty
Details at armstrong.com/warranty

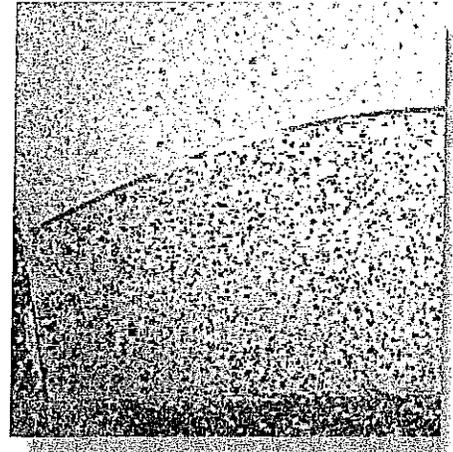
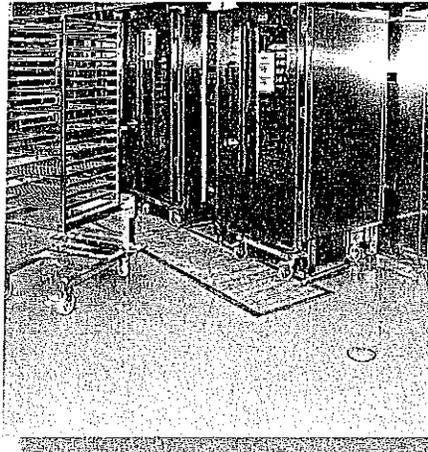
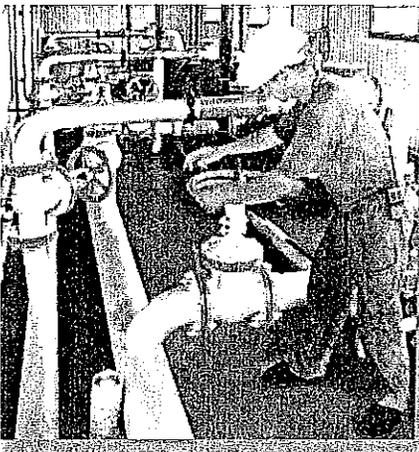
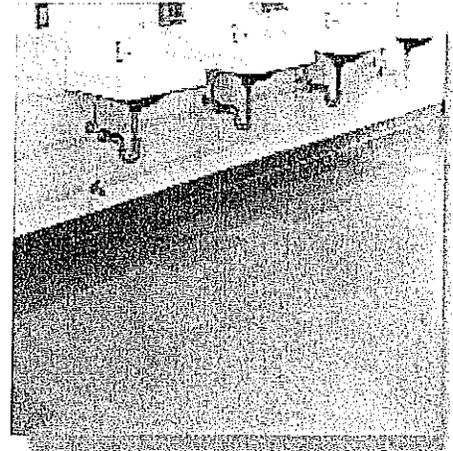
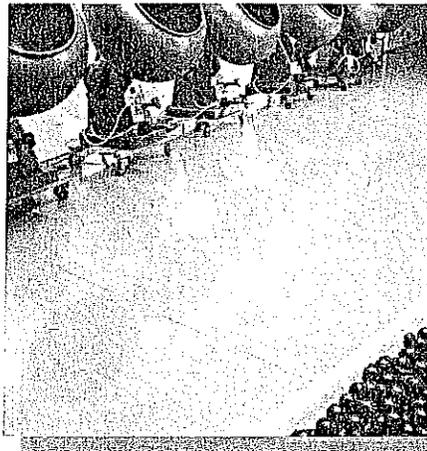
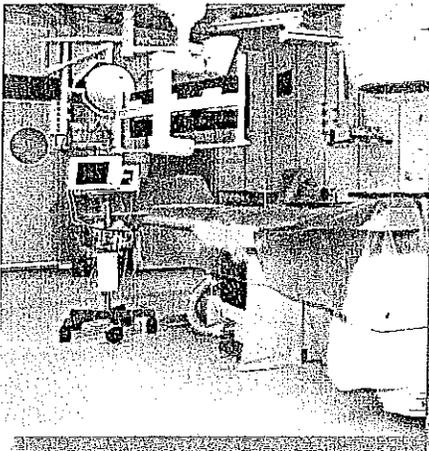
Weight; Square Feet/ Carton
5488P1WH – 2.24 lbs/SF; 32 SF/ctn
5488P4WH – 1.97 lbs/SF; 32 SF/ctn

DEX-O-TEX[®]

Seamless Flooring and Wallcoating

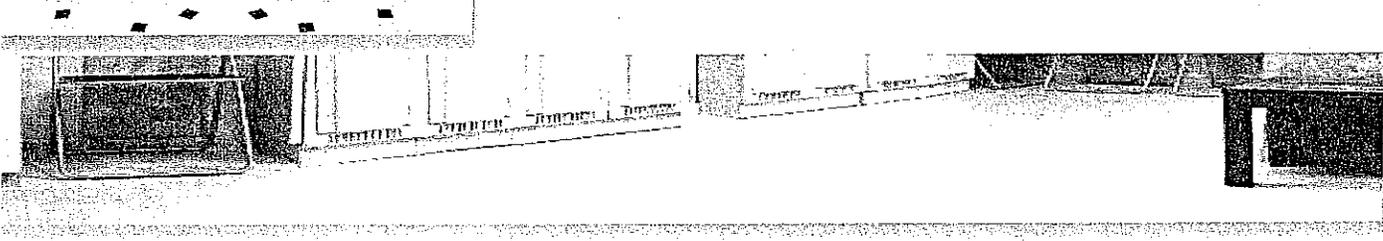
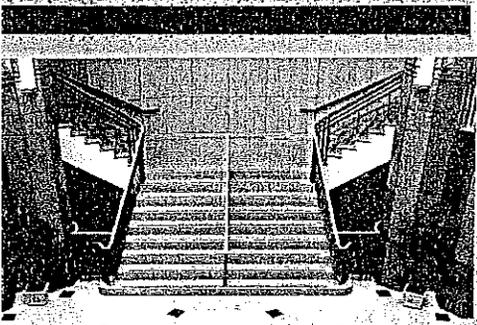
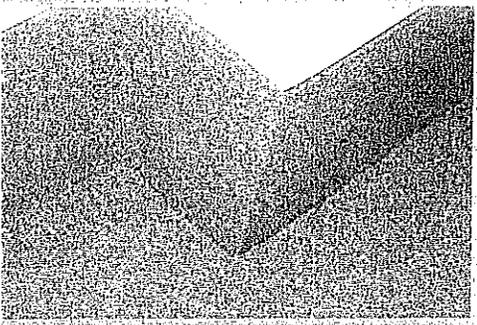
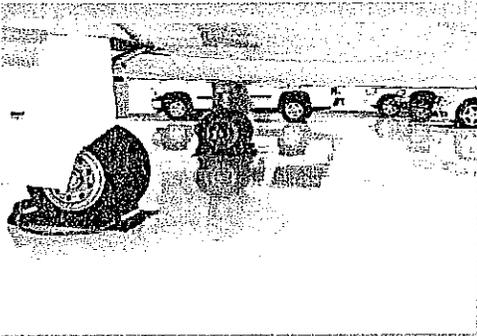


- ◆ Pharmaceutical
- ◆ Animal Care
- ◆ Food & Beverage
- ◆ Medical & Healthcare
- ◆ Cleanrooms
- ◆ Restrooms
- ◆ Mechanical Rooms



Seamless Flooring and Wallcoatings

INDUSTRIAL



◆ **Quik-Glaze** - Durable, chemical and UV resistant polyaspartic systems, designed for use in aircraft hangars, service bays, manufacturing areas.

◆ **Cheminert SC Membrane** - Specially modified flexibilized epoxy material that is a waterproofing, fluid proofing and crack isolation membrane.

◆ **Chem-Rez N** - Novolac epoxy flooring and coating systems with superior chemical and heat resistance. Excellent for secondary containment.

◆ **Electro-Flor** - Applied seamless, static dissipative (106 to 109 ohms or 1,000,000 to 100,000,000 ohms) or conductive (2.56 to 106 ohm or 25,000 to 1,000,000 ohms) floor coating system.

◆ **Flex-Glaze** - A flexible, high-build, epoxy resin wall coating system coated with a polyaspartic topcoat.

◆ **Flex-Shield** - A high tensile strength semi-flexible waterproof, fluid-proof flooring system designed to absorb heavy impact.

◆ **Neotex** - A water-phase resin material, which is applied in a series of coats to achieve a smooth finish.

◆ **Posi-Tred** - A 100% solids chemical resistant epoxy coating system with specialty aggregates, designed to provide a slip resistant finish over concrete or other Dex-O-Tex flooring systems.

◆ **Tek-Crete** - Heavy duty polyurethane cement flooring for abusive areas, resists moisture, thermal cycles and elevated temperatures.

◆ **Wall-Glas** - A three-component epoxy resin and hardener, and woven synthetic fiber reinforcement wallcoating system, which is designed to produce a seamless, dimensionally stable, hard tile-like glazed coating finish.

Decorative

◆ **Cheminert CFS** - An epoxy and special pre-engineered aggregate flooring system, designed for institutional kitchens, laundries or other work areas.

◆ **Cheminert Terrazzo** - A thin-set epoxy terrazzo flooring system, which incorporates marble chip or other aggregates.

◆ **Colorflake** - A seamless, fluid-applied epoxy flooring with decorative PVC chips.

→ ◆ **Decor-Flor** - A decorative colored quartz broadcast flooring system designed to produce a seamless floor and integral coved base.

◆ **Terracolor** - A thin-section, trowel applied, epoxy mosaic decorative flooring system.

DEX-O-TEX®

Scientifically Superior™ Technologies

Dex-O-Tex Flooring & Coating Systems
Contribute to Achieving LEED®

“Green Building” Certification Status

Product Emphasis:

Dex-O-Tex Thin-Set Epoxy & Dex-O-Tex Polyacrylate Terrazzo

Dex-O-Tex Scientifically Superior™ polymer and cementitious flooring and coating systems have long been valued for their life cycle characteristics: low maintenance, durability, non-leaking, no outgassing, quality, odor abatement, and an antimicrobial additive that reduces algae, bacteria, fungi, mold, and mildew. In addition, these products also feature recycled content. Dex-O-Tex thin-set epoxy and polyacrylate terrazzo systems can be used with recycled glass filler, glass chips and mother-of-pearl oyster shell, in addition to providing an anticipated life cycle of fifty years. The addition of recycled aggregate contributes to LEED Building System points when used in compliant new facility construction and renovation projects.

MRcr1.3 Building Reuse Credit (1 point possible)

Dex-O-Tex polymer and cementitious flooring and coating systems typically last the life of the structure. In many renovation projects, the original thin-set epoxy and polyacrylate terrazzo flooring systems have been restored to their original luster following inexpensive repairs and/or refinishing of the floor. Refinishing of thin-set epoxy and polyacrylate terrazzo and other flooring systems can be combined with reuse in other areas like walls, doors and ceiling systems to achieve 50% reuse.

MRcr4.1 and 4.2 Recycled Content Credit (2 points possible)

Dex-O-Tex polymer and cementitious flooring and coating systems, especially thin-set epoxy and polyacrylate terrazzo, allow for easy incorporation of recycled glass and oyster shell, as well as stone or marble, which are mine tailings (waste) from quarry sites that have been salvaged from refuse piles and re-crushed and sieved for the terrazzo industry. One point is granted for 10% recycled content and a second point for an additional 10% (20% total) of the total value of the materials on the project. A thin-set epoxy terrazzo floor containing 100% recycled glass would contain as much as 75% to 80% by volume of recycled product. Aluminum and brass strips may also contain recycled metal. The credit is based on the dollar value of the raw material.

MRcr5.1 and 5.2 Local Regional Materials Credits (2 points possible)

Dex-O-Tex polymer and cementitious flooring and coating systems are manufactured on the jobsite. One point is awarded if 10% of the project building materials are manufactured within a 500-mile radius of the project. Since the flooring and coating systems incorporate several different components, often from different manufacturers, they comply. In addition, raw materials, such as aggregates, are often extracted, harvested or recovered within a 500-mile radius of the project. The calculation is based on the cost of the raw materials. The marble chips, glass aggregate, river rock, beach sand, as well as the cement and epoxy binders are available throughout the United States. These systems can contribute to the credit if the raw material supplier is located within 500 miles of the project site and is manufactured on site. A second point is awarded if the total percentage of the cost of regional materials is at least 20%.

MCcr2.1 and 2.2 Construction Waste Management Credit (1 to 2 points possible)

Dex-O-Tex polymer and cementitious flooring and coating systems, including thin-set epoxy terrazzo, can contribute to construction waste management and assist in the reclamation of glass waste from the construction process. In projects that require demolition of existing structures, the thin-set epoxy terrazzo contractor can be part of the construction waste management team – reclaiming aggregate and thereby avoiding disposal into the landfill. If desired, the salvaged aggregate can potentially be used in the flooring of the new building project.

**EQcr4.1 Indoor Emitting Materials Credit 4.1
(1 point possible)**

Cementitious based polyacrylate thin-set terrazzo systems are a combination of inorganic powder and aggregate and organic based binders containing limited to zero volatile organic compounds (VOC). Dex-O-Tex epoxy flooring and coating systems have, for the most part, moved to 100% solid formulas, eliminating the addition of any VOC's in the material. In addition, a number of Dex-O-Tex flooring and coating systems are silica free. Certification of compliance may be obtained from Crossfield Products Corp.

**IDcr1 Innovative Design Credit
(1 point possible)**

Dex-O-Tex cementitious and polymer flooring and coating systems can also potentially gain additional points under the Innovation and Design category for innovative performance in Green Building categories not specifically addressed by LEED. As an example, extensive use of polyacrylate and epoxy terrazzo as a predominant floor material can potentially result in an installation with a Life Cycle Analysis that exceeds that of other floor materials.

Total Points: Overall, on typical projects, polymer flooring and coating systems qualify for LEED Credits. Epoxy and polyacrylate thin-set terrazzo can realistically contribute to five (5) LEED credits: MRcr4 (2), MRcr5 (2), EQcr4.1 (1). On a case-by-case scenario, Dex-O-Tex flooring and coating systems may also be able to contribute to MRcr1.3 (1), and in extreme cases IDcr1 (1) and MRcr2 (1), for a total of 8 points possible.

Original information obtained from the National Terrazzo & Mosaic Association (NTMA): TERRAZZO APPLICATION LEED® 2.2 PROJECT ANALYSIS by Michael A. Kawachi, LEED AP, USGBC North Texas Chapter and Crossfield Products Corp. (an active member in CSI, SSPC, ICF, NTMA). LEED® (Leadership in Energy and Environmental Design) Rating System is a registered trade name of USGBC (U.S. Green Building Council).



Vest Coast

Ancho Dominguez, CA
Tel: 310.886.9100
Fax: 310.886.9119

Crossfield Products Corp.
www.dexotex.com



East Coast

Roselle Park, NJ
Tel: 908.245.2800
Fax: 908.245.0659

- Floor & Wall Finishes
- Thermal & Moisture Protection
- Concrete Protection & Renewal

A-81 UNDERLAYMENT

Smoothing & Resurfacing Compound for Concrete

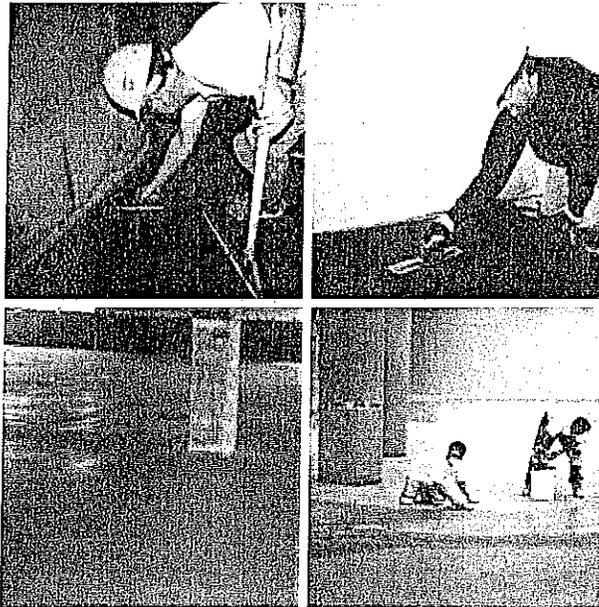
Dex-O-Tex's A-81 Underlayment is a polymer modified, pre-packaged cementitious patching and leveling compound designed for use both beneath Dex-O-Tex floors or as a patching, smoothing or resurfacing application without other surfacing over it.

Dex-O-Tex A-81 can also be used as an underlayment to smooth floors for the application of resilient or ceramic tiles. The material is VOC compliant and contains no organic solvents. It is non-toxic and has only a slight odor during installation.

Dex-O-Tex A-81 can be applied to any thickness from almost feather-edge upwards. It can be used on interior or exterior surfaces – including those exposed to freeze/thaw or constant water spillage.

The material "breathes" and is unaffected by water vapor transmission. Fast setting, Dex-O-Tex A-81 Underlayment is pre-packaged for unit mixing and is easy to apply.

A-81 dries to a natural, cement gray color. It can be pigmented with black to produce a charcoal gray finished color when desired.



Physical Properties

- Compressive Strength4,140 psi
(ASTM C109)
- Flexural Strength 1,260 psi
(ASTM C78)
- Tensile Strength925 psi
(ASTM C190)
- Shear Bond Strength.....410 psi
(ASTM C882)
- Absorption3.41%
(MIL-PRF-3134)
- Permeability670 coulombs
(ASTM C1202)

Features/Benefits

- Superior Adhesion
- Low Permeability
- Interior & Exterior Use
- Fast-Setting
- Excellent Freeze/Thaw Resistance
- Low Absorption
- Unaffected by De-Icing Salts
- Expansion/Contraction Rates are the Same as Concrete
- Self-Curing
- For use with all Dex-O-Tex Flooring Systems and Waterproof Decking Systems

- Floor & Wall Finishes
- Thermal & Moisture Protection
- Concrete Protection & Renewal

A-81 Underlayment

Application Instructions

Concrete must be cleaned of all grease, paint or other foreign matter. Hammer out loose or spalled concrete. Vacuum surface or hose with water to remove excess dust.

Application — Up to 1/2 inch (12.7 mm) thickness

Mix together one gallon of A-81 Liquid with one 75 lb. (33.97 kg) bag of A-81 Powder. Mix with drill mixer, plaster mixer, or mortar box and hoe.

Prime concrete surfaces with a liberal brush coat of A-81 Liquid as it comes from the can. Dex-O-Tex A-81 Underlayment must be applied over wet prime coat. Re-apply prime coat if the first coat absorbs into the concrete rapidly.

Trowel A-81 Underlayment over primed surface to any thickness desired (see below for thicknesses greater than 1/2 inch/12.7 mm). Finish immediately after placing. Do not re-trowel once material begins to set up.

A one gallon, one bag mix will cover about 30 sq ft (2.78 sq m) in a 1/4 inch (6.35 mm) thickness. In "skim coating" thickness to smooth off slightly rough or rain-marked concrete, a one gallon, one bag mix will cover about 80 sq ft (7.43 sq m).

A one gallon, one bag mix produces about 0.7 cubic feet (0.019 cubic meters) of material.

Application — Exceeding 1/2 inch (12.7 mm) thickness

Mix together a standard mix described above and add up to 20 lbs (9 kg) of dry 3/8 inch pea gravel. Add a small amount of additional A-81 Liquid as necessary to permit trowelability. If desired, spray apply a small amount of A-81 Liquid on the surface to lubricate for easy trowel compaction.

A one gallon, one bag plus 20 lbs (9 kg) aggregate mix will cover approximately 19 sq ft (1.74 sq m) in a 1/2 inch (12.7 mm) thickness.

The above mix produces approximately 0.7 cubic feet (0.019 cubic meters) of material.

Precautions

Minimum ambient and surface temperatures should be 45°F / 7°C and rising at time of application.

If applying in hot sun or high winds, cover with damp burlap to minimize or prevent surface-checking.

Typical set up time at 75°F / 23.9°C is 6-8 hours for foot traffic.

Clean tools and equipment with water.

Limited Warranty

NO WARRANTY SHALL BE EFFECTIVE UNTIL THE TERMS AND CONDITIONS OF SALE SET FORTH IN CROSSFIELD PRODUCTS CORP. INVOICE ARE MET.

Crossfield Products Corp. warrants to the purchaser of its products that such products are free from manufacturing defect. Crossfield does not warrant or guarantee the workmanship performed by any person or firm installing its products. Crossfield's obligation under this warranty is limited solely to the original purchaser and solely to the remedy of replacement in kind of any product which Crossfield sold which may prove defective in manufacture within one year from date of installation, provided said product was stored correctly and installed within the product's shelf life, by the original purchaser and which Crossfield examination shall disclose to Crossfield's satisfaction to be thus defective.

IN NO EVENT SHALL CROSSFIELD PRODUCTS CORP. BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES. THIS WARRANTY IS EXPRESSLY GIVEN IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE AND ALL OTHER OBLIGATIONS OR LIABILITIES ON CROSSFIELD'S PART, AND WE NEITHER ASSUME NOR AUTHORIZE ANY PERSON OR PERSONS TO ASSUME FOR US ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF A CROSSFIELD PRODUCT. THIS WARRANTY SHALL NOT APPLY TO ANY OF CROSSFIELD'S PRODUCTS, WHICH HAVE BEEN SUBJECT TO ADULTERATION, ALTERATION, ABUSE OR MISUSE. CROSSFIELD PRODUCTS CORP. MAKES NO WARRANTY WHATSOEVER IN RESPECT TO ACCESSORIES, PARTS OR MATERIALS NOT SUPPLIED BY CROSSFIELD PRODUCTS CORP., WHICH ARE USED IN CONNECTION WITH ITS PRODUCTS. THE TERM "ORIGINAL PURCHASER" IN THIS WARRANTY MEANS THAT PERSON, CORPORATION OR ENTITY TO WHOM CROSSFIELD PRODUCTS CORP. SOLD ITS PRODUCT OR PRODUCTS. ANY ACTION TO ENFORCE ANY WARRANTY OR FOR BREACH OF CONTRACT OR ARISING OUT OF ANY CLAIM AGAINST CROSSFIELD PRODUCTS CORP. SHALL BE COMMENCED AND MAINTAINED ONLY IN A COURT OF COMPETENT JURISDICTION IN THE CONTINENTAL UNITED STATES OF AMERICA. THE PURCHASER ACCEPTS THESE TERMS AND CONDITIONS, AND HEREBY EXPRESSLY WAIVES ANY CLAIM TO ADDITIONAL DAMAGES.

CAUTION: ALWAYS KEEP OUT OF THE REACH OF CHILDREN.



DEX-O-TEX PRODUCT LINE
Crossfield Products Corp.

West Coast Office
3000 E. Harcourt Street
Rancho Dominguez, CA
90221
310-886-9100
310-886-9119 fax

East Coast Office
140 Valley Road
Roselle Park, NJ
07204
908-245-2800
908-245-0659 fax

www.dexotex.com

SECTION 126613 – TELESCOPIC BLEACHERS SPECIFICATION

PART 1 – GENERAL

1.01 SUMMARY

- A. Section Includes: Telescoping Gym Seating includes, either manually or electrically operated systems of multiple-tiered seating rows comprising of seat, deck components, understructure that permits closing without requiring dismantling, into a nested configuration for storing or for moving purposes.

EDITORS NOTE: REVISE BELOW TO SUIT PROJECT

1. Typical applications include the following:
 - a. Wall Attached Telescoping Gym Seats.
 - b. Recessed Telescoping Gym Seats.
 - c. Floor-Attached (Freestanding) Telescoping Gym Seats.
 - d. Portable/Movable Telescoping Gym Seats.
 - e. Reverse Fold Telescoping Gym Seats.
 - f. Traveling Telescopic Seating Unit

EDITORS NOTE: REVISE BELOW TO SUIT PROJECT

2. Special applications include the following:
 - a.
 - b.
 - c.

B. Related Sections:

1. Division 9 finishes sections for adequate floor & wall construction for operation of Telescoping Gym Seats. Flooring shall be level and rear wall plumb within 1/8" [3mm] in 8'-0 [2438mm]. Maximum bleacher force on the floor, of a 25'-6" [7772] section, shall be a static point load of less than 300 psi [2.068 N/mm²].
2. Division 16 Electrical sections for electrical wiring and connections for electrically operated Telescoping Gym Seats.

- C. Alternates: This section specifies alternates for Telescoping Gym Seat products. Refer to Part 2 products for alternate products, and to Division 1 Alternates sections and other bid documents, if any, for alternate requirements.

D. Qualifications and Capabilities:

1. BIDDER QUALIFICATIONS:

Bidders are required to be an authorized dealer or manufacturer for equipment proposed which on a day-to-day basis regularly provide the equipment offered. Bidders are further advised that only standard production models or standard options will be acceptable for award. Equipment offered shall be currently manufactured on an active assembly line. The State is only interested in proven equipment; provided, installed, and serviced by Authorized Dealers capable of providing references.

2. INSTALLER QUALIFICATIONS:

Bleacher installer shall be Factory Certified by the Manufacturer. Proof of Factory Certified Installation Certificate shall be provided along with the Invitation to Bid. Failure to provide this information shall result in rejection of bid. (No Exceptions Taken)

3. SERVICE CAPABILITY: The Bleacher Contractor must be able to show proof of full time service capability by factory certified technicians directly employed by the Bleacher Contractor. Sub-Contractors of the Bleacher Contractor or Factory Technicians located outside of the State do not qualify under this service response requirement. Adequate and satisfactory availability of repair parts

and supplies, and ability to meet warranty and service requirements are a requirement of this Invitation to Bid. The State reserves the right to satisfy itself by inquiry or otherwise as to bidder's capabilities in this regard. A four (4) to eight (8) hour maximum on-site repair response is required during normal working hours, 8 a.m. to 5 p.m. weekdays (excluding holidays) All Full Time Service Personnel shall be Factory Authorized and Trained. Proof of Service Capability along with a listing of service parts regularly maintained in inventory shall be provided along with the Invitation for Bid. Failure to provide this information shall result in rejection of bid.

1.02 REFERENCE

- A. International Building Code (IBC)
- B. ICC 300 – Standard for Bleachers, Folding and Telescopic Seating and Grandstands
- C. American Welding Society (AWS)
 - 1. AWS D1.1 Structural Welding Code – Steel
 - 2. WS D1.3 Structural Welding Code - Sheet Steel
- D. American Institute of Steel Construction (AISC):
 - 1. AISC - Design of Hot Rolled Steel Structural Members.
- E. American National Standards Institute (ANSI).
- F. American Iron & Steel Institute (AISI):
 - 1. AISI - Design Cold Formed Steel Structural Members.
- G. Aluminum Association (AA):
 - 1. AA - Aluminum Structures, Construction Manual Series.
- H. American Society for Testing Materials (ASTM):
 - 1. ASTM - Standard Specification for Properties of Materials.
- I. National Forest Products Association (NFoPA):
 - 1. NFoPA - National Design Specification for Wood Construction.
- J. Southern Pine Inspection Bureau (SPIB):
 - 1. SPIB - Standard Grading Rules for Southern Pine.
- K. National Bureau of Standards/Products Standard (NBS/PS):
 - 1. PS1 - Construction and Industrial Plywood.
- L. Americans with Disability Act (ADA)
 - 1. ADA - Standards for Accessible Design.

1.03 MANUFACTURER'S SYSTEM ENGINEERING DESCRIPTION

- A. Structural Performance: Engineer, fabricate and install telescopic gym seating systems to the following structural loads without exceeding allowable design working stresses of materials involved, including anchors and connections. Apply each load to produce maximum stress in each respective component of each gym seat unit.

EDITORS NOTE:

REVISE BELOW IF MORE STRINGENT REQUIREMENTS APPLY. ICC 300 – 2012 EDITION DESIGN LOADS FOR RAILING; VERIFY WITH JURISDICTIONAL AUTHORITY IF RAILINGS LOADS NEED TO BE INCREASED TO MEET AUTHORITY REQUIREMENTS.

1. Design Loads: Comply with ICC 300 – 2012 Edition

B. Manufacturer's System Design Criteria:

1. Gymnasium seat assembly; Design to support and resist, in addition to it's own weight, the following forces:
 - a. Live load of 120 lbs per linear foot [162.69 N/m] on seats and decking
 - b. Uniformly distributed live load of not less than 100 lbs per sq. ft. [135.58N/m] of gross horizontal projection.
 - c. Parallel sway load of 24 lbs. [32.53 N/m] per linear foot of row combined with (b.) above
 - d. Perpendicular sway load of 10 lbs. [13.56 N-m] per linear foot of row combined with (b.) above
2. Hand Railings, Posts and Supports: Engineered to withstand the following forces applied separately:
 - a. Concentrated load of 200 lbs. [90.72 kg] applied at any point and in any direction.
 - b. Uniform load of 50 lbs. per foot [.344 N/mm²] applied in any direction.
3. Guard Railings, Post and Supports: Engineered to withstand the following forces applied separately:
 - a. Concentrated load of 200 lbs. [90.72 kg] applied at any point and in any direction along top rail.
 - b. Uniform load of 50 lbs. per foot [.344 N/mm²] applied horizontally at top rail and a simultaneous uniform load of 100 lbs. per foot [.689 N/mm²] applied vertically downward.
4. Member Sizes and Connections: Design criteria (current edition) of the following shall be the basis for calculation of member sizes and connections:
 - a. AISC: Manual of Steel Construction
 - b. AISI: Specification for Design of Cold Formed Steel Structural Members
 - c. AA: Specification for Aluminum Structures
 - d. NFOPA: National Design Guide For Wood Construction.

1.04 SUBMITTIALS

- A. Section Cross-Reference: Required submittals in accordance with "Conditions of the Contract" and Division 1 General Requirements sections of this "Project Manual."
- B. Project Data: Manufacturer's product data for each system. Include the following:
1. Project list: Ten(10) seating projects of similar size, complexity and in service for at least five (5) years.
 2. Deviations: List of deviations from these project specifications, if any.

- C. Shop Drawings: Indicate Telescoping Gym Seat assembly layout. Show seat heights, row spacing and rise, aisle widths and locations, assembly dimensions, anchorage to supporting structure, material types and finishes.
 - 1. Wiring Diagrams: Indicate electrical wiring and connections.
 - 2. Graphics Layout Drawings: Indicate pattern of contrasting or matching seat colors
- D. Samples: Seat materials and color finish as selected by Architect from manufacturers standard offered color finishes.
- E. Environmental Data Package: Provide project specific environmental data work sheet with project header and LEED calculations completed based on actual project weight and project price. Environmental Data Package required to be submitted with formal submittal package prior to project award.
 - 1. Regional Manufacturing
 - a. Provide manufacturing location and distant to project site by product material type as required. [straight-line travel as a bird flies as per USGBC]
 - 2. Recycled Content:
 - a. Provide Packaging Material Listing & Recycled Content by Material Type; [Total % Recycled Content, Total % Pre Consumer and % Post Consumer]
 - b. Provide Product Material Listing & Recycled Content by Material Type; [Total % Recycled Content, Total % Pre Consumer and % Post Consumer]
 - 3. Indoor Environmental Quality
 - a. Provide documentation that the specified product passes ANSI/BIFMA X7.1-2007 Standard for Formaldehyde and TVOC Emissions of Low-emitting Office Furniture Systems and Seating
 - b. Provide documentation that the specified product solid core ply-form or engineered fiber panels are manufactured with resins which are free of added urea-formaldehyde.
 - 4. Product Life Cycle – Deconstruction & Reclaiming Opportunity
 - a. Provide listing of product materials which can be recycled at the end of the product life cycle and re-enter the recycled or reuse material stream.
- F. Manufacturer Qualifications: Certification of insurance coverage and manufacturing experience of manufacturer, and copy of a telescopic load test to all loads described in 1.03 above, observed by a qualified independent testing laboratory, and certified by a registered professional structural engineer verifying the integrity of the manufacturer's geometry design and base structural assumptions.
- G. Installer Qualifications: Installer qualifications indicating capability, experience, and official Certification Card issued by manufacturer of telescopic seating.
- H. Engineer Qualifications: Certification by a professional engineer registered in the state of manufacturer that the equipment to be supplied meets or exceeds the design criteria of this specification.
- I. Operating/Maintenance Manuals: Provide to Owner maintenance manuals. Demonstrate operating procedures, recommended maintenance and inspection program.
- J. Warranty: Manufacturers standard warranty documents.

1.05 QUALITY ASSURANCE

MAXAM TELESCOPIC GYM SEATING SYSTEM
MAXAM TELESCOPIC GYM SEATING SYSTEM

EDITORS NOTE:

BELOW STANDARD MAY BE MORE STRINGENT THAN APPLICABLE BUILDING CODE REQUIREMENTS.
COORDINATE WITH LOCAL BUILDING CODE REQUIREMENTS FOR TELESCOPIC SEATS.

- A. Seating Layout: Comply with ICCB 300 -2012 Standard for Bleachers, Folding Telescopic Seating and Grandstands, except where additional requirements are indicated or imposed by authorities having jurisdiction.
- B. Welding Standards & Qualification: Comply with AWS D1.1 Structural Welding Code - Steel and AWS D1.3 Structural Welding Code - Sheet Steel.
- C. Insurance Qualifications: Mandatory that each bidder submit with his bid an insurance certificate from the manufacturer evidencing the following insurance coverage:
 - 1. Workers Compensation - including Employers Liability with the following limits:
 - a. \$500,000.00 (US) Each Accident
 - b. \$500,000.00 (US) Disease - Policy Limit
 - c. \$500,000.00 (US) Disease - Each Employee
 - 2. Commercial General Liability - including premises/ operations, independent contractors and products completed operations liability. Limits of liability shall not be less than \$5,000,000.00 (US).
- D. Manufacturer Qualifications: Manufacturer who has a minimum of 40 years of experience manufacturing telescoping gym seats and can demonstrate continual design enhancement and 25-year minimum product life-cycle support of telescopic seating.
- E. Installer Qualifications: Engage experienced Installer who has specialized in installation of telescoping gym seat types similar to types required for this project and who carries an official Certification Card issued by telescoping gym seat manufacturer.
- F. Engineer Qualifications: Engage licensed professional engineer experienced in providing engineering services of the kind indicated that have resulted in the successful installation of telescoping bleachers similar in material, design, fabrication, and extent to those types indicated for this project.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver telescopic gym seats in manufacturers packaging clearly labeled with manufacturer name and content.
- B. Handle seating equipment in a manner to prevent damage.
- C. Deliver the seating at a scheduled time for installation that will not interfere with other trades operating in the building.

1.07 PROJECT CONDITIONS

- A. Field Measurements: Coordinate actual dimensions of construction affecting telescoping bleachers installation by accurate field measurements before fabrication. Show recorded measurements on final shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid delay of Work.

1.08 WARRANTY

- A. **Manufacturer's Product Warranty:** Submit manufacturer's standard warranty form for telescoping bleachers. This warranty is in addition to, and not a limitation of other rights Owner may have under Contract Documents.
1. **Warranty Period:** Five years from Date of Acceptance.
 2. **Beneficiary:** Issue warranty in legal name of project Owner.
 3. **Warranty Acceptance:** Owner is sole authority who will determine acceptance of warranty documents.

1.09 MAINTENANCE AND OPERATION

- A. **Instructions:** Both operation and maintenance shall be transmitted to the Owner by the manufacturer of the seating or his representative.
- B. **Service:** Maintenance and operation of the seating system shall be the responsibility of the Owner or his duly authorized representative, and shall include the following:
1. Operation of the Seating System shall be supervised by responsible personnel who will assure that the operation is in accordance with the manufacturer's instructions.
 2. Only attachments specifically approved by the manufacturer for the specific installation shall be attached to the seating.
 3. An annual inspection and required maintenance of each seating system shall be performed to assure safe conditions. At least biannually the inspection shall be performed by a professional engineer or factory qualified service personnel.

PART 2 – PRODUCTS

EDITORS NOTE:

MANUFACTURER DOES NOT RECOMMEND THE USE OF PHRASES "OR EQUAL" / "OR APPROVED EQUAL" BECAUSE OF DIFFERING INTERPRETATIONS BETWEEN CONTRACTING PARTIES. CONSIDER UTILIZING "ALTERNATE" METHOD OF SPECIFYING PRODUCTS FOR LISTING ALTERNATE MANUFACTURERS AND PRODUCTS. (SEE ARTICLE 2.02 HERE IN).

2.01 MANUFACTURERS

- A. **Manufacturer:** Hussey Seating Company, U.S.A.
1. **Address:** North Berwick, Maine, 03906
 2. **Telephone:** (207) 676-2271; Fax: (207) 676-9690

EDITORS NOTE:

ADD BELOW SELECTIONS FROM MANUFACTURER'S LITERATURE AND COORDINATE SELECTIONS WITH DRAWINGS.

3. **Product:** MAXAM Telescopic Gym Seat System by Hussey Seating Company

EDITORS NOTE: SELECT BELOW MODEL TYPE.

- a. Model: MAXAM26 Series Telescopic Gym Seats, adjustable row spacing in two inch increments from 22 inches [559] to 26 inches [660].
- b. MAXAM26 Series Telescopic Gym Seats, **SELECT** Rise Spacing: 9 5/8" [244], 11 5/8" [295] or 16" [406]
- c. Aisle Type: **SELECT**: foot level aisles, front steps, intermediate aisle steps.
- d. Seat Type: **SELECT**: Classic (wood seat), 10" or 12" Courtside Collection
 - (1) Seat color finish: **SELECT**: manufacturers 15 standard for Courtside Collection
 - (2) Seat color finish: **SELECT**: manufacturers 15 standard for MVP seat tops and seat front panel (16" rise only)
 - (3) Courtside graphic logos and custom Signature logos: (**See Personalization and Creativity under Accessories section**)
- e. Rail Type: **SELECT**: Self-storing end rail, removable end rails, front railings, rear rails, store-in-place aisle hand rails, folding aisle hand rails.
 - (1) Rail color finish: **SELECT**: Standard black or 15 standard colors to match Courtside Collection seat. (**See Personalization and Creativity under Accessories section**).
- f. Operation: **SELECT**: Electric or Manual
 - (1) Electrical Power System: **SELECT**: Integral power with pendant Control or wireless controller, motion monitor, limit switches, key switches, portable power-assist tractor
- g. Portable-MAXAM Dolly System: : **SELECT**: Integral Dolly or Portable Dolly

4. Product Description/Criteria

- a. Bank Length:
- b. Aisle Widths:
- c. Number of Tiers:
- d. Row Spacing(s):
- e. Open Dimension:
- f. Closed Dimension:
- g. Overall Unit Height:
- h. Net Capacity; per seat (18" [457]):
- i. Maximum Net Capacity; (w/Flex Row Fully Recovered):

5. Miscellaneous Product Accessories: **SELECT**: operating handles, front panels, end panels, rear panels, ventilating grills, scorer's table, top seat filler, rear seats for reverse fold units, seat number's, row letters, end curtains, aisle closure curtains, Top-row--Basketball deflector curtains.
6. Special Applications: **SELECT**: tapered sections, truncated units, high humidity finish, elevated-front and rear cross aisles, portable access stairs, programming supports, extended rear deck filler, rear wall column cutouts.
7. Handicap Seating Provisions: **SELECT**: Provide first tier modular recoverable Flex-rows, handicap first-tier fixed end-section cutouts, full-section truncations per requirements of (ADA) Americans with Disability Act located as indicated.

- B. Other Acceptable Manufacturers:** Will be considered if in compliance with these specifications. Deviations must be submitted with bid in order that a fair and proper evaluation be made. Those bidders not submitting a list of deviations will be presumed to have bid as specified.

EDITORS NOTE:

COORDINATE BELOW ARTICLE WITH RELATED DIVISION 1 SECTION FOR ALTERNATES, AND BID DOCUMENTS AND BID FORMS FOR BID TYPE PROJECTS

2.02 ALTERNATES

- A. Base Bid:
 - 1. Base Bid Product:
 - 2. Base Bid Product Accessories:
- B. Alternate No. ____: In lieu of providing base bid product, provide the following:
 - 1. Alternate Product:
 - 2. Alternate Product Accessories:
- C. Alternate No. ____: In lieu of providing base bid product, provide the following:
 - 1. Alternate Product:
 - 2. Alternate Product Accessories:

EDITORS NOTE:

BELOW ARTICLE FOR GENERIC / REFERENCE SPECIFICATION.

2.03 MATERIALS

- A. Lumber: ANSI/Voluntary Product 20, B & B Southern Pine
- B. Plywood: ANSI/Voluntary Product PS1, APA A-C Exterior Grade.
- C. Structural Steel Shapes, Plates and Bars: ASTM A 36.
- D. Uncoated Steel Strip (Non-Structural Components): ASTM A569, Commercial Quality, Hot-Rolled Strip.
- E. Uncoated Steel Strip (Structural Components): ASTM A570 Grade 33, 40, 45, or 50, Structural Quality, Hot-Rolled Strip.
- F. Uncoated Steel Strip (Structural Components): ASTM A607 Grade 45 or 50, High-Strength, Low Alloy, Hot-Rolled Strip.
- G. Galvanized Steel Strip: ASTM A653 Grade 40, zinc coated by the hot-dip process, structural quality.
- H. Structural Tubing: ASTM A500 Grade B, cold-formed.
- I. Polyethylene Polymer: ASTM D 1248, Type III, Class B; molded, color-pigmented, textured, impact-resistant, structural formulation; in color indicated or, if not otherwise indicated, as selected by Architect from manufacturer's standard colors.
- J. Fasteners: Vibration-proof, of size and material standard with manufacturer.

2.04 UNDERSTRUCTURE FABRICATION

- A. Frame System:
 - 1. Wheels: Not less than 5" [127] diameter by 1 1/4" [32] with non-marring soft rubber face to protect wood and synthetic floor surfaces, with molded-in sintered iron oil-impregnated bushings to fit 3/8" [10] diameter axles secured with E-type snap rings.
 - 2. Lower Track: Continuous Positive Interglide System interlocks each adjacent CPI unit using an integral, continuous, anti-drift feature and through-bolted guide at front to prevent separation and misalignment. CPI units at end sections of powered banks and manual sections shall contain a Low Profile Posi-Lock LX to lock each row in open position and allow unlocking automatically. Provide adjustable stops to allow field adjustment of row spacings.
 - 3. Slant Columns: High tensile steel, tubular shape.
 - 4. Sway Bracing: High tensile steel members through-bolted to columns.

5. Deck Stabilizer: High tensile steel member through-bolted to nose and riser at three locations per section. Interlocks with adjacent stabilizer on upper tier using low-friction nylon roller to prevent separation and misalignment. Incorporates multiple stops to allow field adjustment of row spacings.
6. Deck Support: Securely captures front and rear edge of decking at rear edge of nose beam and lower edge of riser beam for entire length of section.

B. Deck System:

1. Section Lengths: Each bank shall contain sections not to exceed 25'-6" [7772] in length with a minimum of two supporting frames per row, each section.
2. Nose beam and Rear Riser beam: Nose beam shall be continuously roll-formed closed tubular shape of ASTM A653 grade 40, Riser beam shall be continuously roll-formed of ASTM A653 grade 40. Nose and Riser beam shall be designed with no steel edges exposed to spectator after product assembly.
3. Attachment: Through-Bolted fore/aft to deck stabilizers, and frame cantilevers.
4. Decking: 5/8" [16], AC grade clear-top-coated tongue and groove Southern Yellow Pine; or BC grade polyethylene-top-coated tongue and groove Douglas Fir plywood; both of interior type with exterior glue, 5-ply, all plies with plugged cross-bands, produced in accordance with National Bureau of Standards PS-1-97. Plywood shall be cut and installed with top, center and bottom ply grain-oriented from front of deck to rear of deck (nose beam to riser beam). Adjacent pieces shall be locked together with tongue and groove joint from front to rear of deck. Longest unsupported span: MAXAM 26, 21 1/2" [546].
5. Deck End Overhang: Not to exceed frame support by more than 5'-11" [1804].

EDITORS NOTE: SELECT BELOW SEAT MODEL TYPE.

2.05 SEAT FABRICATION

A. Classic Wood Seat System:

1. Seats and Front Riser: 4/4" nominal thickness kiln dried, end finger joined only and/or solid Southern Pine Grade "B & B" in conformity with the Southern Pine Inspection Bureau (SPIB) Grading Rules. Mixed lumber species, edge glued strips, or plugs are unacceptable.
2. Seats: Bench seat posture pitched to the rear for spectator comfort. Seats and front risers shall have full-radius comfort shaped edges.
3. Seat Supports: Seat supports shall be through-bolted to seats, front risers, and noses and shall be provided in sufficient number to limit unsupported length of bench seat to 3'-0" [914].

B. Polymer Seat System – Courtside Collection XC10 (10") or XCS12 (12"):

Hussey Courtside Collection Series embodies the latest leading edge innovations in linear telescopic seating modules. Courtside seats utilize a harmonious blend of advanced ergonomic principals, architecturally appealing design, safety, value and performance.

Seat Modules: 18" [457] long assembled, gas assisted injection-molded, high density, 100% recyclable HDPE (high density polyethylene) modules in monochromatic colors providing, dual textured scuff resistant 10" [254] or 12" [305] wide seat surface with 1/2" [13] minimum interlock on seat and face. Unit structural tested to 600 lbs occupant load.

1. CourtSide XC10 Seat Module

- a. XC10 – 10" [254] Comfort Profile
 - (1) 10" [254] depth continuous comfort curve style bench seat module
 - (2) Ergonomically contoured forward "waterfall" edge for enhanced spectator comfort and minimization of sensitive pressure point area, regardless of leg positioning.
 - (3) Fore & Aft contoured seat surface for uniform support and minimize high pressure points under the buttocks.
 - (4) Seat height ranges from deck to t/o seat range from 16-1/8" [410] to 18-1/8" [460]
 - (5) 21-1/8" [537] clear foot space area, regardless of leg positioning.
- b. Integrally molded end caps at aisle end locations for clean finished appearance.

- c. Custom color graphic logo design application for end cap insert. **(See Personalization and Creativity under Accessories section)**
- d. Integrally molded recess pockets to accept seat number and row letters.
- e. Integrally molded rear closure panel at back of seat to allow for "continuous clean sweep" of debris at deck level and minimized visibility of structural ribbing.
- f. Seat Attachment: Each polymer seat module shall be securely anchored by a 12 ga steel clamp bracket that provides steel-to-steel, through bolted attachment to the front nose beam of the bleacher. Attachment eliminates fore / aft movement of the seat module on the nose beam.

2. CourtSide XCS12 Seat Module

- a. XCS12 – 12" [305] Comfort Profile
 - (1) Individual ergonomically contoured seat module
 - (2) Compound contoured seats with fore/aft and horizontally contoured curves provide a "scalloped" surface area for maximum spectator comfort. Forward edge "waterfall" for enhanced spectator comfort and minimization of sensitive pressure point area, regardless of leg positioning.
 - (3) Fore & Aft contoured seat surface for uniform support and minimize high pressure points under the buttocks.
 - (4) Seat height ranges from deck to t/o seat range from 16-1/8" [410] to 18-1/8" [460]
 - (5) 21-1/8" [537] clear foot space area.
- b. Bold contoured design lines for maximum architectural appeal and application with modern or traditional facility spaces.
- c. Integrally molded end caps at aisle end locations for clean finished appearance.
- d. Optional: Custom color graphic logo design application for end cap insert. **(See Personalization and Creativity under Accessories section)**
- e. Integrally molded recess pockets to accept seat number and row letters.
- f. Integrally molded rear closure panel at back of seat to allow for "continuous clean sweep" of debris at deck level and minimized visibility of structural ribbing.
- g. Seat Attachment: Each polymer seat module shall be securely anchored by a 12 ga steel clamp bracket that provides steel-to-steel, through bolted attachment to the front nose beam of the bleacher. Attachment eliminates fore / aft movement of the seat module on the nose beam.

2.06 SHOP FINISHES

- A. Understructure: For rust resistance, steel understructure shall be finished on all surfaces with black "Dura-Coat" enamel. Understructure finish shall contain a silicone additive to improve scratch resistance of finish.
- B. Wear Surfaces: Surface subject to normal wear by spectators shall have a finish that does not wear to show different color underneath:
 - 1. Steel nosing and rear risers shall be pre-galvanized with a minimum spangle of G-60 zinc plating.
 - 2. Decking shall have use-surfaces to receive both a sealer coat and wear-resistant high gloss clear urethane finish. Optional decking to have 0.030" laminated polyethylene wear surface.

EDITORS NOTE: SELECT BELOW FINISHES FOR EACH SEAT MODEL TYPE.

- 3. Classic wood seats and fascia shall be triple sanded and receive a sealer coat with use surfaces to receive high gloss clear urethane finish.
- 4. Injection Molded Courtside seats shall be per manufacturer standard 15 colors.
- C. Railings: Steel railings shall be finished with powder-coated semi - gloss black or optional 15 standard colors to match polymer seat color.
- D. High Humidity finish: Above shop finishes shall include following modifications:
 - 1. Understructure: All frames and other structural components shall be hot-dip galvanized per ASTM A103
 - 2. All top-side rails shall be e-coated prior to powder paint coating
 - 3. All hardware to be zinc-plated
 - 4. All posi-locks and other steel wear surfaces to be electroless-nickel plated

5. Decking to be polyethylene-laminated plywood

2.07 FASTENINGS

- A. Welds: Performed by welders certified by AWS standards for the process employed.
- B. Structural Connections: Secured by structural bolts with prevailing torque lock nuts, free-spinning nuts in combination with lock washers, or Riv-nuts in combination with lock washers.

2.08 ELECTRICAL OPERATION

EDITORS NOTE: CONSULT HUSSEY APPLICATION ENGINEERING FOR DETERMINING BELOW POWER SUPPLY AND WIRE SIZE FOR RUN LENGTHS REQUIRED OR IF POWERING BLEACHERS EXCEEDING TWENTY TIERS.

A. Integral Power

1. Default operation shall be with a removable pendant control unit which plugs into seating bank for tethered operator management of stop, start, forward, and reverse control of the power operation. Other modes of operation are optional.

EDITORS NOTE: SELECT ONE VERSION FOR EACH BANK.

2. **PF1/2/3/4:** Furnish and install Hussey PF(1/2/3/4), an integral automatic electro mechanical powered frame propulsion system, to open and close telescopic seating.
 - a. Electrical - Seating Manufacturer shall provide all wiring within seating bank, including pendant control. Motors, housing, and wiring shall be installed and grounded in complete accord with the National Electrical Code. The electrical contractor shall perform all connections at and upstream of the equipment specified herein, and ensure that supplied voltage drops no more than 4% below nominal where power connects thereto. To prevent 3rd party control of the system, power is made available to the Remote Control Receiver for a limited time by a Radio Frequency Identification (RFID) system that requires activation by the operator. Once the power system is activated, an audio beep and visual light is active to notify the user that the system is energized and ready for operation. The wireless remote shall be used by trained authorized operators to open and close the system with continuous pressure applied to the desired button.
 - b. Each unit for PF(1/2/3/4) is driven by a 1/2 horsepower, 1725 RPM motor.
 - (1) 208V 3 Phase:
 - (a) This 1.25 Service Factor motor runs on 208V at 60 Hz and draws a full load current of 2.2 amperes. The required power supply shall be 3 asynchronous phases of 120 Volts each, plus neutral plus ground, each with 20 Amp capacity.
 - (b) This system shall be UL Listed in its entirety (motors, circuit protection, motor controls, user interface, enclosures, conductors and connectors all evaluated and approved for correct sizing and compatibility under maximum rated load on the motors) under UL Product Category FHJU, titled Electrical Drive and Controls for Folding and Telescopic Seating.
 - (2) 115V 1 Phase
 - (a) This 1.25 Service Factor motor runs on 115V at 50 or 60 Hz and draws a full load current of 6.2 amperes. The required power supply shall be a single phase of 115 Volts, plus neutral plus ground, each with current capacity per the following schedule:
 - (i) 15 Amps when 1 or 2 motors on the power supply
 - (ii) 30 Amps when 3 or 4 motors on the power supply
 - (iii) 40 Amps when 5 motors on the power supply

- (b) This system shall consist of UL Listed or Recognized components throughout (motors, circuit protection, motor controls, user interface, enclosures, conductors and connectors, all correctly sized and compatible under maximum rated load on the motors).
- (3) 230V 1 Phase
- (a) This 1.25 Service Factor motor runs on 230V at 50 or 60 Hz and draws a full load current of 3.4 amperes. The required power supply shall be two phases of 115 Volts, plus neutral plus ground, each with current capacity per the following schedule:
 - (i) 15 Amps when 1 or 2 motors on the power supply
 - (ii) 20 Amps when 3 or 4 motors on the power supply
 - (iii) 30 Amps when 5 motors on the power supply
 - (b) This system shall consist of UL Listed or Recognized components throughout (motors, circuit protection, motor controls, user interface, enclosures, conductors and connectors, all correctly sized and compatible under maximum rated load on the motors).
- (4) Each pair of Powered Frames shall consist of output shaft gear reducer with 6" [152] diameter x 4" [102] wide wheels covered with non marring 1/2" [13] thick composite rubber, and operate the bleacher as follows:
- (a) PF1 – Pulls at 46 feet / min [16.8 meters / min] with ½ Hp through 60:1 speed reduction to 2 drive wheels. Max pull approx 261 lbs [1161 N];
 - (b) PF2 – Pulls at 46 feet / min [16.8 meters / min] with ½ Hp through 60:1 speed reduction to 4 drive wheels. Max pull approx 261 lbs [1161 N];
 - (c) PF3 – Pulls at 25 feet / min [9.3 meters / min] with ½ Hp through 111:1 speed reduction to 4 drive wheels. Max pull approx 478 lbs [2126 N];
 - (d) PF4 – Pulls at 25 feet / min [9.3 meters / min] with 1 Hp through 111:1 speed reduction to 4 drive wheels. Max pull approx 956 lbs [4253 N];
3. **PFe** : Furnish and install Hussey PFe, an integral automatic electro mechanical powered frame propulsion system to open and close smaller telescopic seating sections up to 6 rows.
- a. Electrical
 - (1) Seating Manufacturer shall provide all wiring within seating bank, including pendant control. Motors, housing, and wiring shall be installed and grounded in complete accord with the National Electrical Code. The electrical contractor shall perform all connections at and upstream of the equipment specified herein, and ensure that supplied voltage drops no more than 4% below nominal where power connects thereto.
 - (2) Each unit for PFe is driven by a 1/4 horsepower, 1725 RPM, 117 Volts, 60 Hz., single phase 1.1 service factor motor, drawing a full load current of 4.2 amperes. Power supply required shall be 120 volts single phase plus neutral plus ground service, each with 20 amp capacity.
 - b. Mechanical
 - (1) Each pair of Powered Frames shall be driven through a gearmotor with dual output shaft, 6" [152] diameter x 4" [102] wide wheels covered with non marring 1/2" [13] thick composite rubber, and pull the bleacher with approx 280 lbs [1161 N] at 25 feet / min [16.8 meters / min].
4. **Options**
- a. Plug & Play Power
 - (1) The Plug & Play option enables safe cord and plug connection of the power system to the power supply, eliminates the need for a separate disconnect, and eliminates lockout tagout procedures at the bleacher. Electrical contractor shall provide and install the disconnect-rated receptacle and associated parts specified by the manufacturer. Manufacturer shall specify facility preparations for, and furnish and install a cord-and-plug connected power system. This option is available only with 208V 3 Phase.
 - b. Limit Switches
 - (1) Limit switches will automatically stop integral power operation when seating has reached the fully extended or closed position. Manufacturer shall furnish and install both open and closed limit switches for the integral power system. Power operation shall utilize a combination of

contactors and limit switches to insure the wiring is not energized except during operation. Straight wired electric system is not allowed.

- c. Remote Control
 - (1) The Remote Control option :
 - (a) Enables un-tethered operator management of stop, start, forward, and reverse control of the power system.
 - (b) Grants and confirms access only to an authorized controller, denying operation by spurious signals;
 - (2) Terminates access shortly after completed operation, requiring re-approval to resume operation.
 - (3) Manufacturer shall provide and install Access Control Unit and Remote Controller, and shall provide Remote Control Transmitters.
- d. Key Switch Control
 - (1) Manufacturer shall furnish parts and instructions for installing a key-operated controller on the fixed structure of the facility.
- e. Portable Power Assist
 - (1) Portable Power Assist is a walk-behind, self-contained portable electro-mechanical power unit enabling operator management of stop, start, forward, and reverse control of a bleacher. Multiple bleachers may be operated independently by attaching to / detaching from one bleacher and moving to another. None of the above described options are available with Portable Power Assist.
 - (2) Manufacturer to furnish and install two attachments for Portable Power Assist on every applicable section of bleacher and one Portable Power Assist unit per facility. Portable Power Assist shall have a 100' long heavy duty cord and be cord and plug connected to a 120V 20 amp outlet convenient to the bleachers to be operated.
 - (3) Tractor unit shall be fitted with rugged operating handle with convenient switches controlling forward / reverse separate from spring loaded on / off switch. Power drive unit shall consist of a gearmotor with dual output shafts and 6" [152] diameter wheels covered with non-marring 1/2" [13] thick molded polyurethane. Average operating speed shall be 35 feet / min [12.8 meters / min] with pulling capacity of PF3 (see above).

2.09 TRANSPORT SYSTEMS

EDITORS NOTE: SELECT BELOW SYSTEMS, ONE PER APPLICATION

- A. Integral Mechanical Dollies: Provide one pair of machine-screw-jack dollies (per section) for transport of movable telescopic sections. Each dolly shall be fitted with 6--6 inch, 360 degree swiveling "kingpinless" casters to insure ease of telescopic section movement. Wheel treads shall be molded polyurethane bonded to cast iron with roller bearing hubs. Dollies are integral to each section and shall be operated by a cordless drill through access holes in either the front or rear of the section. Dollies shall be designed to engage front and rear structural steel lift beams.
- B. Portable Hydraulic Dollies: Provide one pair of portable hydraulic dollies suitable for transport of movable telescopic sections. Each dolly shall be fitted with sufficient quantity of 360 degree swiveling ball race caster to insure ease of movement. Wheel treads shall be molded polyurethane bonded to cast steel with roller bearing hubs. Dollies shall be inserted manually beneath the front of first telescoping row with seating completely closed. Dollies shall be designed to engage front lift plates and rear structural steel lift beams.

2.10 ACCESSORIES | STANDARD TELESCOPIC GYMSEAT ACCESSORIES

- A. Access Panels (Hatchway): Provide access to unit at 4th or 5th tier.
- B. Operating Handles: Provide and install manual operating handles constructed of ¾" [19] OD steel tubing. Handles to engage pull-bar installed at the first tier.
- C. Flex-Row: Provide first row modular recoverable seating units to be utilized by persons in wheelchairs and able-bodied persons. Each Flex-Row unit shall have an unlock handle for easy deployment if wheelchair or team seating access is needed. Unlock handle shall lock the bleacher seats into position when fully opened.
 - 1. Provide a black full-surround steel skirting with no more than ¾" floor clearance for safety and improved aesthetics.
 - 2. Provide a black injection molded end cap for the nose beam for safety and improved aesthetics..
 - 3. Provide a mechanical positive lock when the Flex-Row system is in the open and used position.
 - 4. Flex-Row modular units are designed to achieve multi-use front row seating to accommodate team seating, ADA requirements and facility specific requirements. Flex-Row units are available in modular units from 2 to 7 seats wide as well as full section widths.
- D. Permanent Handicap Cut-Outs: Provide first tier permanent handicap cutouts per requirements of Americans with Disability Act (ADA) located as indicated. Provide a full width front closure panel at handicap cutout, extending from underside of second tier to within 1 1/2" [38] of finished floor.
- E. Provide a removable belt barrier with or without signage for the rear of each recoverable Flex-Row module to assist with seating identification.
- F. Front Aisle Steps: Provide at each vertical aisle location front aisle step. Front steps shall engage with front row to prevent accidental separation or movement. Steps shall be fitted with four non-skid rubber feet each 1/2" [13] in diameter. Blow molded end caps shall have full radius on all four edges. Quantity and location as indicated.
- G. Non-Slip Tread: Provide at front edge of each aisle location an adhesive-backed abrasive non-slip tread surface.
- H. Foot Level Aisles: Provide deck level full width vertical aisles located as indicated.
- I. Intermediate Aisle Steps: Intermediate aisle steps shall be of boxed fully enclosed type construction. Blow molded end caps shall have full radius on all four edges. Step shall have adhesive-backed abrasive non-slip tread surface. Quantity and location as indicated.
- J. Intermediate Aisle Handrails: Provide single pedestal mount handrails 34" [864] high with terminating mid rail. Handrails shall be attached to the socket and shall lift and rotate 90° for easy storage in socket. Aisle handrails that are detached from the socket for storage are unacceptable.
- K. Intermediate Folding Aisle Handrails: Provide single pedestal mount handrails 34" [864] high with terminating mid rail. Handrail to be permanently mounted to a rotating socket for rail storage on the intermediate aisle step.
- L. Front Panel: Provide front closure panels for truncated sections, permanent end cutouts or elevated front aisles. Panels shall extend vertically from underside of front row to within 1 1/2" [38] or floor. Paneling to be 5/8" [16] Southern Pine Plywood or grey Polydeck attached to a steel framework.
- M. End Panel: Provide closure end panels for closed stack position at each exposed bank end. End panels shall be constructed of 5/8" [16] Southern pine plywood or grey Polydeck.

- N. Rear Panel: Provide required seating units with full width rear closure panels. Panels shall extend vertically full height or up to 8'-0" [2438] high to within 1 1/2" [38] of floor. Paneling to be 5/8" [16] Southern Pine Plywood or grey Polydeck attached to a steel framework. Rear panels cannot extend above 8'-0" [2438] on portable sections.
- O. Front Rail: Provide not less than 30" [762] high above deck, steel rails with tubular supports and intermediate members designed with 4" [102] sphere passage requirements. Rails to be located at each required seating location.
- P. Self-Storing End Rails: Provide steel self-storing 42" [1066] high above seat, end rail with tubular supports and intermediate members designed with 4" [102] sphere passage requirements.
- Q. Scorer's Table: SELECT: one 8' [2438] x 18" [457.2] x 30" [762] scorer's table or one 6' [1829] x 18" [457.2] x 30" [762]. Table top shall be Gray textured blow molded polymer 2" [51] in thickness with eased edges for reduced pressure points and improved ergonomics. The Integral 16 Ga. cantilevered comfort C-style leg design provides ample clear space and stability during use and folds for ease of storage on the seating deck. The structure is finished in a speckled gray. The table is portable and may be used on any seating row or flat floor surface.
- R. Modular Video Platforms: SELECT: Semi Permanent 4' [1219] x 4' [1219], 4' [1219] x 8' [2438] or Portable 4' [1219] x 4' [1219] Sections w/Safety rails and Step.
- S. Top Seat Flush Filler: Provide at top seat level a flush filler board mounted between top seat and rear wall. Flush filler board shall be constructed of 4/4" nominal thickness Southern pine Grade "B & B" clear urethane finished.

EDITORS NOTE: BELOW SEAT NUMBERS AND ROW LETTERS ARE TO BE USED ON POLYMER MVP SEATS

- T. Seat Numbers: Provide each polymer seat module with a 1 3/4" x 1 1/4" [45 x 32] oval etched Lexan plate. Easy to read black numerals will be on the plate fitted in a vandal resistant recess.
- U. Row Letters: Provide at each row end of polymer seat a 1 3/4" x 1 1/4" [45 x 32] oval etched Lexan plate with black numerals. Plates to be fitted flush in vandal resistant end cap recess.

EDITORS NOTE: BELOW FOLDING BACKREST ARE TO BE USED ON MODEL MAXAM PLUS ONLY.

- V. Classic Wood Folding Backrests: Gym seating shall include 1" X 5" [25 x 127] (nominal size) grade "B & B" southern pine clear urethane finished wood backrests mounted on folding steel supports. Backrests shall manual fold into foot-well for storage.
- W. CourtSide CB (Contoured Back Rest): Gym seating shall include 18" [457] (nominal size) compound contoured polymer backrests mounted on folding steel supports. Polymer backs shall be one-piece double wall blow molded pigmented polyethylene shells. Backrests shall manual fold into footwell for storage.
- X. Portable and Convertible Table and Bench Seats: Provide transportable wheeled 8' [2438] seating unit convertible from either a scorer's table with integral bench seat to a bench seat with integral backrest.
- Y. Top row ball deflector curtain: Include on gym seat units six (6) rows or more of single stack configuration, top row footwell closure curtain, secured with Velcro to prevent lodging of basketballs and foreign objects.

- Z. Poly Deck: Decking panel to be a 0.030" [1] thick high-density polyethylene overlay panel fabricated with a skid-resistant textured top surface permanently bonded to a Western Fir plywood substrate meeting the requirements of NBS PS-1-97. Panel thickness shall be 5/8" [16] with tongue and grooved edge joints and top polyethylene surface of textured gray color.
- AA. Full Section Permanent Truncation: Provide Full Section Permanent Truncation as indicated. Provide rigid 38" [965] high above truncated deck front rails with tubular supports attached to the front of the permanent truncation. Provide full height front closure panel from underside of truncated row to within 1 1/2" [38] from finished floor.
- BB. Safety Accessories: Provide the following safety features:
1. Coin Round or Roll all edges of exposed metal on top and underneath Bleacher to eliminate sharp edges. Provide safety ease edges, coined edges, or rounded edges for the bleacher understructure components as follows. Diagonal or X braces and deck support or deck stabilizers. Systems provided with sharp edges or corners, to be rounded off in the field and field painted.
 2. Provide polymer end cap on nose metal at Bank ends to close off edges to prevent spectator injury.
 3. Provide polymer end cap on back of deck supports on 1st 7 Rows to prevent spectator injury.
 4. On 1st Row, provide front and side skirt boards anywhere there is an exposed end to prevent players/balls from sliding underneath the 1st Row.
 5. Provide metal cover over motor chains and wheels to protect chains from debris and provide a safety switch that if cover is taken off the power system will not work.
 6. Provide metal end deck cover on each row to cover exposed edge of plywood at the ends of the bleachers.
 7. Powered frames systems without a metal protective housing, covering drive chain and drive wheels are not permitted under this specification.

EDITORS NOTE: BELOW ACCESSORIES REQUIRE SPECIAL CONSIDERATION – CONSULT HUSSEY APPLICATION ENGINEERING

- CC. Full Section Recoverable Truncation: Provide a combination programming support and front rail as required to support full section recoverable truncation with remaining lower rows stored beneath. Support/front rail to extend 38" [965] above deck and be designed to sustain live load of first seating row being programmed.
- DD. Portable Access Stairs: Provide portable stair units with hand rails. Stair understructure shall be steel with plywood treads and steel risers. Stairs shall be fitted with not less than four (4) full swiveling industrial wheels. Retractable truck lock (friction pads) shall be provided to prevent movement during use.
- EE. Transitional Top Steps: Provide at each vertical aisle location top transition steps (last row of telescopic gym seats to level above). Steps shall be of boxed fully enclosed type with construction materials and finish coordinated with that of intermediate aisle steps.
- FF. Extended Rear Deck Filler: Provide at rear deck level an extended rear deck filler mounted between rear wall building columns. Select extended rear deck filler from (12) twelve standard sizes to meet site conditions.
- GG. Rear Wall Column Cutouts: Provide custom bleacher cutouts at rear wall building columns. Top row(s) to be cutout and scribe fitted to meet wall column conditions
- HH. Cross Aisles: Provide continuous top cross aisle or elevated front cross aisle per plan of seating. Construction material and finish to match telescopic seating.

2.11 ACCESSORIES | PERSONALIZATION and CREATIVITY ACCESSORIES and SOLUTIONS

- A. The Xtreme Graphic Logo is comprised of decorative artwork and/or text that has been permanently bonded to the front vertical surface of the bleacher seat modules. The artwork is "tiled", a process whereby a single large graphic is segmented and applied in separate parts to individual seat modules, which, when viewed together as a whole become a unified piece of artwork, similar to a mosaic. The graphics are printed as full color CMYK pigmented resin and adhesive layer onto a 100UM polyester clear glossy release film (transfer sheet). The application process uses a combination of heat and pressure to activate the adhesive and permanently bond the resin to the HDPE seat module. Once applied, the graphic cannot be removed from the seat module without damaging or destroying the seat module surface. Customer must provide vector-based digital artwork, and approved layout indicating tiled application to individual seat modules to be provided with bid.
- B. CourtSide Graphic Logo
1. Decorative graphic logo that is applied to the integrally molded end cap recess area of the CourtSide 10 XC or 12XCS seat module.
 2. Logo is approximately 4.7" [119] (h) x 3.5" [89] (w) w/full color CMYK vector art output on FujiFlex crystal archive printing material. (FujiFlex Specs. Available)
 3. Color logo is laminated with a 5-mil Hard Guard Matte laminate (Specs. Available)
 4. Laminated logo is bonded to a Flex-Con L – 606 laminating adhesive layer (Specs. Available)
 5. Logo is trimmed to a precise custom cut shape with two mounting holes.

[Click here for CourtSide Graphic Logo Image:](#)

- C. StepSign Graphic Logo
1. Decorative graphic logos or text based graphic that are applied to the vertical surface of the front and intermediate aisle steps.
 2. Graphics are printed on 5mil Polyester White Glossy Film.
 3. Logo live area will vary based on bleacher riser height / step height and aisle step width specified on the project w/full color CMYK vector art output on laminated poly printing material. (FLEXmount Specs. Available upon request)
 4. Full Color logo is laminated with a 5-mil Hard Guard Matte laminate (Specs. Available)
 5. Laminated logo is bonded to a Flex-Con L – 606 laminating adhesive layer (Specs. Available)
 6. Laminated Graphic Panels are applied to the step surfaces as identified on the graphic proof.

[Click here for StepSign Graphic Logo Image:](#)

- D. CourtSign Graphic Logo
1. Decorative graphic logos or text based graphic that are applied to the vertical surface of the front skirt board.
 2. Graphics are printed on 5mil Polyester White Glossy Film.
 3. Logo live area will vary based on bleacher skirt board layout and section lengths specified on the project w/full color CMYK vector art output on laminated poly printing material. (FLEXmount Specs. Available upon request.
 4. Full Color logo is laminated with a 5-mil Hard Guard Matte laminate (Specs. Available)
 5. Laminated logo is bonded to a Flex-Con L – 606 laminating adhesive layer (Specs. Available)
 6. Laminated Graphic Panels are applied to the skirt panel locations as identified on the graphic proof.

[Click here for CourtSign Graphic Logo Image:](#)

- E. Clarin by Hussey Seating Portable Folding Chairs
1. Portable logo folding chairs for courtside seating, VIP seating sections, locker rooms, ADA seating, and more. Many models available.
 2. Printed or embroidered logo(s) on seat back, double back, seat, gusset and more.

[Click here for Clarin Portable Chair Images:](#)

F. CourtSide XT (Seat Spacer)

1. Courtside XT Spacers are mounted between CourtSide XC10 or XCS12 seat modules.
2. Courtside XT Spacers provide additional 4-1/2" of clear space between Courtside seats.
3. CourtSide XT Spacers can be selected with an integral tray or 3" cupholder for enhanced spectator features.
4. CourtSide XT Spacer Attachment: Each polymer spacer shall be securely anchored by a 12 ga steel clamp bracket that provides a steel-to-steel, through bolted attachment to the front nose beam of the bleacher. Attachment eliminates fore / aft movement of spacer on the nose beam.
5. Unit structural tested to 600 lbs static load in the center of the XT top surface.

[Click here for CourtSide XT Spacer Image:](#)

G. Full Bleed Graphic Vinyl End Closure Curtain

1. Provide closure curtains fabricated of vinyl-coated 14oz Polyester fabric on open ends of telescopic seating. Curtains to be permanently attached to wall or rear closure panel and secured to individual rows of seating. Curtain to open with seating unit into taught secure configuration and fold automatically as seating unit closes.
2. Curtain to have high resolution "full bleed" graphic logo or photograph located across entire visible surface area of the end curtain.

[Click here for Full Bleed End Closure Image:](#)

H. Custom Signature Logo

1. Factory or Dealer designed logo that incorporates school letters or graphical representation of school logo across the front of the bleachers.
2. Logo is visible when the bleachers are in the stored position.
3. Select up to three colors for maximum color contrast and creativity.

[Click here for Signature Logo Image:](#)

I. Colored Safety Rail Systems

1. Choose from 15 Standard colors.
2. Durable powder coated finish.
3. Add color on to Center Aisle Handrails, Self-Storing or Removable End Rails, Front Rails.

[Click here for Colored Safety Rail Image:](#)

J. Media Platforms | Portable or Semi-Permanent

1. Portable: 4' [1219] x 4' [1219] portable sections that can be located anywhere on the bleacher system. Portable sections can be ganged together to create larger video platform.
2. Semi-Permanent: 4' [1219] x 4' [1219] or 4' [1219] -8' [2438] wall attached sections that remain in place while bleacher is in the stored position. Semi-Permanent sections can be ganged together to create larger media platform.
3. Portable media platforms come with optional storage cart for easy transportation and setup.
4. Panelam (polydeck) finish.
5. Safety rails and steps (when required) are included.

[Click here for Media Platform Image:](#)

K. Extended 1st Row Integrated Team Seating

1. Row 1(one) to be 30", 32" or 33" row spacing for integrated seat and scorers seating.
 - a. Courtside 10 XC or 12 XC polymer seat modules
 - b. Courtside Spacer modules to be located between each seat module.
 - c. Each Courtside seat module to have accompanying Contoured Folding backrest.
 - d. Choose platform deck finish of UV clear coat or Panelam (polydeck) finish.

[Click here for Extended Integrated Team Seating Image:](#)

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Verification of Conditions:** Verify area to receive telescoping gym seats are free of impediments interfering with installation and condition of installation substrates are acceptable to receive telescoping gym seats in accordance with telescoping gym seats manufacturer's recommendations. Do not commence installation until conditions are satisfactory.

3.02 INSTALLATION

- A. Manufacturer's Recommendations:** Comply with telescoping gym seats manufacturer's recommendations for product installation requirements.
- B. General:** Manufacturer's Certified Installers to install telescoping gym seats in accordance with manufacturer's installation instructions and final shop drawings. Provide accessories, anchors, fasteners, inserts and other items for installation of telescoping gym seats and for permanent attachment to adjoining construction.

3.03 ADJUSTMENT AND CLEANING

- A. Adjustment:** After installation completion, test and adjust each telescoping gym seats assembly to operate in compliance with manufacturer's operations manual.
- B. Cleaning:** Clean installed telescoping gym seats on both exposed and semi-exposed surfaces. Touch-up finishes restoring damage or soiled surfaces.

3.04 PROTECTION

- A. General:** Provide final protection and maintain conditions, in a manner acceptable to manufacturer and installer to ensure telescoping gym seats are without damage or deterioration at time of substantial completion.

END OF SECTION

**PLUMBING FIXTURE
SUBMITTAL**

**STAPLES
HIGH SCHOOL**

SUBMITTED BY:

**INTERSTATE PLBG &
HEATING**

SHOWER VALVE

- Ligature-Resistant Design
- Hemispherical Push Button
- Ligature Resistant Showerhead
- All Units Factory Tested for Proper Operation

Construction

Panel

Shower panel is heavy gauge type 304 stainless steel. Recessed soap dish, showerhead, and push buttons are secured from back of panel. Stainless steel security screws are used to anchor panel to mounting frame at six points.

Valve Options

- Single-temperature air metering valves with 5 to 60 second timing cycle adjustable from chase side only.
- TouchTime® Electronic Control. TouchTime is factory set at 60 second timing.

Showerhead

Showerhead is designed to reduce ligature points. Polished chrome-plated solid brass showerhead is adjustable for 25 to 30 degree spray angle. Flow rate is 2.0 GPM at 80 PSI to meet ASME A112.18.1M and CAS B125. 1/2" NPTF back inlet. Showerhead is mounted with security screws.

Finish

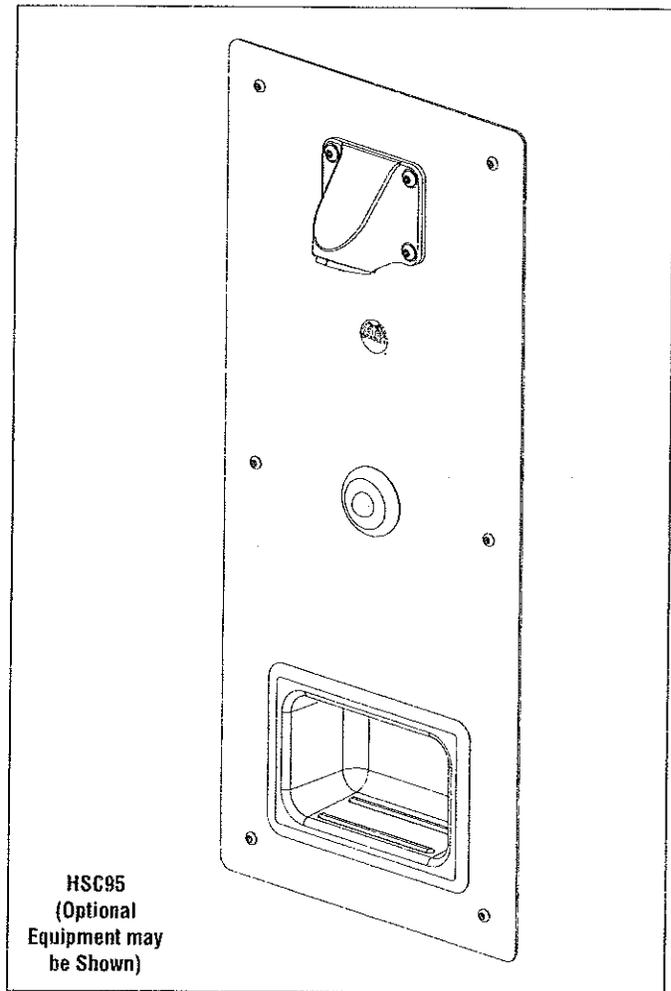
All exposed stainless steel surfaces have a #4 polished satin finish. Hemispherical push buttons are type 304 stainless steel.

Wall Anchoring

Mounting frame has pre-drilled holes to assist in locating wall anchors. Suitable wall anchors and screws to be furnished by contractor. Shower panels are attached to showers with vandal and rust resistant screws.

Standard Equipment

Utilized stainless steel shower panel with showerhead, recessed soap dish, choice of valves, and rust-resistant hardware.



Non-cancelable, non-returnable

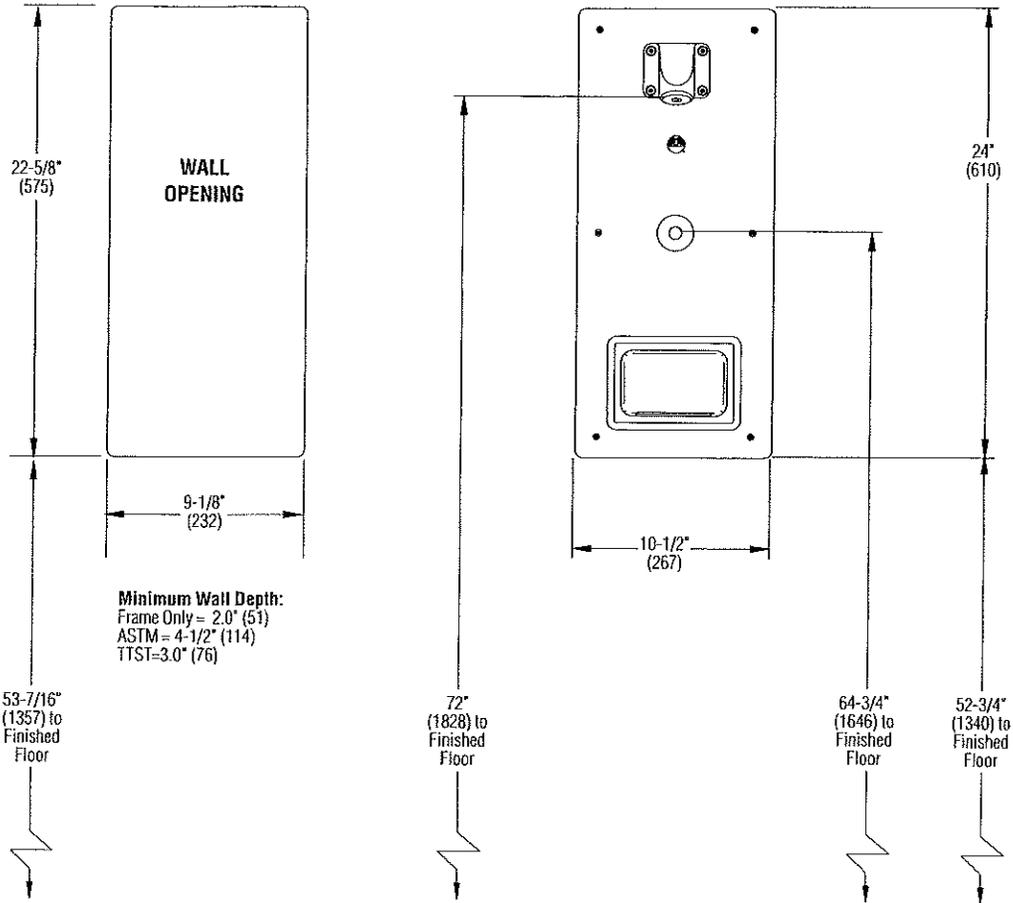
Model

HSC95 Front-Mounted Shower Panel

Required Selections

Valve Assembly (select one):

- ASTM Air Single Temp Metering Valve
- TTST TouchTime® Single Temp Electronic Metering Valve
- NV No Valve



**ADA SHOWER
VALVE**

- No Frame Required for Installation
- Ideal for Barrier-Free Shower Rooms
- Flexible Supply Hoses Make Rough-In Easier
- Completely Preassembled, Recess-Mounted Wall Unit

Specifications

Shower Stall Configuration

Available in a right or left-handed configuration depending on location of valve.

Construction

Materials

All exposed materials, except for phenolic seat, are type 304 stainless steel or polished chrome-plated brass. Shower panel is 16 gauge and grab bar is 18-gauge. Valve bodies are brass casting. Supply hoses are 24" flexible stainless steel.

Barrier-Free (ADA Compliant)

When installed properly in a 3' x 3' stall, the HN200 provides a shower stall designed to comply with all known ADA guidelines on reaches, clearances, and operation. Controls are mounted 42" – 48" above the floor to accommodate all users.



Check local applicable codes for dimensional compliance.

Standard Equipment

Shower Panel

Constructed of 16 gauge stainless steel with recessed soap dish.

Showerhead

Standard fixed direction adjustable sprayhead.

Diverter Valve

Lever handle operation for easy transfer of water flow between fixed and hand-held hose spray.

Hand-Held Shower Spray

Consisting of hand shower with on-off control, a 60" stainless steel flexible hose and post style mounting bracket to hold to shower panel. Elevated in-line backflow preventer with quick-disconnect for flexible hose.

Supply Inlets

Supply inlets are flexible, stainless steel hoses with 1/2" NPT connections.

Flow Control

A 2.0 GPM (7.6 LPM) flow control is standard. Actual flow may vary, but will not exceed 2.5 GPM (9.5 LPM) max.

L-Shaped Grab Bar

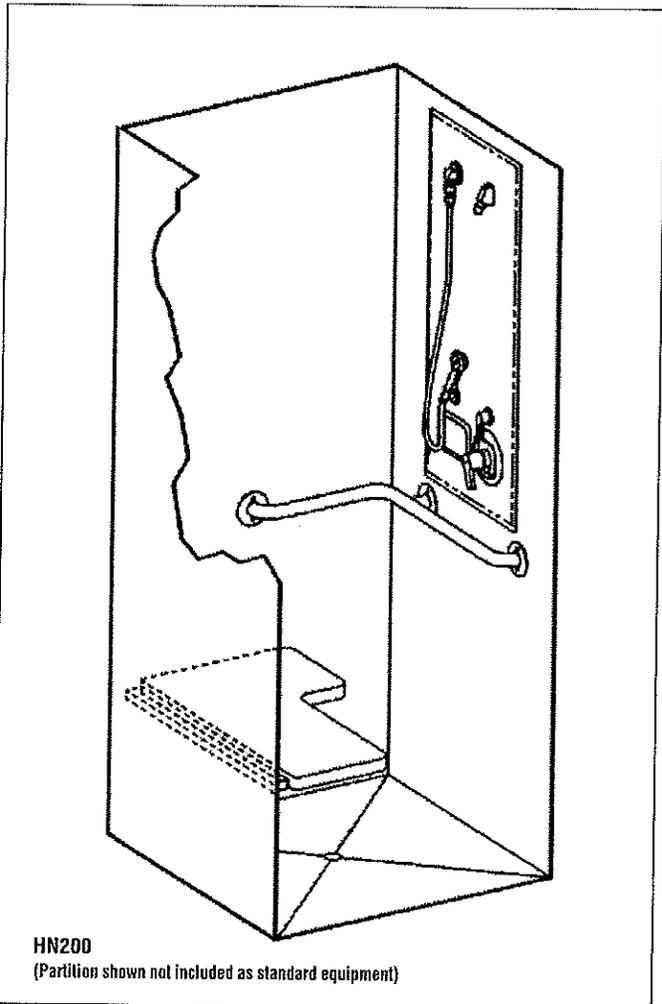
Grab bar fabricated of 18-gauge 1-1/2" O.D. stainless steel tubing with a 1-1/2" safety statute clearance. Flanges are 11-gauge. Load capacity in excess of 300 lbs.

Barrier-Free Seat

Reversible phenolic shower seat. Load capacity of 250 lbs. See technical data document 9027 for additional information.

Shower Curtain

Vinyl shower curtain with heavy-duty curtain rod and hooks.



Model <input type="checkbox"/> HN200	Description Recess-Mounted ADA-Compliant Wall Shower
Standard Selections (Must select one from each category)	
Showerhead Height (select one)	
<input type="checkbox"/> 6'-0" Standard Height <input checked="" type="checkbox"/> 5'-6" Juvenile Height	
Valve Type (select one)	
<input type="checkbox"/> EF Equa-Flo Pressure-Balancing Valve <input type="checkbox"/> HD Equa-Flo HD Pressure-Balancing Valve <input type="checkbox"/> TMV Thermostatic Mixing Valve <input type="checkbox"/> AST Air Metering Valve <input checked="" type="checkbox"/> TT TouchTime® Metering Valve *	
Shower Stall Configuration (Select one Configuration and one Seat Style)	
<input checked="" type="checkbox"/> VL/SR Valve Left/Seat Right <input checked="" type="checkbox"/> RSS Reversible Phenolic Shower Seat <hr style="border-top: 1px dashed black;"/> <input type="checkbox"/> VR/SL Valve Right/Seat Left <input type="checkbox"/> RSS Reversible Phenolic Shower Seat	

Optional Selections	
Showerhead Variations	
<input type="checkbox"/> SX Severe Service Showerhead <input type="checkbox"/> SF Deluxe Showerhead with Ball Joint <input type="checkbox"/> ES Economy Soft Flow with Ball Joint	
Flow Control (Not available with SF Showerhead)	
<input type="checkbox"/> G 1.5 GPM (5.7 LPM) Flow Control (Showerhead and Hand Shower)	
Volume Control (Not available with SX or ES Showerhead)	
<input type="checkbox"/> AKV Allen Key Volume Control <input type="checkbox"/> THV T-Handle Volume Control	
Ball Joint (Not available with SX or ES Showerhead)	
<input type="checkbox"/> LBJ Lockable Ball Joint	
Miscellaneous	
<input type="checkbox"/> ST Stops in Supplies (each) <input type="checkbox"/> RP Reinforced Partition Kit <input type="checkbox"/> SB Slide Bar <input type="checkbox"/> DBS Deduct Barrier-Free Seat <input type="checkbox"/> DCR Deduct Curtain, Rod and Hooks <input type="checkbox"/> DGB Deduct Grab Bar <input type="checkbox"/> VS Vandal Resistant Screws	

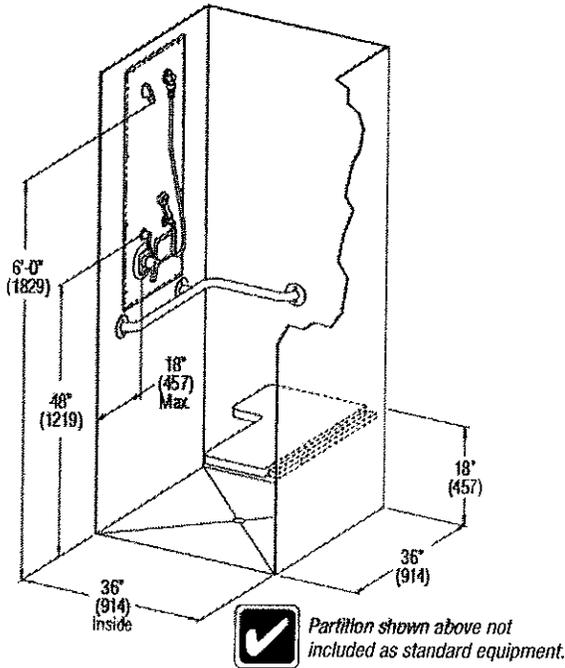
*Non-cancelable, non-returnable

** AZ and TT valves require optional 24V Class 2 transformers, available as a separate item from Bradley. PT (S83-134) 24V Plug In Transformer (1/2 amp) Up to 2 showers. 4RT (S45-2045) 24V Remote Transformer (2amp) Up to 4 showers.

* Non-cancelable, Non-returnable.

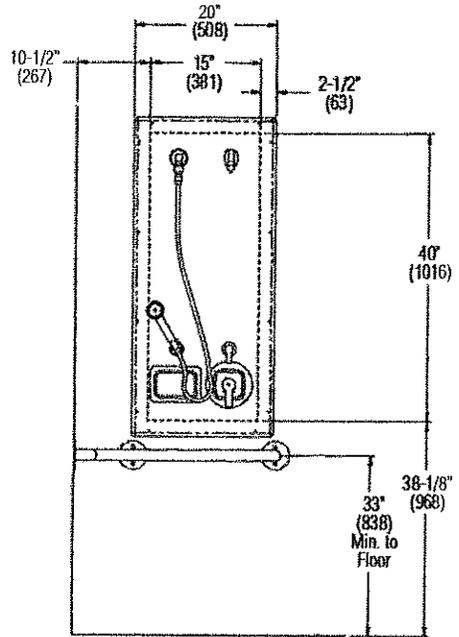
† Available on Standard and Deluxe Showerheads only. If specifying Economy or Severe Service Showerheads, enter option 0.

Dimensions for ADA Compliance

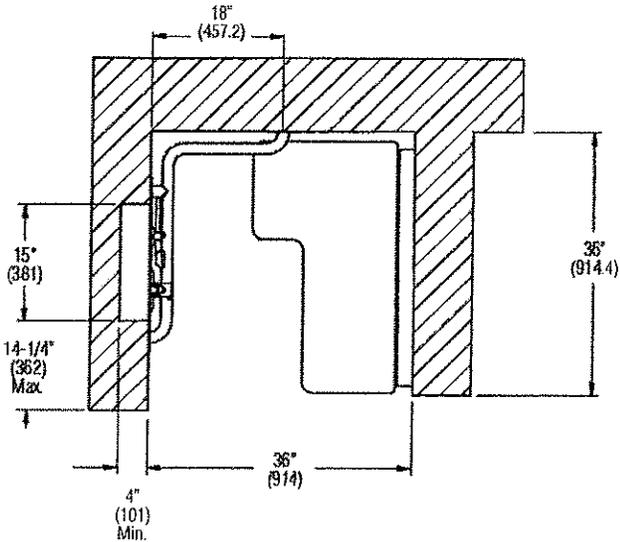


Shower Panel/Grab Bar Rough-In

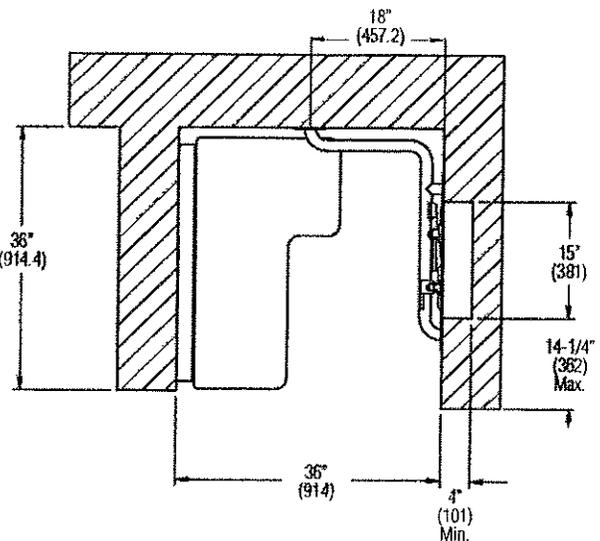
(mm)



Valve Left/Seat Right Configuration



Valve Right/Seat Left Configuration



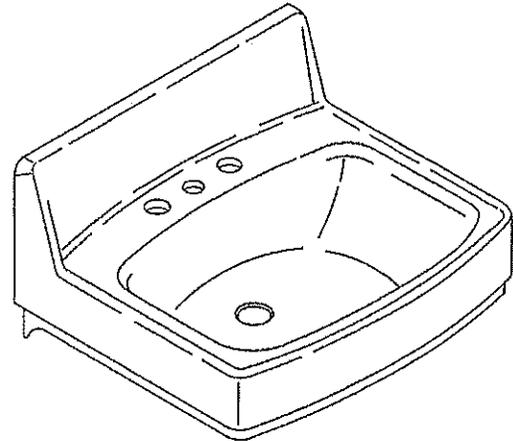
LAVATORY

WALL-MOUNT LAVATORY K-2032

ADA OBC

Features

- Vitreous china
- Wall-mount
- 4" (102 mm) centers
- Drilled for concealed arm carrier
- With hanger
- With overflow or without overflow
- Optional soap dispenser hole on left (-L) or right (-R)
- 20-3/4" (527 mm) x 18-1/4" (464 mm)



Codes/Standards Applicable

Specified model meets or exceeds the following:

- ADA
- ICC/ANSI A117.1
- OBC
- ASME A112.19.2/CSA B45.1

Colors/Finishes

- 0: White
- Other: Refer to Price Book for additional colors/finishes

Accessories:

- CP: Polished Chrome

Specified Model

Model	Description	Colors/Finishes	
K-2032	4" (102 mm) centers lavatory, less soap dispenser hole	<input type="checkbox"/> 0	<input type="checkbox"/> Other _____
K-2032-L	4" (102 mm) centers lavatory with soap dispenser hole on left	<input type="checkbox"/> 0	<input type="checkbox"/> Other _____
K-2032-R	4" (102 mm) centers lavatory with soap dispenser hole on right	<input type="checkbox"/> 0	<input type="checkbox"/> Other _____
K-2032-N	4" (102 mm) centers lavatory, less overflow	<input type="checkbox"/> 0	<input type="checkbox"/> Other _____
K-2032-NL	4" (102 mm) centers lavatory with soap dispenser hole on left, less overflow	<input type="checkbox"/> 0	<input type="checkbox"/> Other _____
K-2032-NR	4" (102 mm) centers lavatory with soap dispenser hole on right, less overflow	<input type="checkbox"/> 0	<input type="checkbox"/> Other _____
Recommended Accessories			
K-8998	P-Trap	<input type="checkbox"/> CP	

Product Specification

The wall-mount lavatory shall be made of vitreous china. Lavatory shall be with overflow or without overflow. Lavatory shall be 20-3/4" (527 mm) in length, and 18-1/4" (464 mm) in width. Lavatory shall be for 4" (102 mm) centers and drilled for concealed arm carrier. Lavatory shall have hanger. Lavatory shall be available with optional soap dispenser hole on left (-L) or right (-R). Lavatory shall be Kohler Model K-2032-____ or -2032-____-____.

GREENWICH™

Technical Information

Fixture:*	
Basin area	15" (381 mm) x 10" (254 mm)
Water depth	3-1/4" (83 mm)
Drain hole	Ø 1-3/4" (44 mm)
Spout hole	Ø 1-1/4" (32 mm)
Faucet hole	Ø 1-1/4" (32 mm)
Soap dispenser hole	Ø 1-1/4" (32 mm)
* Approximate measurements for comparison only.	

Included components:	
Hanger	64839
Supplied hanger is not used with concealed arm carrier.	

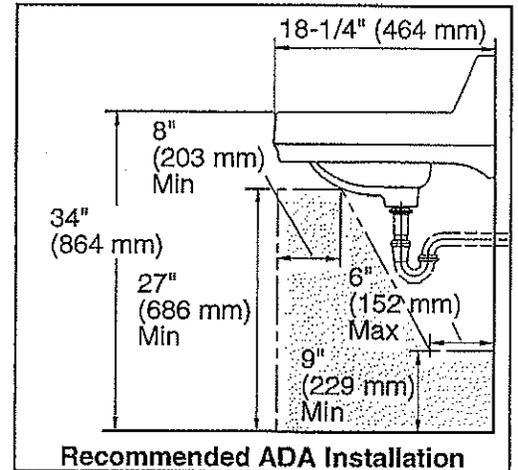
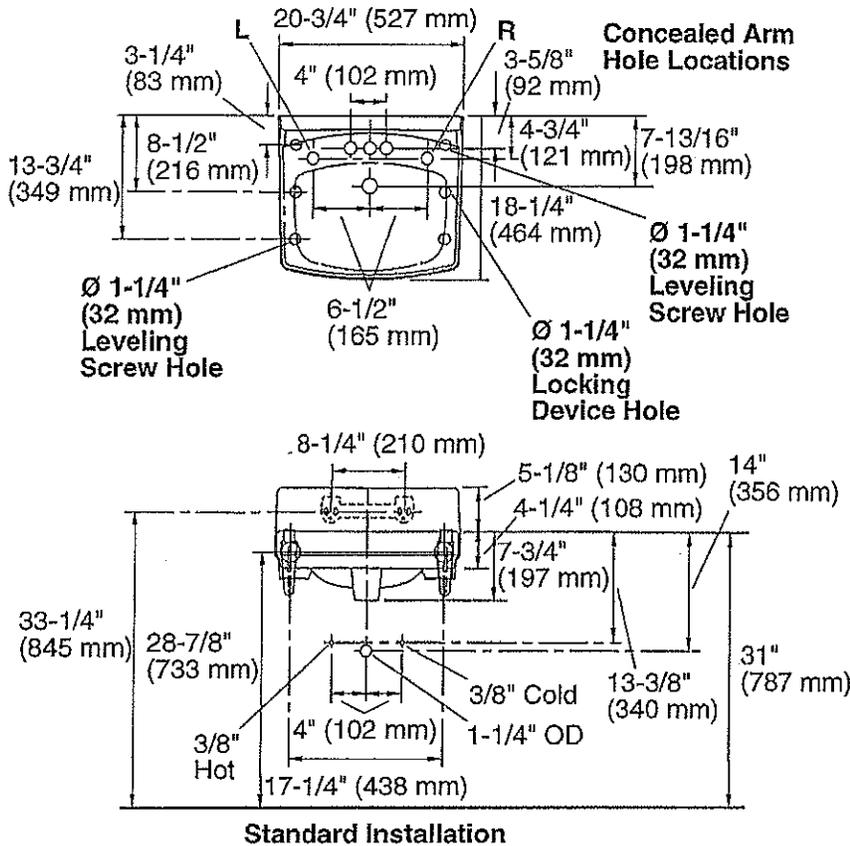
Installation Notes

Install this product according to the installation guide.

A concealed arm carrier is required. It is **NOT** supplied by Kohler.

Will comply with ADA when installed per section 606 Lavatories of the Act.

Will comply with OBC when installed per Clause 3.8.3.11.



Product Diagram

EBF-650

Description

Battery Powered, Sensor Activated, Chrome Plated Brass, 4" Centerset Electronic Hand Washing Faucet for tempered or hot/cold water operation.

Flow Rate

- 0.5 gpm/1.9 Lpm Vandal Resistant Spray Head
(See Accessories for other Spray Head options)

Specifications

ADA Compliant, Battery Powered, Sensor Activated, Chrome Plated Cast Brass, 4" Centerset Hand Washing Faucet with the following features:

- Splash-proof Circuit Control Module
- Sensor Range Adjustment Screw
- Low Battery LED Indicator Light
- User friendly Variable Time Out Settings
- Serviceable Filtered Solenoid Valve
- Bak-Chek® Tee for Hot/Cold Supply
- Vandal Resistant Spray Head with Pressure Compensating Flow Control
- Metal Jacketed Wire Protection for Sensor lead
- Includes four (4) AA-size Alkaline Batteries
- Appropriate Mounting Hardware Included
- Optional 6 VDC Plug-in Adapter available (Batteries act as backup when using optional transformer)

Variations

(Add suffix to Model Number for inclusion with Faucet)

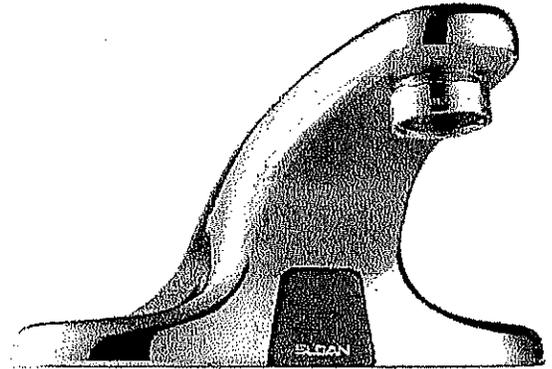
- **Trim Plate (Optional)**
 - 8 Trim Plate for 8" Centerset Sink
- **Temperature Mixing Valves (Optional)**
 - BDM Below Deck Mechanical Mixing Valve
 - BDT Below Deck Thermostatic Mixing Valve

Bak-Chek® Tee not required or provided when a Temperature Mixing Valve is included with the faucet.
- **Finishes (Optional)**
 - PVDPB Polished Brass (PVD Finish)
 - PVDBN Brushed Nickel (PVD Finish)
 - PVDSF Satin (PVD Finish)

Accessories (Specify separately)

- **Vandal Resistant Spray Heads**
 - ETF-1029-A 2.2 gpm/8.3 Lpm Laminar Flow Spray Head
(recommended for medical applications)
 - ETF-1024-A 2.2 gpm/8.3 Lpm Aerator
- **Grid Strainer**
 - ETF-460-A Chrome Plated Brass Grid Strainer w/1/4" Outlet Tube
- **Adapter**
 - SFP-6 110 VAC/6 VDC Plug-in Adapter

See OPTIMA Accessories Section of the Sloan Catalog for a complete listing of OPTIMA Faucet Accessories and Variations.



Automatic

The Sloan OPTIMA Plus® EBF-650 Battery Powered Hand Washing Faucet activates by means of an infrared sensor. Once the user's hands enter the sensor's effective range, the solenoid activates the water flow. Tempered water flows from the faucet until hands are moved away. The faucet then automatically shuts off.

Hygienic

The ultimate in sanitary protection — there are no handles to turn or button to push. Helps to control the spread of infectious diseases. Ideal for high traffic commercial installations.

Economical

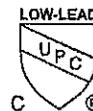
Automatic operation provides water usage savings over other faucet devices. Reduces maintenance and operation costs. The 4-inch centerset design makes the EBF-650 Faucet secure against abuse and vandalism. Battery powered ideal for retrofit installations. Optional plug-in adapter available.

Warranty

3 year (limited)

Compliant to:

ASME A112.18.1-2005/CSA B125.1-05
ISO/IEC 17025

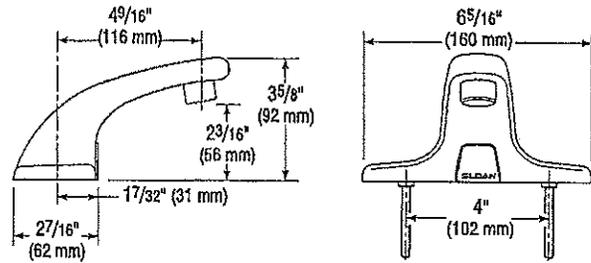


This product may contribute to LEED credits. See details on LEED calculation worksheet.

This space for Architect/Engineer approval

Job Name _____	Date _____
Model Specified _____	Quantity _____
Variations Specified _____	
Customer/Wholesaler _____	
Contractor _____	
Architect _____	

FAUCET DIMENSIONS



► **Max. Distance Control Module may be Installed from Spout**
 With Standard Cable: 15" (381 mm)

Description

Battery Powered, Sensor Activated, Chrome Plated Brass, 4" Centerset Electronic Hand Washing Faucet for tempered or hot/cold water operation.

Flow Rate

0.5 gpm/1.9 Lpm Vandal Resistant Spray Head
 (See Accessories for other Spray Head options)

ELECTRICAL SPECIFICATIONS

Control Circuit

AC/DC — operates on four (4) alkaline AA-size batteries.
 Optional 6 VDC Plug-in Adapter.

Battery Life

Averages at 8,000 cycles/month

Indicator Lights

Range Adjustment/Low Battery

Solenoid Valve

Filtered Solenoid Valve with serviceable strainer Filter

Optima® Sensor Range

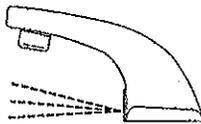
Factory Set: 4" - 5"
 (102 mm - 127 mm)
 Adjustable: 2" - 7"
 (51 mm - 178 mm)

Time Out Adjustment Settings

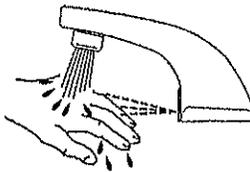
30 seconds — The Faucet Time Out Setting determines the maximum time the faucet will run upon continuous detection. The EBF-650 is factory set at the 30 second time out. Consult factory for time out settings to meet individual application requirements.

OPERATION

A continuous invisible beam of light is emitted from the OPTIMA® Sensor located at the base of the lavatory faucet.



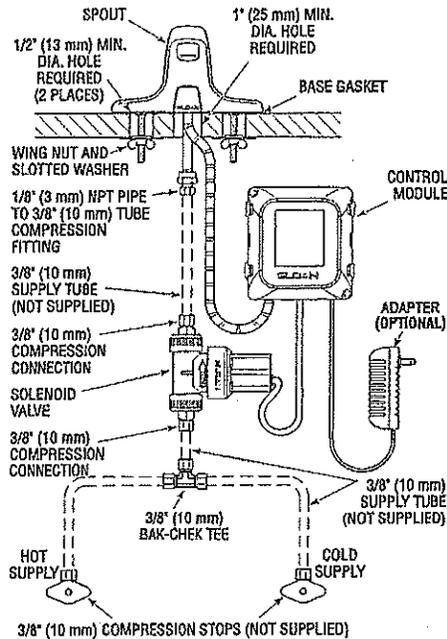
2. As the user's hands enter the beam's effective range, the beam is reflected back into the Sensor Receiver and activates the Solenoid Valve allowing tempered water to flow from the faucet. Water will flow until the hands are removed or until the faucet reaches its automatic time out limit setting.



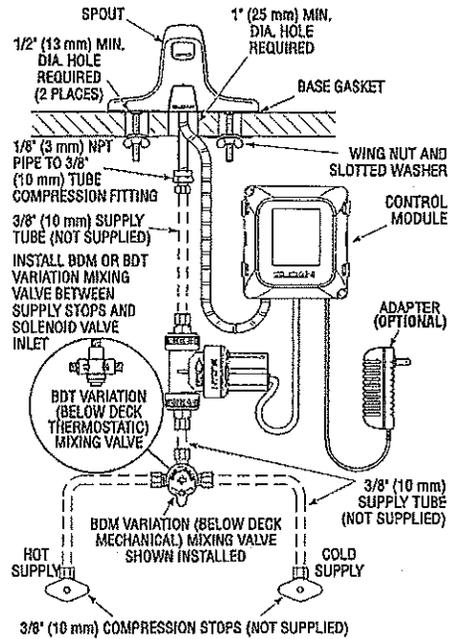
3. When hands are moved away from the OPTIMA® Sensor, the loss of reflected light initiates an electrical signal that deactivates the Solenoid Valve, shutting off the water flow. The Circuit then automatically resets and is ready for the next user.



EBF-650 Faucet with Bak-Chek® Tee for Hot and Cold Water Supply



EBF-650 Faucet with BDM and BDT Variation Mixing Valves for Hot and Cold Water Supply



SLOAN HEADQUARTERS • 10500 SEYMOUR AVENUE • FRANKLIN PARK, IL 60131

Phone: 1-800-9-VALVE-9 or 1-847-671-4300 • Fax: 1-800-447-8329 or 1-847-671-4380 • www.sloanvalve.com

MIX-60-A

► Description

Below Deck Mechanical Water Mixing Valve for use with a single Sloan Optima® faucet.

► Model

□ Model MIX-60-A

Supplied with Sloan Optima and Optima Plus faucets that are specified with the "BDM" (Below-Deck-Mixer) variation.

► Specifications

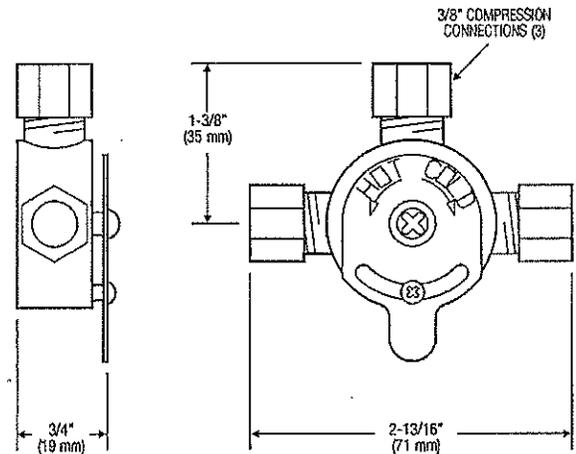
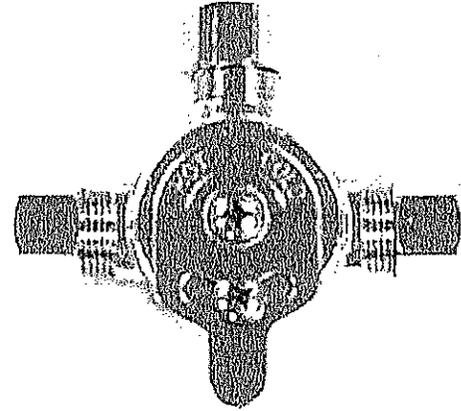
Mechanical Water Mixing Valve with the following features:

- Designed to install under the lavatory
- Installs in place of the Tee fitting supplied with the faucet prior to the solenoid valve
- Equipped with Integral check valves at inlets
- 3/8" compression fittings on inlets and outlet
- Compression sleeves and nuts included
- Lever dial adjustment with lock screw: COLD-HOT
- Brass construction
- Chrome plated finish

► Flow Capacities

PSI	SYSTEM PRESSURE					
	20	30	40	50	60	70
BAR	1.4	2.1	2.8	3.4	4.2	4.9
GPM	1.75	2.25	2.75	3.0	3.5	4.0
Lpm	6.62	8.51	10.40	11.35	13.25	15.14

CAUTION! This is a mechanical hot and cold mixing valve only! It DOES NOT provide automatic control of water temperature. Hot water in excess of 110°F (43°C) is dangerous and CAN CAUSE SCALDING!



SLOAN VALVE COMPANY • 10500 SEYMOUR AVE. • FRANKLIN PARK, IL. 60131
 Phone: 1-800-9-VALVE-9 or 1-847-671-4300 • Fax: 1-800-447-8329 or 1-847-671-4380
<http://www.sloanvalve.com>

Optima MIX-60-A 04-14
 Copyright © 2014 SLOAN VALVE COMPANY

This space for Architect/Engineer approval

Job Name _____ Date _____
 Model Specified _____ Quantity _____
 Variations Specified _____
 Customer/Wholesaler _____
 Contractor _____
 Architect _____

The information contained in this document is subject to change without notice.

FY-155 & FY-156 OPEN GRID P.O. PLUG WITH TAILPIECE

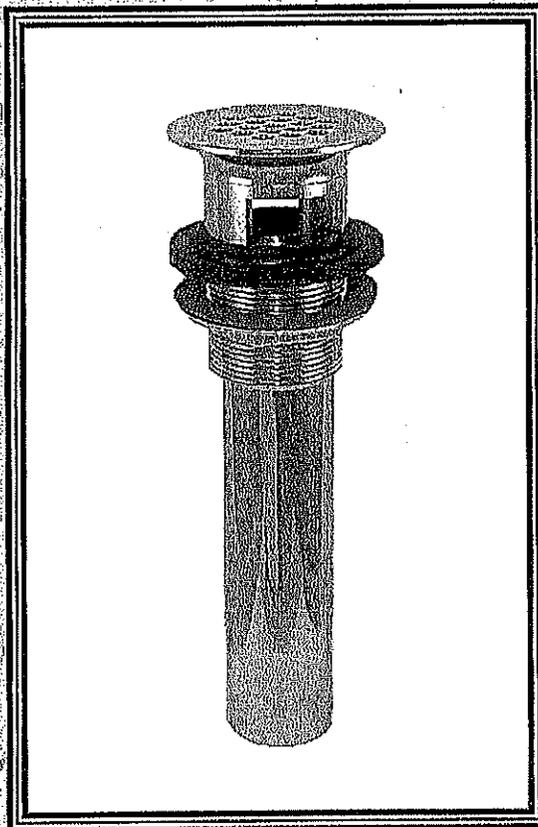
◆ 17 GAUGE

◆ CHROME PLATED BRASS

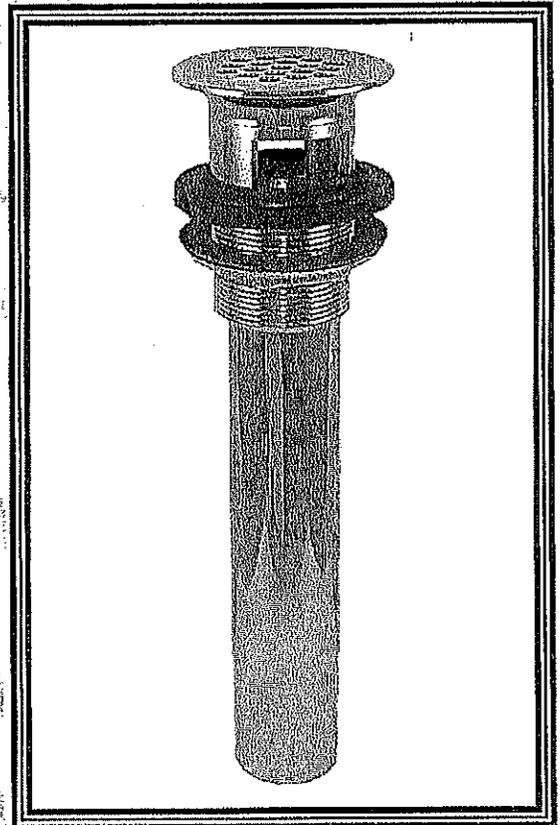
◆ INDIVIDUALLY BAGGED & BOXED

PRODUCT SPEC SHEET

FY-155 - 4"



FY-156 - 6"



CORPORATE HEADQUARTERS
MATCO-NORCA, INC.
BREWSTER, NEW YORK

P.O. Box 27 Route 22
TEL: 845-278-7570
TOLL FREE: 800-431-2082

BREWSTER, NY 10509
FAX: 845-278-9056
FAX: 800-640-2252

Visit our web site: www.matco-norca.com
email: mail@matco-norca.com



WESTERN REGION
MATCO-NORCA, INC.
LA PALMA, CALIFORNIA

5593 FRESCA DRIVE
TEL: 714-522-1889
TOLL FREE: 866-532-8306

LA PALMA, CA, 90623
FAX: 714-522-3828
FAX: 866-532-8307

CENTRAL REGION
MATCO-NORCA, INC.
HOUSTON, TEXAS

1150 SILBER ROAD
TEL: 713-680-2888
TOLL FREE: 800-935-5456

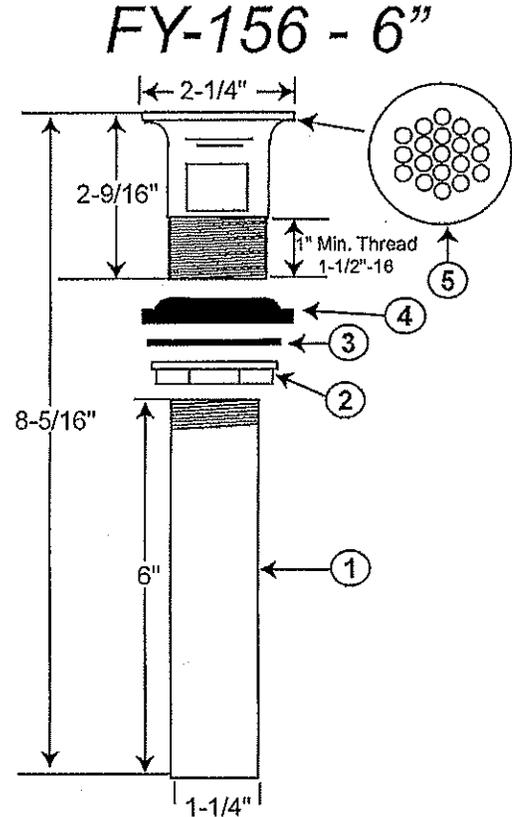
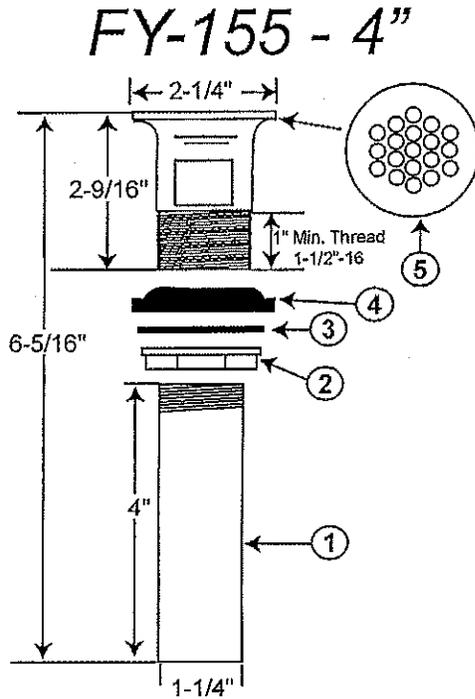
HOUSTON, TX 77
FAX: 713-680-2
FAX: 800-683-4

FY-155 & FY-156 OPEN GRID P.O. PLUG WITH TAILPIECE

❖ 17 GAUGE

❖ CHROME PLATED BRASS

❖ INDIVIDUALLY BAGGED & BOXED



MATERIAL SPECIFICATIONS		
No.	PARTS	MATERIALS
1	Tail Piece	17 Gauge Chrome Plated Brass
2	Lock Nut	Brass
3	Friction Washer	Fiber
4	Washer	Rubber
5	19 Hole-7/32" Grid	Heavy Duty Polished Chrome Cast Brass

BREWSTER, NY
TEL: 800-431-2082 FAX: 800-640-2252
VISIT OUR WEBSITE: www.matco-norca.com



HOUSTON, TX
TEL: 800-935-5456 FAX: 800-683-4247
LA PALMA, CA
TEL: 866-532-8306 FAX: 866-532-8307



LAV GUARD²

FAST FIT UNDERSINK PIPING COVERS

All New
E-Z Series

ADA-compliant undersink protection



Submittal Sheet

General Description:

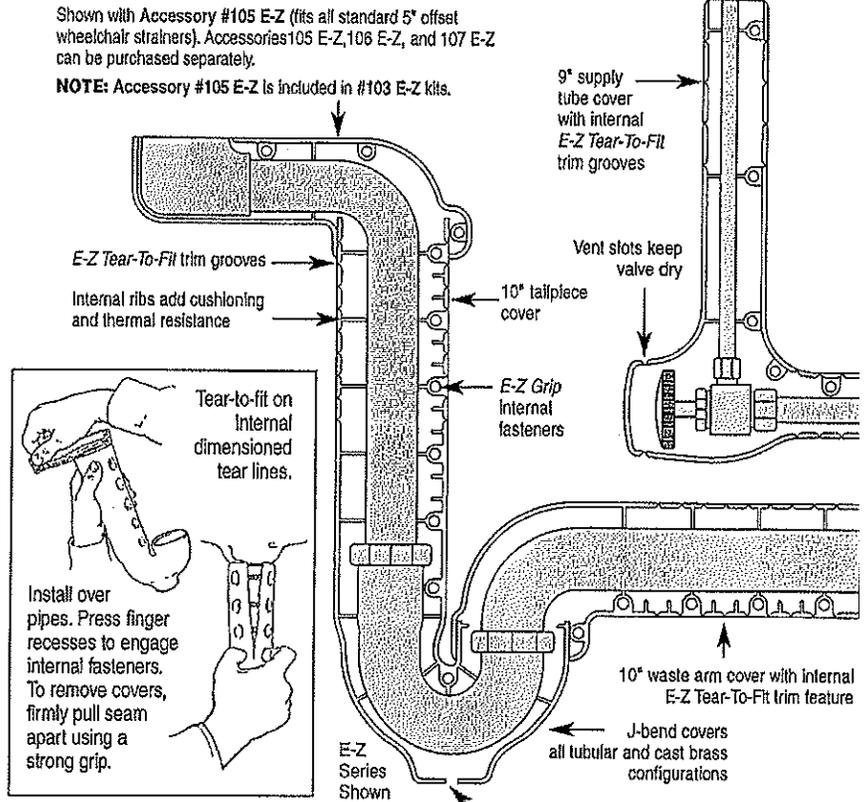
LAV GUARD[®] 2 E-Z Series waste and supply piping covers satisfy ADA compliance requirements. Built-in *E-Z Grip* internal fasteners and internal, *E-Z Tear-To-Fit* trimming feature allow for fast installation without tools. *Series #100 E-Z* kits are designed to fit on all tubular and cast brass P-trap assemblies. *Series #400* kits are the "original" LAV GUARD design and fit schedule 40 ABS and PVC P-trap assemblies — regardless of their geometry or rotational offset. Valve cover completely encloses angle valve and supply tube for both handled and keyed type water stops.

Material	Molded vinyl
Nominal Wall	1/8" constant
Durometer	70-80 - Shore A
UV Protection	Will not fade or discolor
Durability	Virtually indestructible
Trimming (E-Z Series)	Internal, <i>E-Z Tear-To-Fit</i> trim feature
Fasteners (E-Z Series)	Internal <i>E-Z Grip</i> fasteners (reusable)
Color	China white
Paintability	Apply Latex paint
Burning Characteristics ASTM D-635	Self extinguished 0 sec (ATB) 0 mm (AEB)
Bacteria/Fungus Resistance	ASTM G21 and G22/ Result: 0 growth
Maintenance	Use common detergents

Manufactured under one or more of the following U.S. or Canadian patents.
Other patents pending.
5,303,730 5,360,031 5,524,669 5,564,463 5,678,599 5,699,828 5,915,412
5,915,413 5,901,739 5,960,820 2,075,324 2,119,427 2,136,027 2,158,083



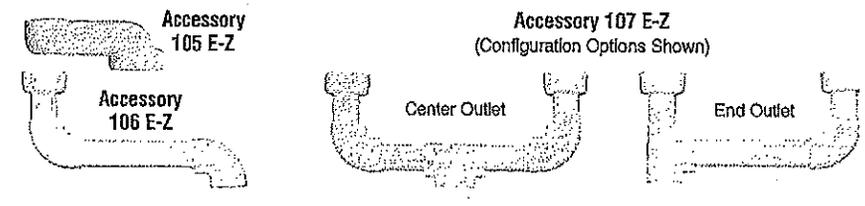
IPS Corporation, 202 Industrial Park Lane, Collierville, TN 38017
(901) 853-5001 (800) 340-5969 FAX: (901) 853-5008
e-mail: info@truebro.com Internet: http://www.truebro.com



#100 E-Z Series (shown above right) for tubular and cast brass P-trap assemblies.
#400W* Series (original design) for schedule 40 P-trap assemblies.

<input type="checkbox"/> Model #99 E-Z One angle valve and supply cover	<input type="checkbox"/> Model #102 E-Z One P-trap cover, two angle valves and covers	<input type="checkbox"/> Accessory #105-K Kohler 6" offset
<input type="checkbox"/> Model #100 E-Z One P-trap cover	<input type="checkbox"/> Model #402W* One P-trap cover, two angle valves and covers	<input type="checkbox"/> Accessory #106 E-Z One basket strainer cover and offset waste cover (adjustable to 18")
<input type="checkbox"/> Model #400W* One P-trap cover	<input type="checkbox"/> Model #103 E-Z One P-trap cover, two angle valves and supply covers, one 5" offset tailpiece wheelchair strainer cover	<input type="checkbox"/> Accessory #107 E-Z Two basket strainer covers and center or end outlet waste cover (adjustable)
<input type="checkbox"/> Model #101 E-Z One P-trap cover, one angle valve cover	<input type="checkbox"/> Accessory #105 E-Z One 5" offset tailpiece wheelchair strainer assembly	<input type="checkbox"/> Accessory #Ex99 E-Z One 16" extension for water supply
<input type="checkbox"/> Model #401W* One P-trap cover, one angle valve cover	<input type="checkbox"/> Accessory #Ex100 E-Z One 16" extension for drain waste arm or tailpiece	

*All #400W series items are the "original" LAV GUARD[®] design and construction. Specifications may change without notice.



Job/Location _____

Designer _____

TRUEBRO reserves the right to make product and material changes at any time without notice.

**FLOOR MOUNT
TOILETS**

Features

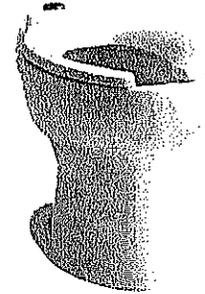
- Vitreous china.
- Elongated bowl.
- 1-1/2" top spud.
- 10" (254 mm) or 12" (305 mm) rough-in.
- 2-1/4" (57 mm) passageway.
- 11-3/8" (289 mm) x 10-3/8" (264 mm) water area.
- 1.6 gpf (6 lpf).
- 26" (660 mm) x 14-1/2" (368 mm) x 17-1/2" (445 mm).

Recommended Accessories

- K-4654-A Commercial Toilet Seat
- K-4670-C Commercial Toilet Seat
- K-4670-CA Commercial Toilet Seat
- K-10674 Wave DC 1.6 GPF WC Flushometer
- K-10957 Tripoint™ DC 1.6 GPF WC Flushometer
- K-13516 Exposed Toilet Flushometer

Components

Additional included component/s: Spud, and Bolt cap accessory pack.



ADA CSA B651

Codes/Standards

ASME A112.19.2/CSA B45.1
DOE - Energy Policy Act 1992
ADA
ICC/ANSI A117.1
CSA B651

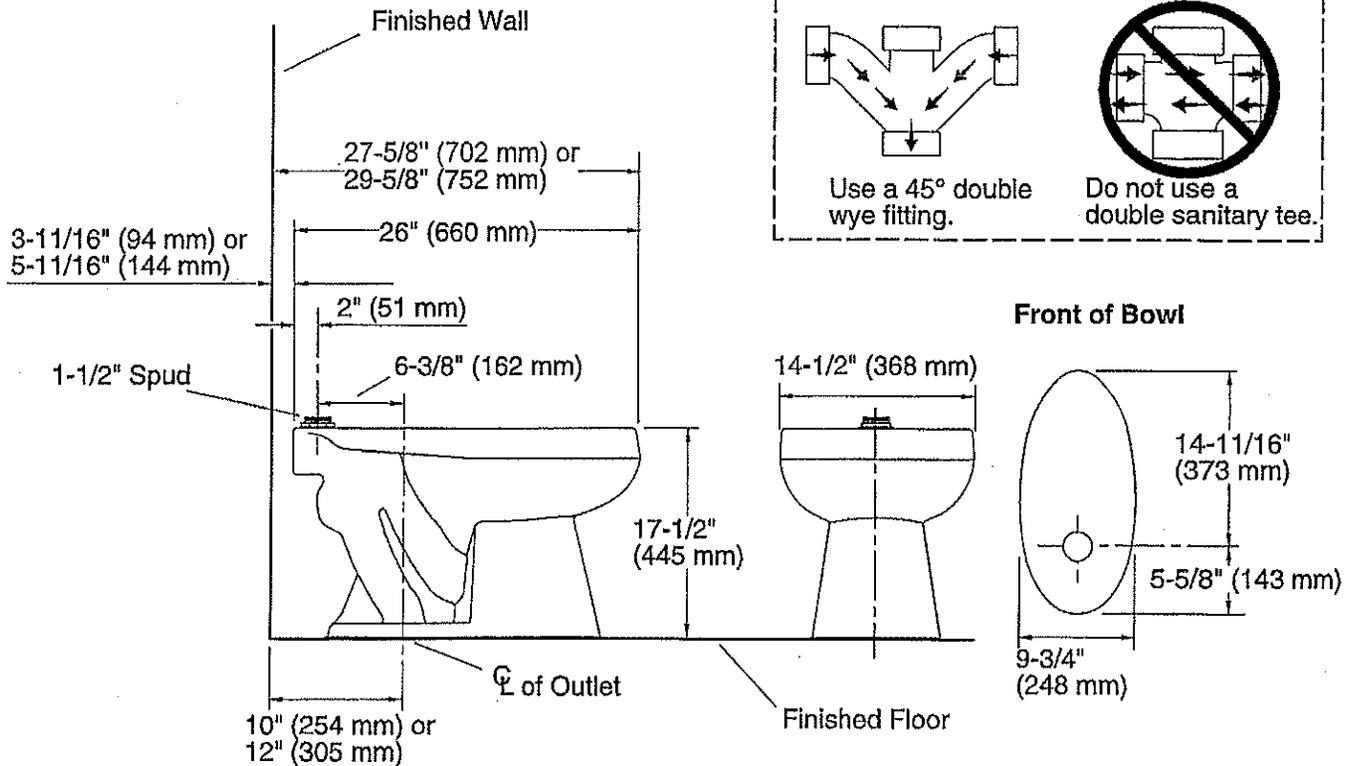
KOHLER® One-Year Limited Warranty

See website for detailed warranty information.

Available Color/Finishes

Color tiles intended for reference only.

Color	Code	Description
	0	White
	96	Biscuit
	47	Almond
	7	Black Black™



Technical Information

All product dimensions are nominal.

Bowl shape:	Elongated front
Spud size:	1-1/2", Inlet, Top
Trap passageway:	2-1/4" (57 mm)
Water surface size:	11-3/8" x 10-3/8" (289 mm x 264 mm)
Rim to water surface:	6" (152 mm)
Rough-in:	10" or 12" (254 or 305 mm)
Seat-mounting holes:	5-1/2" (140 mm)

Fixture Supply Requirements

Min static pressure:	35 psi (241.3 kPa)
Max static pressure:	80 psi (551.6 kPa)
Min flowing pressure:	25 psi (172.4 kPa)
Min flow rate:	25 gpm (94.6 lpm)

Notes

Install this product according to the installation guide.

Refer to manufacturer and local codes for flushometer requirements: for 12" (305 mm) rough-in, sweat extension nipple is required.

For back-to-back toilet installations: Use only a 45° double wye fitting.

ADA, CSA B651 compliant when installed to the specific requirements of these regulations.

The Model Plumbing Codes require the installation of elongated open-front toilet seats on public bathrooms.

SLOAN® OPTIMA SYSTEMS Battery Powered Flushometers



8110/8111

MODEL

► **Description**
Exposed, Battery Powered, Sensor Operated G2® Model Water Closet Flushometer for floor mounted or wall hung top spud bowls.

- **Flush Cycle**
- Model 8111 Low Consumption (1.6 gpf/6.0 Lpf)
 - Model 8110 Water Saver (3.5 gpf/13.2 Lpf)

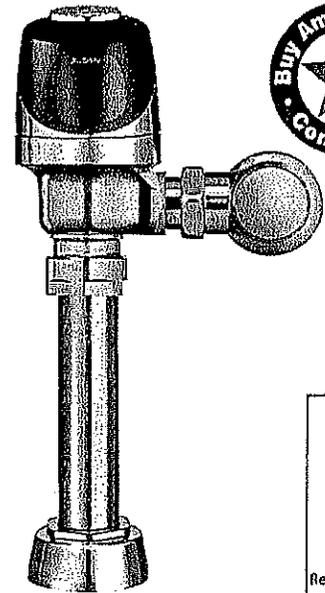
► **Specifications**
Quiet, Exposed, Diaphragm Type, Chrome Plated Closet Flushometer for either left or right hand supply with the following features:

- PERMEX® Synthetic Rubber Diaphragm with Dual Filtered Fixed Bypass
- Flex Tube Diaphragm designed for improved life and reduced maintenance
- ADA Compliant OPTIMA Plus® Battery Powered Infrared Sensor for automatic "No Hands" operation
- Infrared Sensor with Multiple-focused, Lobular Sensing Fields for high and low target detection
- Latching Solenoid Operator
- Engineered Metal Cover with replaceable Lens Window
- User friendly three (3) second Flush Delay
- Courtesy Flush® Override Button
- Four (4) Size AA alkaline Batteries included: Duracell® with DURALOCK Power Preserve Technology™-guaranteed for up to 10 years in storage
- "Low Battery" Flashing LED
- Infrared Sensor Range Adjustment Screw
- Initial Set-up Range Indicator Light (first 10 minutes)
- 1" I.P.S. Screwdriver Bak-Chek® Angle Stop
- Free Spinning, Vandal Resistant Stop Cap
- Adjustable Tailpiece
- High Back Pressure Vacuum Breaker Flush Connection with One-piece Bottom Hex Coupling Nut
- Spud Coupling and Flange for 1½" Top Spud
- Sweat Solder Adapter with Cover Tube and Cast Set Screw Wall Flange
- High Copper, Low Zinc Brass Castings for Dezincification Resistance
- Fixed Metering Bypass and No External Volume Adjustment to Ensure Water Conservation
- Flush Accuracy Controlled by CID™ Technology
- Diaphragm, Stop Seat and Vacuum Breaker to be molded from PERMEX® Rubber Compound for Chloramine resistance
- 100% of the energy used in manufacturing is offset with Renewable Energy Sources – Wind Energy

Valve Body, Tailpiece and Control Stop shall be in conformance with ASTM Alloy Classification for Semi-Red Brass. Valve shall be in compliance with the applicable sections of ASSE 1037, ANSI/ASME A112.19.2. Installation conforms to ADA requirements.

- **Special Finishes**
- PB Polished Brass (PVD Finish)
 - BN Brushed Nickel (PVD Finish)
 - SF Satin Chrome

See Accessories Section and OPTIMA Accessories Section of the Sloan catalog for details on these and other OPTIMA Plus® Flushometer variations.



- **ADA Compliant**
- **Automatic**
Sloan G2 Optima Plus® Flushometers activate via multi-lobular sensor detection to provide the ultimate in sanitary protection and automatic operation. A battery powered infrared sensor sets the flushing mechanism after the user is detected and completes the flush when the user steps away.
- **Functional & Hygienic**
Touchless, sensor operation eliminates the need for user contact help control the spread of infectious diseases. The G2 Optima Plus Flushometer is provided with an Override Button to allow a "courtesy flush" for individual user comfort.
- **Economical**
Sloan installed batteries speed installation and provide years of metered flushing to control the use of water and energy. Batteries can be changed without turning off the water.
- **Warranty**
3 year (limited)



Listed by I.A.P.M.C.

This space for Architect/Engineer approval

Job Name _____ Date _____

Model Specified _____ Quantity _____

Variations Specified _____

Customer/Wholesaler _____

Contractor _____

Architect _____

3110/8111



► Description

Exposed, Battery Powered, Sensor Operated G2® Model Water Closet Flushometer for floor mounted or wall hung top spud bowls.

► Flush Cycle

- Model 8111 Low Consumption (1.6 gpf/6.0 Lpf)
- Model 8110 Water Saver (3.5 gpf/13.2 Lpf)

ELECTRICAL SPECIFICATIONS

► Control Circuit

Solid State
6 VDC Input
8 Second Arming Delay
3 Second Flush Delay

► OPTIMA Sensor Type

Active Infrared

► OPTIMA Sensor Range

Nominal 22" - 42" (559 mm - 1067 mm),
Adjustable ± 8" (203 mm)

► Battery Type

(4) Size AA Alkaline: Duracell® with DURALOCK Power Preserve Technology™

► Battery Life

3 Years @ 4,000 Flushes/Month

► Indicator Lights

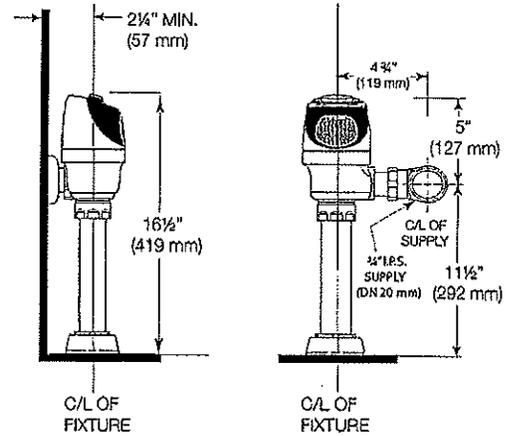
Range Adjustment/Low Battery

► Operating Pressure

15 - 100 psi (104 - 689 kPa)

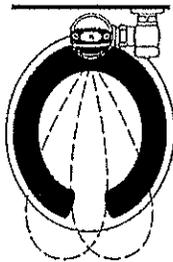
► Sentinel Flush

Once Every 24 Hours After the Last Flush

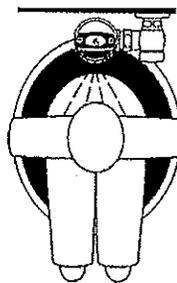


OPERATION

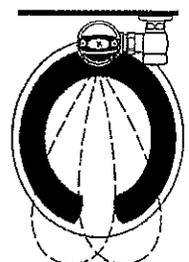
A continuous, invisible light beam is emitted from the OPTIMA Plus Sensor.



2. As the user enters the beam's effective range (22" to 42") the beam is reflected into the OPTIMA Plus Scanner Window and transformed into a low voltage electrical circuit. Once activated, the Output Circuit continues in a "hold" mode for as long as the user remains within the effective range of the Sensor.



3. When the user steps away from the OPTIMA Plus Sensor, the circuit waits 3 seconds (to prevent false flushing) then initiates an electrical signal that operates the Solenoid. This initiates the flushing cycle to flush the fixture. The Circuit then automatically resets and is ready for the next user.



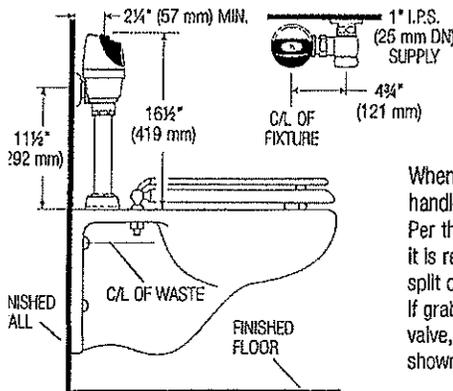
FLUSHER ROUGH-IN

Typical Water Closet Installation

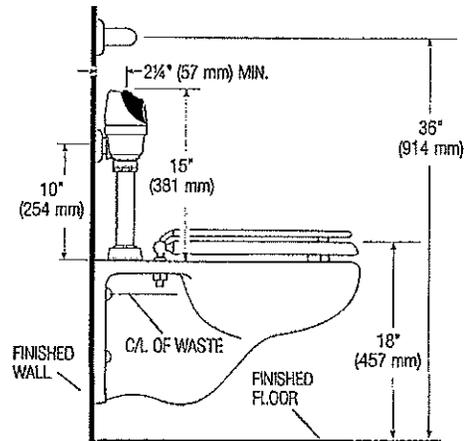
Model 8110/8111

Alternate ADA Installation

Lower water supply rough-in to 10" (254 mm) and mount grab bar at the 36" (914 mm) maximum allowed height.



When installing the G2 Optima Plus in a handicap stall:
Per the ADA Guidelines (section 604.9.4) it is recommended that the grab bars be split or shifted to the wide side of the stall. If grab bars must be present over the valve, use the Alternate ADA Installation as shown to the right.

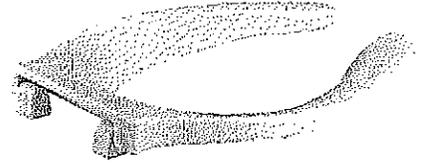


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Phone: 1-800-9-VALVE-9 or 1-847-671-4300 • Fax: 1-800-447-8329 or 1-847-671-4380 • www.sloanvalve.com

Features

- Solid polypropylene plastic.
- Elongated open-front seat.
- Ergonomic contour adds additional comfort.
- Integrated handle allows user to easily raise and lower the ring.
- Stainless steel hinge arms and hardware.
- Heavy duty.
- Without cover.
- ADA compliant when installed with an ADA compliant toilet.
- Check hinge stops seat from leaning back and applying pressure on tank/flushometer.



Codes/Standards

IAPMO/ANSI Z124.5

KOHLER® One-Year Limited Warranty

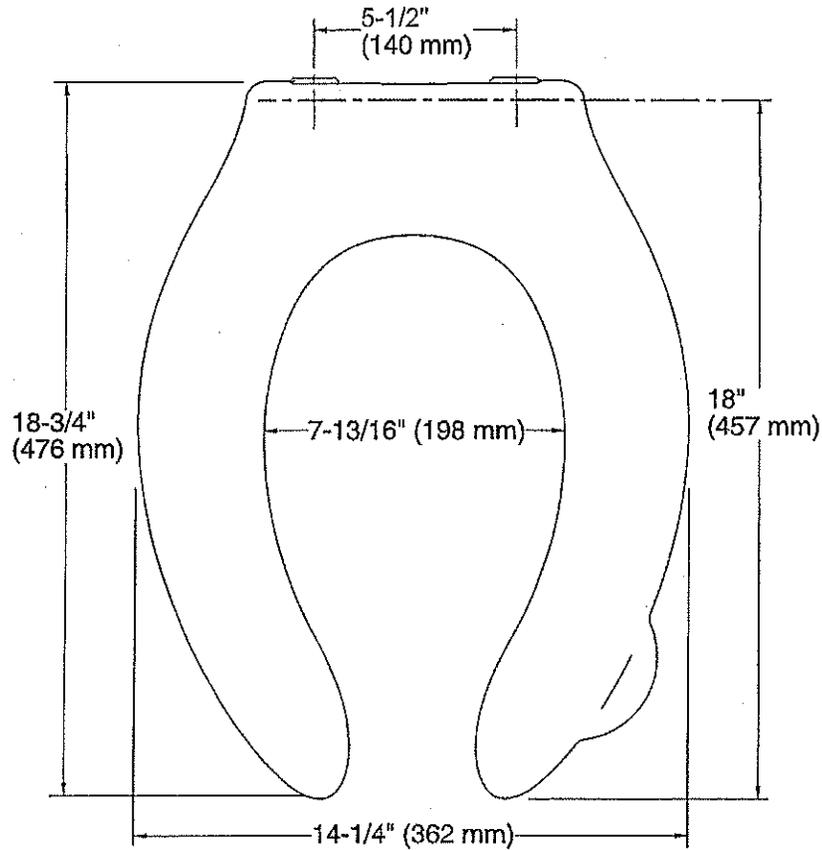
See website for detailed warranty information.

Available Color/Finishes

Color tiles intended for reference only.

Color	Code	Description
-------	------	-------------

	0	White
	96	Biscuit
	47	Almond
	7	Black Black™



Technical Information

All product dimensions are nominal.

- Seat shape type: Elongated
- Seat front type: Open front
- Seat hinge type: Check
- Seat-mounting holes: 5-1/2" (140 mm)

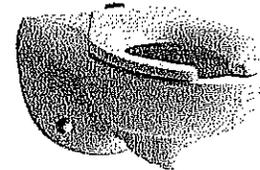
Notes

Install this product according to the installation guide.

**WALL HUNG
TOILETS**

Features

- Vitreous china.
- Elongated bowl.
- Siphon jet.
- Wall-mount.
- 1-1/2" top spud.
- 1.28 gpf (4.8 lpf) or 1.6 gpf (6 lpf) depending on flushometer specified.
- 10-1/2" (267 mm) x 9" (229 mm) water area.
- 26-1/2" (673 mm) x 16-1/2" (419 mm) x 13-1/4" (337 mm).
- Will replace K-4330 and K-4330-L bowls.



Recommended Accessories

- K-4731-C Commercial Heavy-duty Toilet Seat
- K-4731-SC Commercial Heavy-duty Toilet Seat
- K-4731-GC Commercial Heavy-duty Toilet Seat
- K-10673 Exposed Urinal Flushometer
- K-10956 Tripoint™ DC 1.28 GPF WC Flushometer
- K-13517 Manual 1.28 GPF WC Flushometer
- K-10674 Wave DC 1.6 GPF WC Flushometer
- K-10957 Tripoint™ DC 1.6 GPF WC Flushometer
- K-13516 Exposed Toilet Flushometer

Components

Additional included component/s: Spud.

ADA CSA B651

Codes/Standards

ASME A112.19.2/CSA B45.1
DOE - Energy Policy Act 1992
ADA
ICC/ANSI A117.1
CSA B651

KOHLER® One-Year Limited Warranty

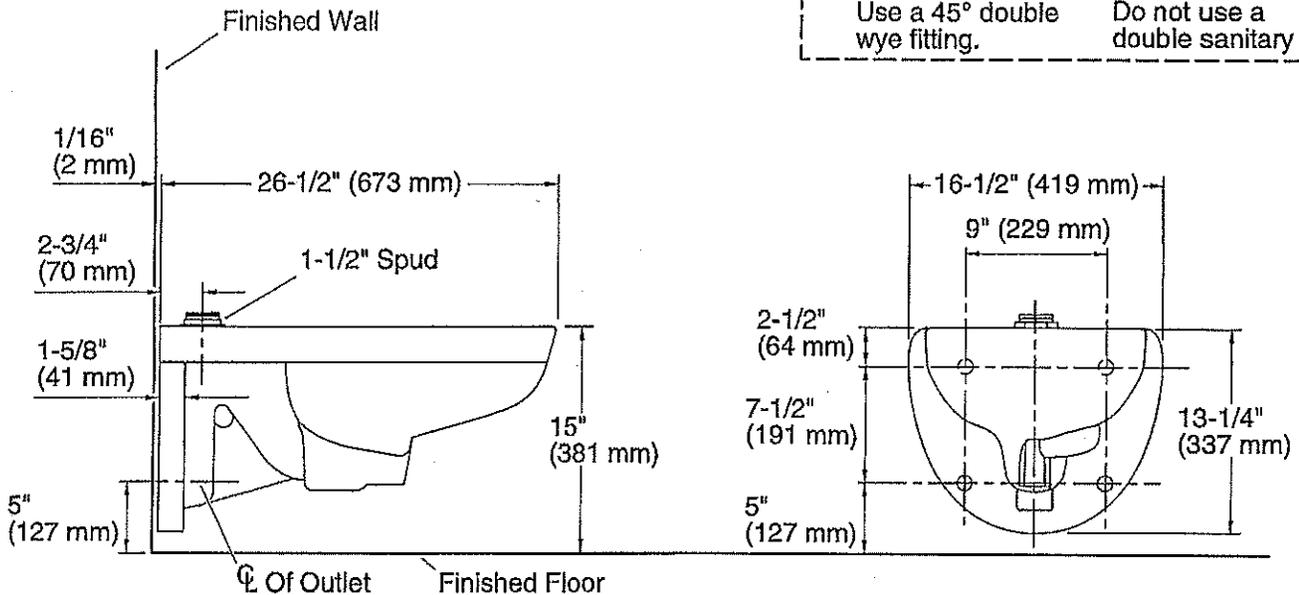
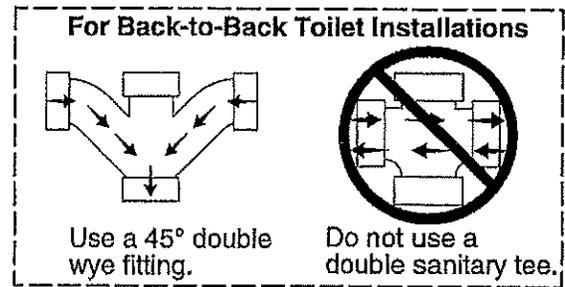
See website for detailed warranty information.

Available Color/Finishes

Color tiles intended for reference only.

Color Code Description

	0	White
	96	Biscuit
	47	Almond
	7	Black Black™



Technical Information

All product dimensions are nominal.

Bowl shape:	Elongated front
Spud size:	1-1/2", Inlet, Top
Trap passageway:	2-1/8" (54 mm)
Water surface size:	10-1/2" x 9" (267 mm x 229 mm)
Rim to water surface:	5-1/4" (133 mm)
Seat-mounting holes:	5-1/2" (140 mm)

Fixture Supply Requirements

Min static pressure:	35 psi (241.3 kPa)
Max static pressure:	80 psi (551.6 kPa)
Min flowing pressure:	25 psi (172.4 kPa)
Min flow rate:	25 gpm (94.6 lpm)

Notes

Install this product according to the installation guide.

Refer to manufacturer's instructions and local codes for flushometer requirements.

For back-to-back toilet installations: Use only a 45° double wye fitting.

ADA, CSA B651 compliant when installed to the specific requirements of these regulations.

The Model Plumbing Codes require the installation of elongated open-front toilet seats on public bathrooms.

▶ **Description**
 Exposed, Battery Powered, Sensor Operated G2® Model Water Closet Flushometer for floor mounted or wall hung top spud bowls.

- ▶ **Flush Cycle**
- Model 8111 Low Consumption (1.6 gpf/6.0 Lpf)
 - Model 8110 Water Saver (3.5 gpf/13.2 Lpf)

▶ **Specifications**
 Quiet, Exposed, Diaphragm Type, Chrome Plated Closet Flushometer for either left or right hand supply with the following features:

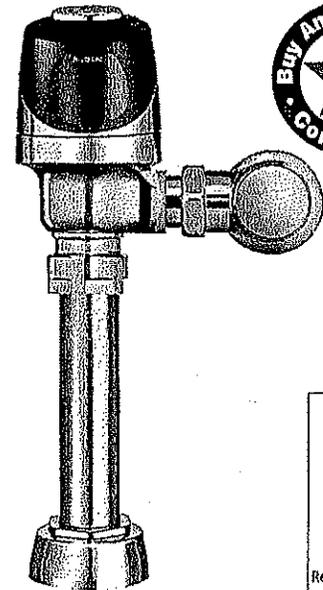
- PERMEX® Synthetic Rubber Diaphragm with Dual Filtered Fixed Bypass
- Flex Tube Diaphragm designed for improved life and reduced maintenance
- ADA Compliant OPTIMA Plus® Battery Powered Infrared Sensor for automatic "No Hands" operation
- Infrared Sensor with Multiple-focused, Lobular Sensing Fields for high and low target detection
- Latching Solenoid Operator
- Engineered Metal Cover with replaceable Lens Window
- User friendly three (3) second Flush Delay
- Courtesy Flush® Override Button
- Four (4) Size AA alkaline Batteries included: Duracell® with DURALOCK Power Preserve Technology™-guaranteed for up to 10 years in storage
- "Low Battery" Flashing LED
- Infrared Sensor Range Adjustment Screw
- Initial Set-up Range Indicator Light (first 10 minutes)
- 1" I.P.S. Screwdriver Bak-Chek® Angle Stop
- Free Spinning, Vandal Resistant Stop Cap
- Adjustable Tailpiece
- High Back Pressure Vacuum Breaker Flush Connection with One-piece Bottom Hex Coupling Nut
- Spud Coupling and Flange for 1½" Top Spud
- Sweat Solder Adapter with Cover Tube and Cast Set Screw Wall Flange
- High Copper, Low Zinc Brass Castings for Dezincification Resistance
- Fixed Metering Bypass and No External Volume Adjustment to Ensure Water Conservation
- Flush Accuracy Controlled by CID™ Technology
- Diaphragm, Stop Seat and Vacuum Breaker to be molded from PERMEX® Rubber Compound for Chloramine resistance
- 100% of the energy used in manufacturing is offset with Renewable Energy Sources – Wind Energy

Valve Body, Tailpiece and Control Stop shall be in conformance with ASTM Alloy Classification for Semi-Red Brass. Valve shall be in compliance with the applicable sections of ASSE 1037, ANSI/ASME A112.19.2. Installation conforms to ADA requirements.

▶ **Special Finishes**

- PB Polished Brass (PVD Finish)
- BN Brushed Nickel (PVD Finish)
- SF Satin Chrome

See Accessories Section and OPTIMA Accessories Section of the Sloan catalog for details on these and other OPTIMA Plus® Flushometer variations.



- ▶ **ADA Compliant**
- ▶ **Automatic**
 Sloan G2 Optima Plus® Flushometers activate via multi-lobular sensor detection to provide the ultimate in sanitary protection and automatic operation. A battery powered infrared sensor sets the flushing mechanism after the user is detected and completes the flush when the user steps away.
- ▶ **Functional & Hygienic**
 Touchless, sensor operation eliminates the need for user contact help control the spread of infectious diseases. The G2 Optima Plus Flushometer is provided with an Override Button to allow a "courtesy flush" for individual user comfort.
- ▶ **Economical**
 Sloan installed batteries speed installation and provide years of metered flushing to control the use of water and energy. Batteries can be changed without turning off the water.
- ▶ **Warranty**
 3 year (limited)



Listed by I.A.P.M.I

This space for Architect/Engineer approval

Job Name _____ Date _____

Model Specified _____ Quantity _____

Variations Specified _____

Customer/Wholesaler _____

Contractor _____

Architect _____

3110/8111

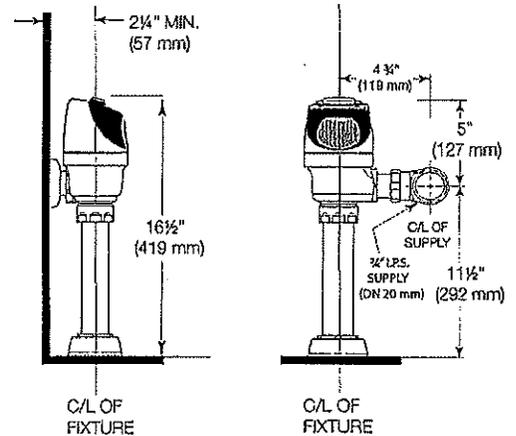


► Description
Exposed, Battery Powered, Sensor Operated G2® Model Water Closet
Flushometer for floor mounted or wall hung top spud bowls.

- Flush Cycle
- Model 8111 Low Consumption (1.6 gpf/6.0 Lpf)
 - Model 8110 Water Saver (3.5 gpf/13.2 Lpf)

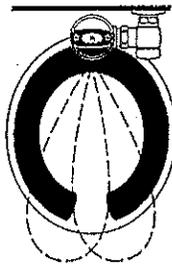
ELECTRICAL SPECIFICATIONS

- Control Circuit
 - Solid State
 - 6 VDC Input
 - 8 Second Arming Delay
 - 3 Second Flush Delay
- OPTIMA Sensor Type
 - Active Infrared
- OPTIMA Sensor Range
 - Nominal 22" - 42" (559 mm - 1067 mm),
 - Adjustable ± 8" (203 mm)
- Battery Type
 - (4) Size AA Alkaline: Duracell® with
 - DURALOCK Power Preserve Technology™
- Battery Life
 - 3 Years @ 4,000 Flushes/Month
- Indicator Lights
 - Range Adjustment/Low Battery
- Operating Pressure
 - 15 - 100 psl (104 - 689 kPa)
- Sentinel Flush
 - Once Every 24 Hours After the Last Flush

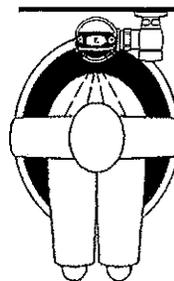


OPERATION

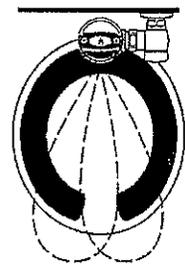
A continuous, invisible light beam is emitted from the OPTIMA Plus Sensor.



2. As the user enters the beam's effective range (22" to 42") the beam is reflected into the OPTIMA Plus Scanner Window and transformed into a low voltage electrical circuit. Once activated, the Output Circuit continues in a "hold" mode for as long as the user remains within the effective range of the Sensor.

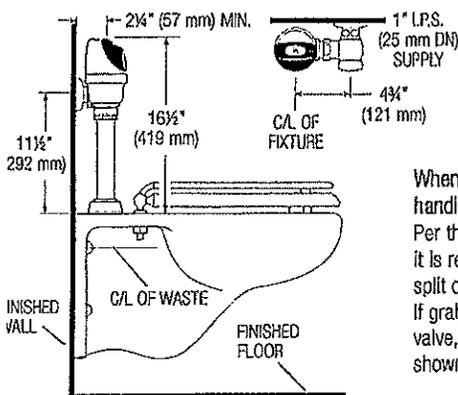


3. When the user steps away from the OPTIMA Plus Sensor, the circuit waits 3 seconds (to prevent false flushing) then initiates an electrical signal that operates the Solenoid. This initiates the flushing cycle to flush the fixture. The Circuit then automatically resets and is ready for the next user.



WALL MOUNTED ROUGH-IN

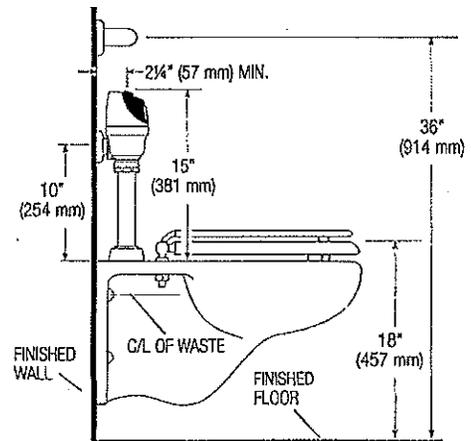
Standard Water Closet Installation
Model 8110/8111



When installing the G2 Optima Plus in a handicap stall:
Per the ADA Guidelines (section 604.9.4) it is recommended that the grab bars be split or shifted to the wide side of the stall. If grab bars must be present over the valve, use the Alternate ADA Installation as shown to the right.

Alternate ADA Installation

Lower water supply rough-in to 10" (254 mm) and mount grab bar at the 36" (914 mm) maximum allowed height.

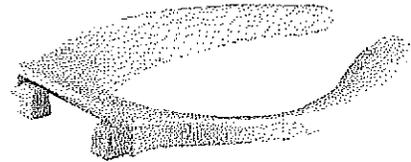


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Phone: 1-800-9-VALVE-9 or 1-847-671-4300 • Fax: 1-800-447-8329 or 1-847-671-4380 • www.sloanvalve.com

Features

- Solid polypropylene plastic.
- Elongated open-front seat.
- Ergonomic contour adds additional comfort.
- Integrated handle allows user to easily raise and lower the ring.
- Stainless steel hinge arms and hardware.
- Heavy duty.
- Without cover.
- ADA compliant when installed with an ADA compliant toilet.
- Check hinge stops seat from leaning back and applying pressure on tank/flushometer.



Codes/Standards

IAPMO/ANSI Z124.5

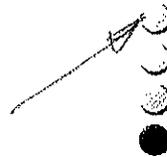
KOHLER® One-Year Limited Warranty

See website for detailed warranty information.

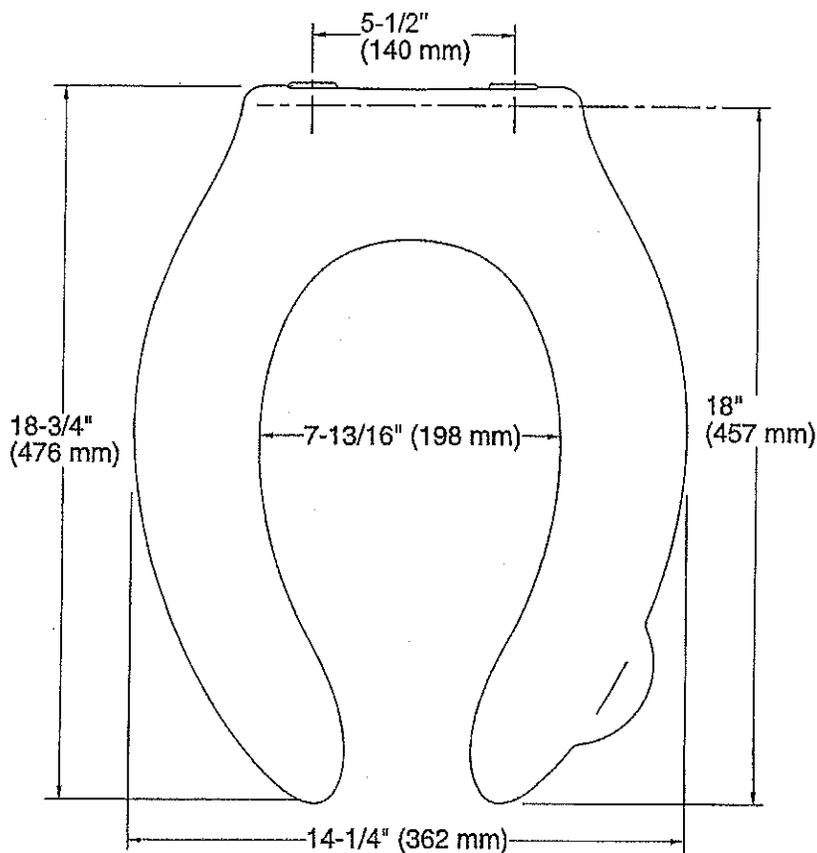
Available Color/Finishes

Color tiles intended for reference only.

Color	Code	Description
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0	White
96	Biscuit
47	Almond
7	Black Black™



Technical Information

All product dimensions are nominal.

- Seat shape type: Elongated
- Seat front type: Open front
- Seat hinge type: Check
- Seat-mounting holes: 5-1/2" (140 mm)

Notes

Install this product according to the installation guide.

URINAL

Features

- Washout urinal.
- 3/4" top spud.
- 0.125 gpf (0.47 lpf) to 1.0 gpf (3.8 lpf).
- 14" (356 mm) extended rim.
- Will replace K-4904-ET.

Material

- Vitreous china.

Water Conservation & Rebates

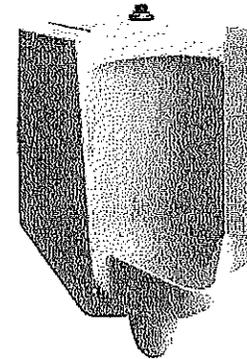
- WaterSense-compliant when used with a 0.125 gpf or 0.5 gpf WaterSense flushometer.

Recommended Accessories

- K-10668 WaterSense® 0.125 gpf Exposed Flushometer
- K-10949 Tripoint™ DC 1/8 GPF Urinal Flushometer
- K-13520 WaterSense® 0.125 gpf Exposed Flushometer
- K-7528 WAVE HES 1/8 GPF Urinal Flushometer
- K-7546 WaterSense® 0.125 gpf Exposed Flushometer
- K-10675 WaterSense® 0.5 gpf Exposed Flushometer
- K-10958 WaterSense® 0.5 gpf Exposed Flushometer
- K-7537 0.5 gpf Exposed Flushometer
- K-7526 WAVE HES 0.5 GPF Urinal Flushometer
- K-13519 0.5 gpf Exposed Flushometer
- K-10676 1.0 gpf Exposed Flushometer
- K-10960 1.0 gpf Exposed Flushometer
- K-13518 1.0 gpf Exposed Flushometer
- K-7539 Tripoint™ HES 1.0 GPF Blwout Flushometer
- K-7542 1.0 gpf Exposed Flushometer
- K-7527 1.0 gpf Exposed flushometer

Components

Additional included component/s: 3/4" inlet spud, 2" outlet spud, Strainer, and Hangers (2).



ADA

Codes/Standards

ASME A112.19.2/CSA B45.1
DOE - Energy Policy Act 1992
EPA WaterSense®
ADA
ICC/ANSI A117.1

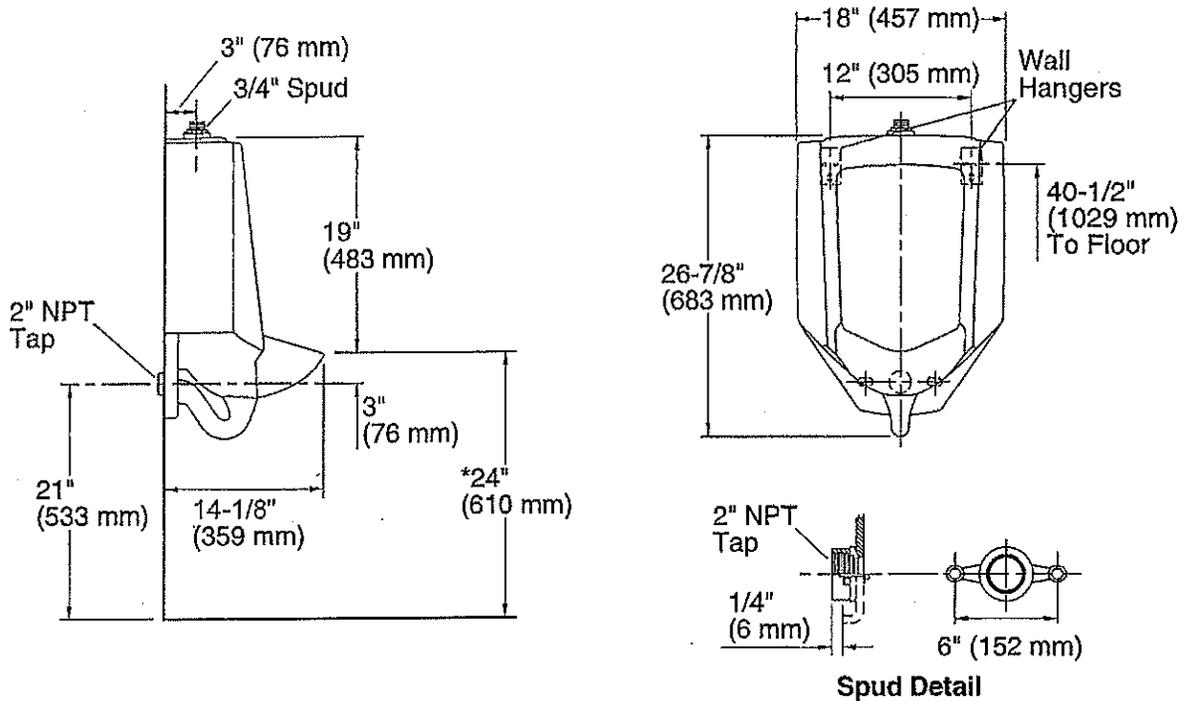
KOHLER® One-Year Limited Warranty

See website for detailed warranty information.

Available Color/Finishes

Color tiles intended for reference only.

Color	Code	Description
	0	White
	96	Biscuit
	47	Almond
	7	Black Black™



Technical Information

All product dimensions are nominal.

Flush outlet Washout

technology:

Spud size: 3/4", Inlet, Top

Min. Water per Flush: 0.125 gal (0.5 L)

Max. Water per Flush: 1 gal (3.8 L)

Designed for the above water use when installed with a water-saving flushometer.

Notes

Install this product according to the installation guide.

Refer to manufacturer's instructions and local codes for flushometer requirements.

ADA compliant when installed to the specific requirements of these regulations.

▶ **Description**
Exposed, Battery Powered, Sensor Operated G2® Model Urinal Flushometer.

▶ **Flush Cycle**
 Model 8186-1.0 Low Consumption (1.0 gpf/3.8 Lpf)
 Model 8186 Water Saver (1.5 gpf/5.7 Lpf)

▶ **Specifications**
 Quiet, Exposed, Diaphragm Type, Chrome Plated Urinal Flushometer for either left or right hand supply with the following features:

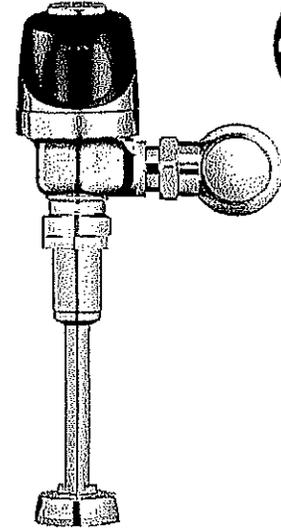
- PERMEX® Synthetic Rubber Diaphragm with Dual Filtered Fixed Bypass
- Flex Tube Diaphragm designed for improved life and reduced maintenance
- ADA Compliant OPTIMA Plus® Battery Powered Infrared Sensor for automatic "No Hands" operation
- Infrared Sensor with Multiple-focused, Lobular Sensing Fields for high and low target detection
- Latching Solenoid Operator
- Engineered Metal Cover with replaceable Lens Window
- Courtesy Flush® Override Button
- Four (4) Size AA alkaline Batteries Included: Duracell® with DURALOCK Power Preserve Technology™-guaranteed for up to 10 years in storage
- "Low Battery" Flashing LED
- Infrared Sensor Range Adjustment Screw
- Initial Set-up Range Indicator Light (first 10 minutes)
- ¼" I.P.S. Screwdriver Bak-Chek® Angle Stop
- Free Spinning, Vandal Resistant Stop Cap
- Adjustable Tailpiece
- High Back Pressure Vacuum Breaker Flush Connection with One-piece Bottom Hex Coupling Nut
- Spud Coupling and Flange for ¼" Top Spud
- Sweat Solder Adapter with Cover Tube and Cast Set Screw Wall Flange
- High Copper, Low Zinc Brass Castings for Dezincification Resistance
- Fixed Metering Bypass and No External Volume Adjustment to Ensure Water Conservation
- Flush Accuracy Controlled by CID Technology
- Diaphragm, Stop Seat and Vacuum Breaker to be molded from PERMEX® Rubber Compound for Chloramine resistance
- 100% of the energy used in manufacturing is offset with Renewable Energy Sources – Wind Energy

Valve Body, Tailpiece and Control Stop shall be in conformance with ASTM Alloy Classification for Semi-Red Brass. Valve shall be in compliance with the applicable sections of ASSE 1037, ANSI/ASME A112.19.2. Installation conforms to ADA requirements.

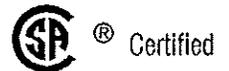
▶ **Special Finishes**

<input type="checkbox"/> PB	Polished-Brass (PVD Finish)
<input type="checkbox"/> BN	Brushed Nickel (PVD Finish)
<input type="checkbox"/> SF	Satin Chrome

See Accessories Section and OPTIMA Accessories Section of the Sloan catalog for details on these and other OPTIMA Plus® Flushometer variations.



- ▶ **ADA Compliant**
- ▶ **Automatic**
Sloan G2 Optima Plus® Flushometers activate via multi-lobular sensor detection to provide the ultimate in sanitary protection and automatic operation. A battery powered infrared sensor sets the flushing mechanism after the user is detected and completes the flush when the user steps away.
- ▶ **Functional & Hygienic**
Touchless, sensor operation eliminates the need for user contact to help control the spread of infectious diseases. The G2 Optima Plus Flushometer is provided with an Override Button to allow a "courtesy flush" for individual user comfort.
- ▶ **Economical**
Sloan installed batteries speed installation and provide years of metered flushing to control the use of water and energy. Batteries can be changed without turning off the water.
- ▶ **Warranty**
3 year (limited)



This space for Architect/Engineer approval

Job Name _____ Date _____

Model Specified _____ Quantity _____

Variations Specified _____

Customer/Wholesaler _____

Contractor _____

Architect _____



➤ **Description**
Exposed, Battery Powered, Sensor Operated G2® Model Urinal Flushometer.

➤ **Flush Cycle**
 Model 8186-1.0 Low Consumption (1.0 gpf/3.8 Lpf)
 Model 8186 Water Saver (1.5 gpf/5.7 Lpf)

ELECTRICAL SPECIFICATIONS

➤ **Control Circuit**
Solid State
6 VDC Input
8 Second Arming Delay
24 Hour Sentinel Flush

➤ **OPTIMA Sensor Type**
Active Infrared

➤ **OPTIMA Sensor Range**
Nominal 15" - 30" (381 mm - 762 mm),
Adjustable ± 8" (203 mm)

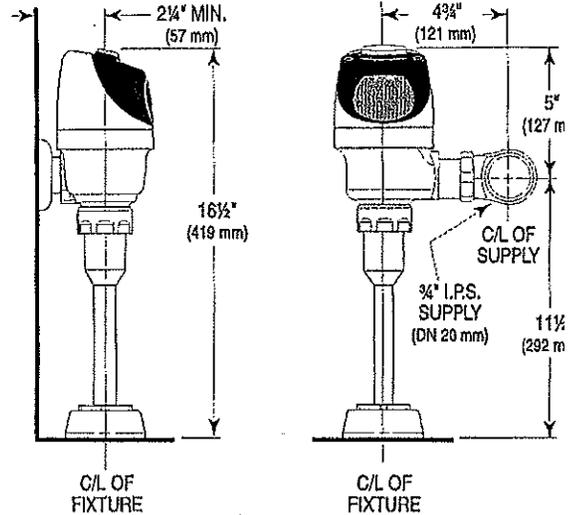
➤ **Battery Type**
(4) Size AA Alkaline: Duracell® with DURALOCK Power Preserve Technology™

➤ **Battery Life**
3 Years @ 4,000 Flushes/Month

➤ **Indicator Lights**
Range Adjustment/Low Battery

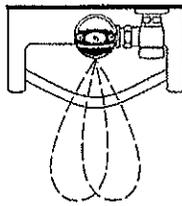
➤ **Operating Pressure**
15 - 100 psi (104 - 689 kPa)

➤ **Sentinel Flush**
Once Every 24 Hours After the Last Flush

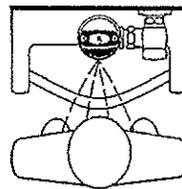


OPERATION

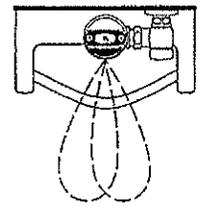
A continuous, invisible light beam is emitted from the OPTIMA Plus Sensor.



2. As the user enters the beam's effective range (15" to 30") the beam is reflected into the OPTIMA Plus Scanner Window and transformed into a low voltage electrical circuit. Once activated, the Output Circuit continues in a "hold" mode for as long as the user remains within the effective range of the Sensor.

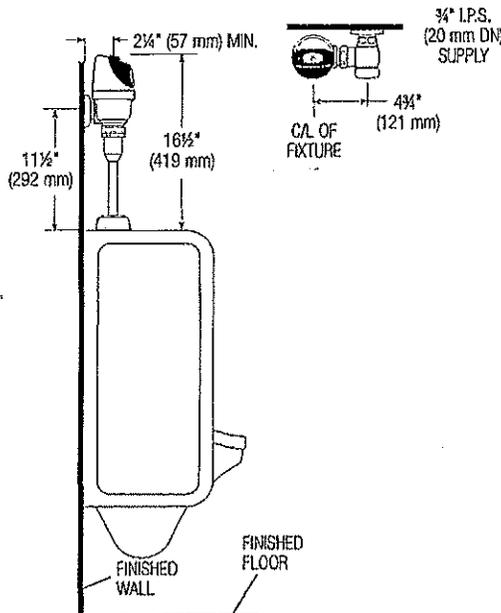


3. When the user steps away from the OPTIMA Plus Sensor, the Sensor initiates an electrical signal that operates the Solenoid. This initiates the flushing cycle to flush the fixture. The Circuit then automatically resets and is ready for the next user.



ALVE ROUGH-IN

Typical Urinal Installation
Model 8186



Note: Lens Deflector no longer needed for targeting children or wheel chair users.

SLOAN VALVE COMPANY • 10500 SEYMOUR AVENUE • FRANKLIN PARK, IL 60131

Phone: 1-800-9-VALVE-9 or 1-847-671-4300 • Fax: 1-800-447-8329 or 1-847-671-4360 • www.sloanvalve.com

WATER COOLER

ELKAY® SPECIFICATIONS

Wall Mount Water Cooler Models EZ(S)4, EZ(S)8 and EZ(S)

RATED FOR INDOOR USE ONLY

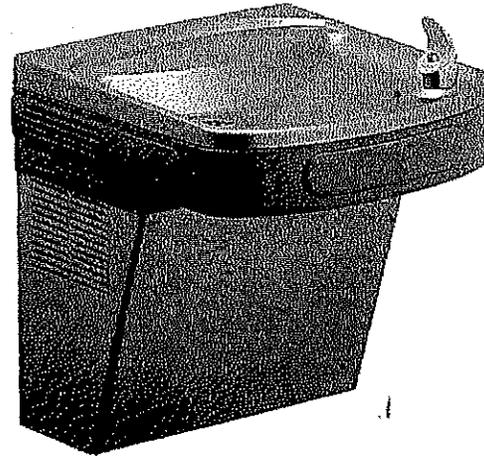
PRODUCT SPECIFICATION

Self-contained, wall mount electric water cooler. Refrigerated EZ(S)8 models offer a chilling capacity of 8 gallons per hour, of 50°F drinking water, based upon 80°F inlet water and 90°F ambient. Models EZ(S)D are non-refrigerated and shall deliver non-chilled drinking water. Unit shall meet ADA guidelines. Unit shall be lead-free design which is certified to NSF/ANSI 61 and 372 and meets Federal and State low-lead requirements. Unit shall be certified to UL399 and CAN/CSA 22.2 No. 120.

Models EZS4 AND EZS8 have self-closing Easy-Touch pushbar controls on front & sides.

Models EZ4 AND EZ8 have self-closing Easy-Touch pushbar controls on front only.

Models EZ(S)D are non-refrigerated. Requires outlet for power cord.



STANDARD FEATURES

- Easy-Touch pushbar activation
- Extra deep basin minimizes splashing; with integral drain
- Available with Flexi-Guard® Safety bubbler or Vandal-resistant¹ bubbler (includes "VR" code in model no. see chart below)
- Valve with built-in flow regulator to provide constant stream from 20 to 105 psi water pressure
- Finish options: Impact-resistant vinyl coating or stainless steel wrapper
- Rated for Indoor use

COOLING SYSTEM (Models EZ(S)VR8 only)

- Compressor: Hermetically-sealed, reciprocating type, single phase. Sealed-in lifetime lubrication.
- Condenser: Fan cooled, copper tube with aluminum fins. Fan motor is permanently lubricated.
- Cooling Unit: Tube type. Self-cleansing. Continuous copper tubing which is fully insulated with EPS foam that meets UL requirements for self-extinguishing material.
- Refrigerant Control: Refrigerant R134a is controlled by accurately calibrated capillary tube.
- Temperature Control: Easily accessible enclosed adjustable thermostat is factory preset. Requires no adjustment other than for altitude requirements.

CONSTRUCTION

- Stainless Steel basin with integral drain
- Galvanized structural steel cooler chassis provides structural integrity
- Cooler cabinet available as Light Gray Granite Vinyl Clad Steel or Stainless Steel (additional cost) construction
- Exclusive Flexi-Guard® Safety bubbler (option) utilizes an infused anti-microbial pliable polyester elastomer to prevent accidental mouth injuries. Flexes on impact.
- Vandal-resistant¹ bubbler (option) is one-piece heavy duty

Warranty: 5 year limited warranty on the unit's refrigeration system. Electrical components and water system are warranted for 12 months from date of installation or 18 months from factory shipment whichever date falls first.

CAPACITIES CHART

Model	Voltage / Hertz	Chilling** Capacity	F.L. Amps	Rated Watts	Approx. Ship Wt.	UL US	ADA COMPLIANT	ANSI/NSF 61 and 372 Certified
						UL399 and CAN/CSA 22.2 No. 120 Certified		
EZS4*	115V / 60Hz	4 GPH	2.00	370	50 lbs	•	•	•
EZ(S)(VR)8*	115V / 60Hz	8 GPH	4.00	370	51 lbs	•	•	•
EZ(S)(VR)8*2JO	220V / 50Hz	6.7 GPH	2.00	370	51 lbs	++	•	•
EZ(S)(VR)8*3JO	220V / 60Hz	8 GPH	2.00	370	51 lbs	++	•	•
EZ(S)(VR)D*	115V / 60Hz	—	—	—	25 lbs	•	•	•

Color code of (L) Light Gray Granite, or (S) Stainless Steel cooler wrapper.

*Based on 80°F inlet water & 90°F ambient air temp for 50°F chilled drinking water.

+Complies; not third party certified.

This specification describes an Elkay product with design, quality and functional benefits to the user. When making a comparison of other producer's offering; be certain these features are not overlooked.

¹ keeping with our policy of continuing product improvement, Elkay reserves the right to change specification without notice. Please visit elkay.com for the most current version.

2222 Camden Court
Oak Brook, IL 60523
630-572-3192
elkay.com

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SPEC12-23 (04/2014)

Vall Mount Water Cooler

Models EZ(S)4, EZ(S)8 and EZ(S)D

ELKAY® ROUGH-IN DIMENSIONS

RATED FOR INDOOR USE ONLY

Open space rough-in design permits new installation or replacement of existing units and coolers with this Elkay cooler when rough-in is within the outline shown.

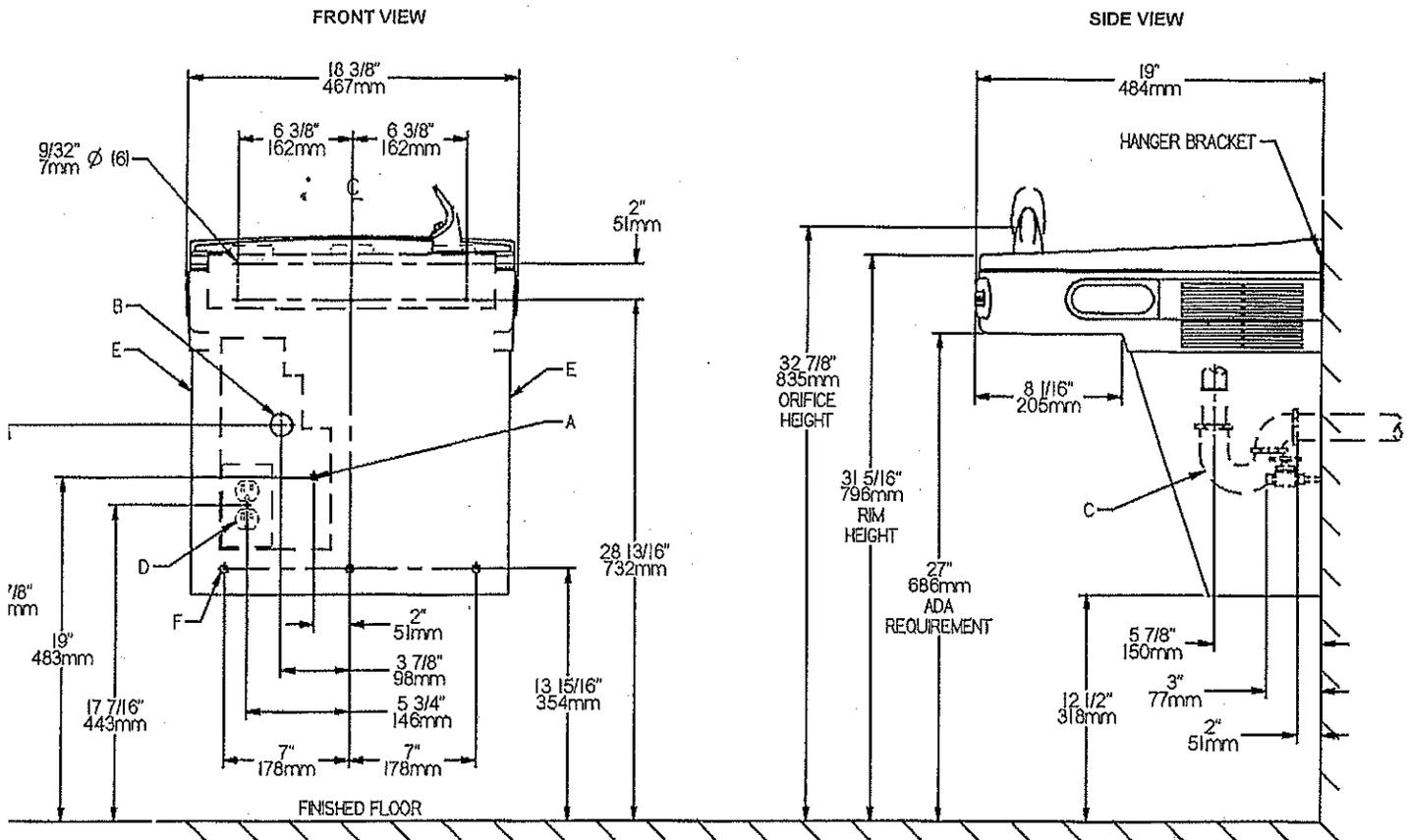
IMPORTANT! INSTALLER PLEASE NOTE:

This water cooler has been designed and built to provide water to the user which has not been altered by materials in the cooler waterways.

Proper grounding of electrical equipment such as telephone, computers, etc to water is a common procedure. This grounding may be in the building or occur away from the building. This grounding can cause electrical feedback into a water cooler creating an electrolysis which creates a metallic taste or causes an increase in the total content of the water. This condition is avoidable by installing the cooler using proper materials as shown below.

NOTICE

This water cooler must be connected to the water supply using a dielectric coupling. The cooler is furnished with a non-metallic strainer which meets this requirement. The drain trap, which is provided by the installer, should also be plastic to completely isolate the cooler from the building plumbing system.



REDUCE HEIGHT BY 3 INCHES FOR INSTALLATION OF CHILDRENS ADA COOLER

LEGEND:

- = Recommended Water Supply location. Shut-off Valve (not furnished) to accept 3/8" O.D. unplated copper tube. Up to 3" (76mm) maximum out from wall.
- = Recommended Waste Outlet location. To accommodate 1-1/4" nominal drain. Drain stub 2" (51mm) out from wall.
- = 1-1/4" Trap (not furnished).
- = Electrical Supply (3) Wire Recessed Box Duplex Outlet.
- = Insure proper ventilation by maintaining 6" (152mm) minimum clearance from cabinet louvers to wall.
- = 7/16" (11mm) Bolt Holes for fastening to wall.
- NOTE: New Installations Must Use Ground Fault Circuit Interrupter (GFCI)

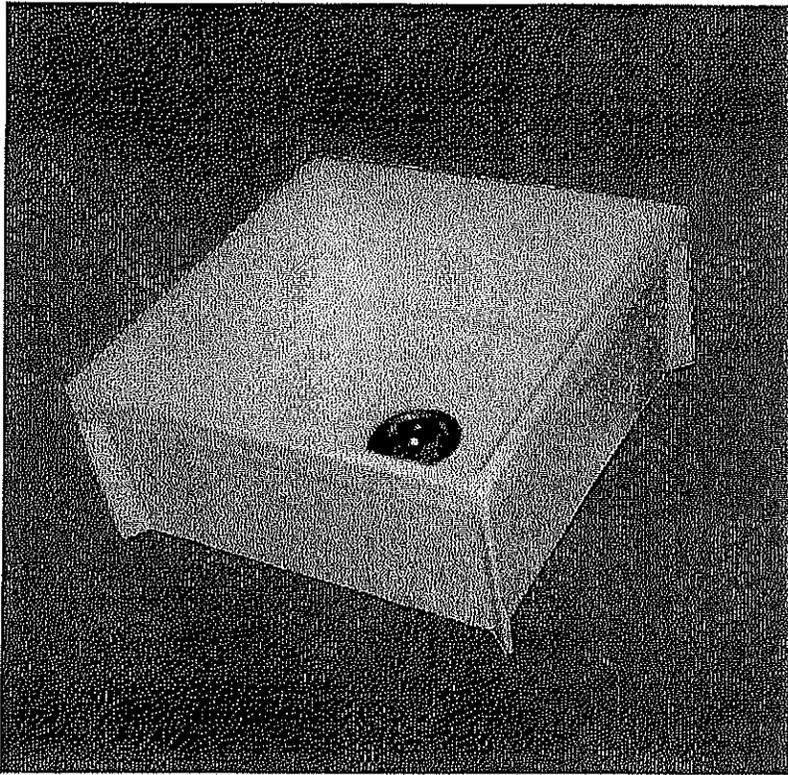
Job Name:	_____
Model:	_____ Qty. _____
Contact:	_____
Approval Signature:	_____
Notes:	_____

MOP BASIN

MOLDED-STONE® MOP SERVICE BASIN

MSB 2424
MSB 3624

Molded-Stone® Mop Service Basin



FEATURES

• MSB 2424

The MSB 2424 shall have overall outside dimensions of 24" x 24" x 10". The molding shall be done in matched metal dies under heat and pressure resulting in a one-piece homogeneous product. The unit shall have 10" high walls with not less than 1" wide.

The stainless steel drain body is designed to provide for a caulk connection or QDC-3 joint to a 3" drain pipe. A combination dome strainer and lint basket made from stainless steel shall be included with factory installed stainless steel drain body for caulked joint to accept a 3" pipe.

• MSB 3624

The MSB 3624 shall have overall outside dimensions of 36" x 24" x 10". The molding shall be done in matched metal dies under heat and pressure resulting in a one-piece homogeneous product. The unit shall have 10" high walls with not less than 1" wide shoulders and an integrally molded shelf 10 1/8" wide when indicated.

The stainless steel drain body is designed to provide for a caulk connection or QDC-3 joint to a 3" drain pipe. A combination dome strainer and lint basket made from stainless steel shall be included with factory installed stainless steel drain body for caulked joint to accept a 3" pipe.

NOTES

OPTIONS

- Service Faucet (830-AA): Chrome plated with vacuum breaker, integral stops, adjustable wall brace, pail hook and 3/4" hose thread on spout.
- Hose and Hose Bracket (832-AA)
- Mop Hanger (889-CC)
- Alternate Strainer (1453-BB) - For residential use (EFS-3624 and EFS-2424)
- 3" Quick Drain Connector (QDC-3XH): Neoprene connecting gasket suitable for attaching extra heavy cast iron soil pipe and Schedule 40 steel pipe to the drain body. Neoprene connecting gasket (QDC-3SN) suitable for attaching hubless cast iron pipe (no hub, nominal O.D. of 3.31") and service weight cast iron soil pipe (nominal O.D. of 3.38") to the drain body.
- Silicone Sealant (833-AA)
- Vinyl Bumperguard (E-77-AA)
- Stainless Steel Bumperguard (E-88-AA)
- Stainless Steel Wall Guard (MSG2424, MSG2828, MG3232, MSG3636, and MSG3624)

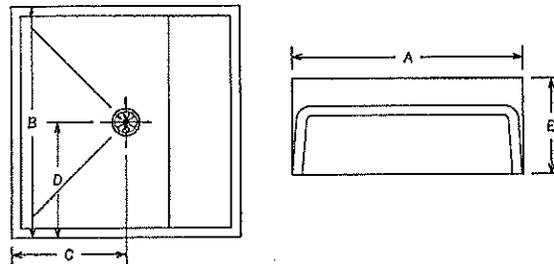
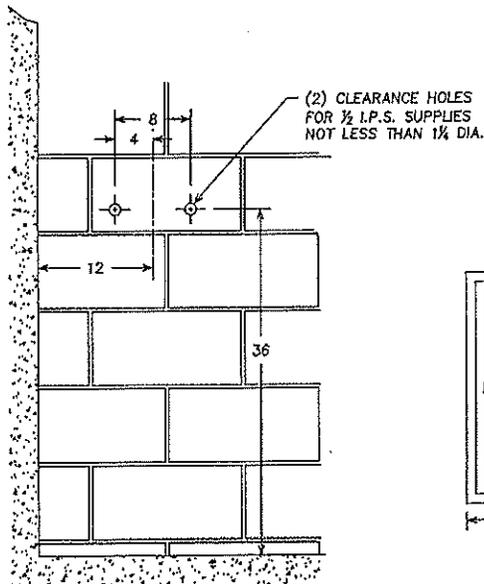
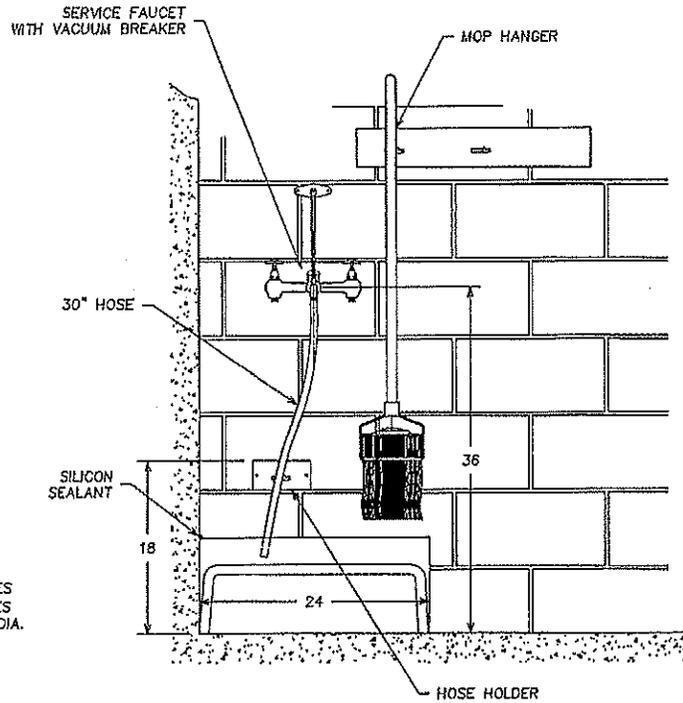
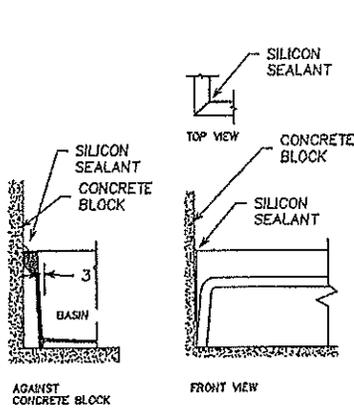


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A CRANE PLUMBING COMPANY

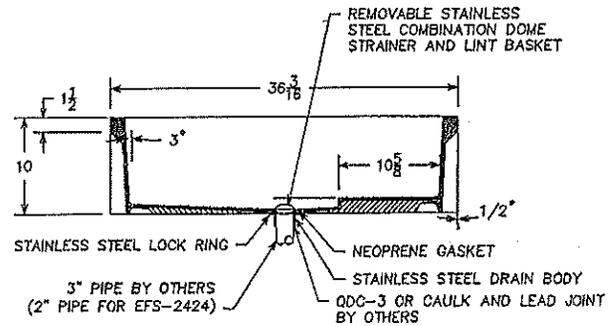
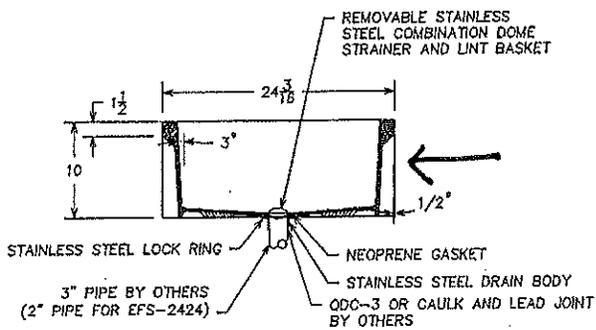
MOLDED-STONE® MOP SERVICE BASIN

MSB 2424 MSB 3624

Molded-Stone® Mop Service Basin



MODEL NO.	A	B	C	D	E
MSB-2424	24 3/16	24 3/16	12	12	10
MSB-3624	36 3/16	24 3/16	18	12	10



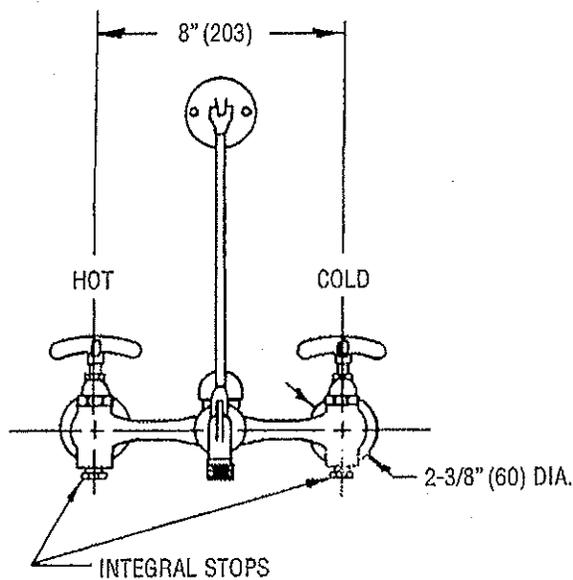
 **FIAT PRODUCT**
A CRANE PLUMBING COMPANY

IMPORTANT: Roughing-in dimensions may vary 1/2" and are subject to change or cancellation without prior notice.

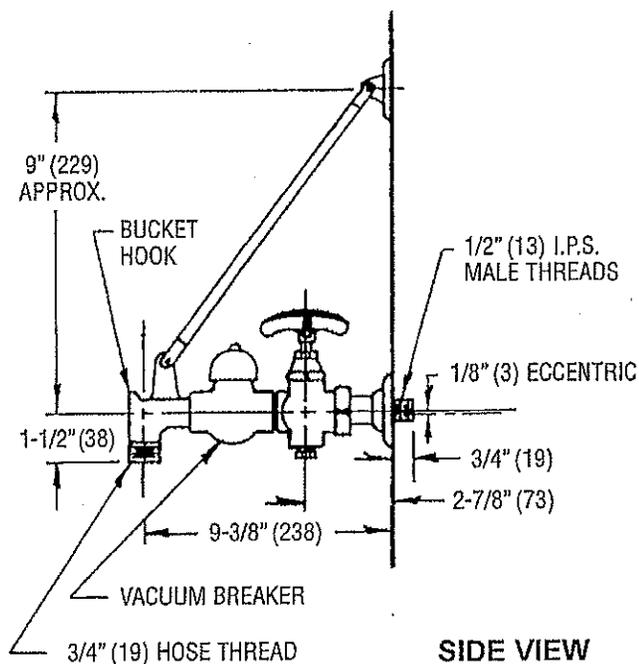
CR/PL© 04/03 Printed in U

Service-Sink Faucet Model: 830-AA

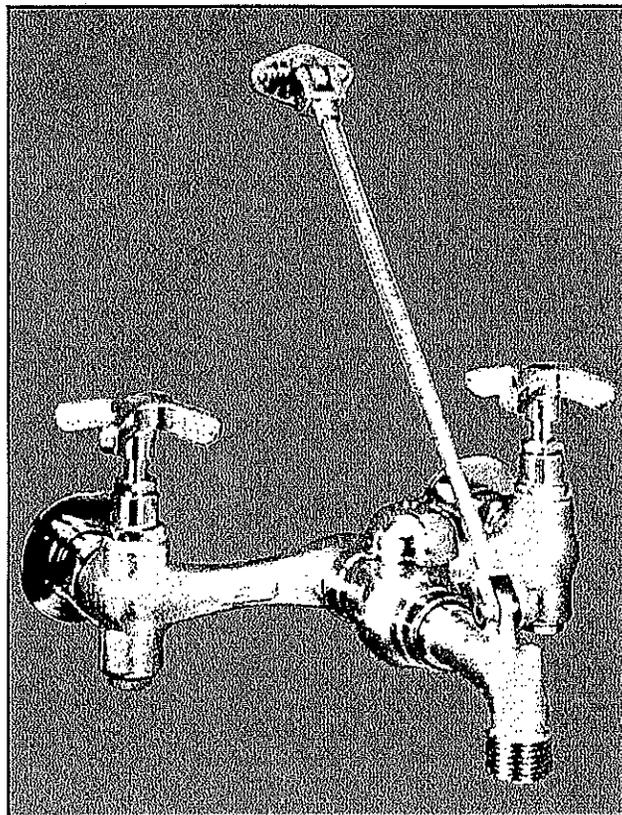
FIAT



FRONT VIEW



SIDE VIEW



General: 830-AA Service Faucet - Chrome plated with vacuum breaker, integral stops, adjustable wall brace, pail hook and $\frac{3}{4}$ " hose thread on spout. Body inlets 8" center to center, four arm handles. Valves contain renewable hub, renewable seats, swivel discs, encased washers and brass washer screws.

Material: Commercial red brass alloy casting-rough finish.
Finish: Chrome plating exceeding requirements of ANSI/ASTM B-456-71. Indicators cold (blue) and hot (red) are included.

Specifications and Codes: In the U.S.A., meets or exceeds requirements of ANSI-A112.18.1M-1979 for "Finished and Rough Brass Plumbing Fixture Fittings." In Canada, meets or exceeds the requirements of CSA standards B125 - "Plumbing Fittings," B64.1.1 - "Vacuum Breakers - Atmosphere Type" and B64.0 - "General Requirements for Backflow Preventers and Vacuum Breakers," and is approved under Product Class No. 6811 01 under Report #LM57412-1. Conforms to ASSE 1001.

NOTE: These roughing measurements may vary $\frac{1}{4}$ " (plus or minus).

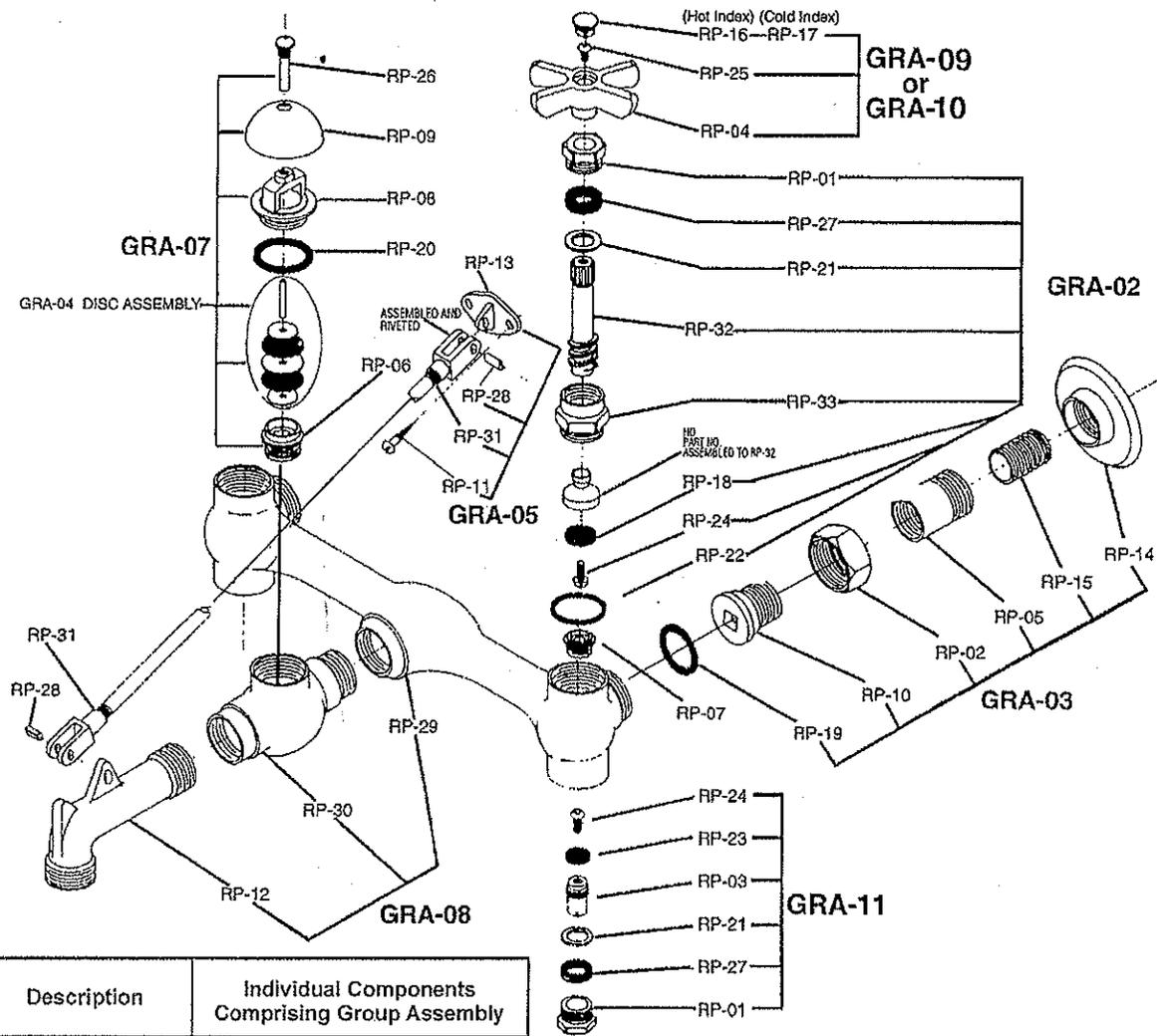
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830-AA Group Replacement Assembly Parts List

FIAT



Group Assembly Part #	Description	Individual Components Comprising Group Assembly
GRA-02	Handle Mounting Group Assembly	RP-01 Packing Nut RP-27 Packing RP-21 Brass Washer RP-32 Spindle RP-33 Handle Hub RP-18 Seat Washer RP-24 Seat Washer Screw RP-22 Hub Washer
GRA-03	Coupling Assembly	RP-14 Wall Flange RP-15 Nipple RP-05 Bushing (socket) RP-02 Coupling Nut RP-10 Swivel RP-19 Washer
GRA-05	Brace Assembly	RP-13 Brace Flange RP-28(2) S.S. Roll Pin RP-31 Wall Brace Rod RP-11(2) Wood Screw
GRA-07	Vacuum Breaker & Disc Assembly	RP-26 V.B. Cap Screw RP-09 Cap RP-08 V.B Hub RP-20 V.B Hub Washer RP-06 Seat GRA-04 Vacuum Breaker Disc Assembly

Group Assembly Part #	Description	Individual Components Comprising Group Assembly
GRA-08	Complete Body Assembly	RP-29 Center Body RP-30 V.B. Body RP-12 Nozzle
GRA-09	Handle Assembly (Cold)	RP-17 Cold Index RP-25 Handle Screw RP-04 Handle
GRA-10	Handle Assembly (Hot)	RP-16 Hot Index RP-25 Handle Screw RP-04 Handle
GRA-11	Integral Stop Assembly	RP-24 Seat Washer Screw RP-23 Washer RP-03 Spindle RP-21 Brass Washer RP-27 Packing RP-01 Packing Nut
RP-07	(2 per package)	RP-07 Seat



AMERICAN SPECIALTIES, INC.

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www.americanspecialties.com

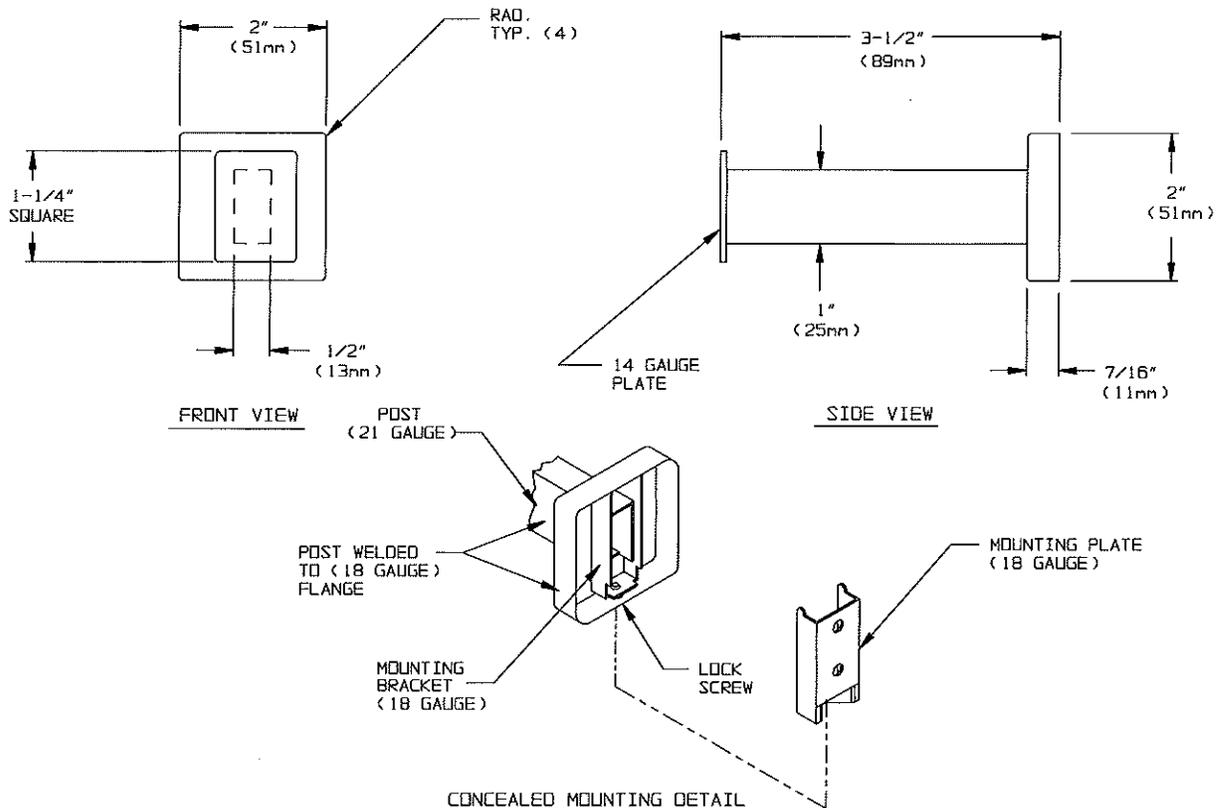
MODEL No: 7301

ISSUED: 1-87

REVISED: 1-06

TOWEL PIN

Specify Finish Required → -B = Bright Stainless Steel
 -S = Satin #4 Stainless Steel



SPECIFICATION

Towel Pin unit shall be fabricated of stainless steel alloy 18-8, type 304. Pin post shall be 1/2" x 1" (13mm x 25mm) rectangular tubing with formed mounting flange and bracket welded on end. Cap plate shall be 3/4" x 1-1/2" (19mm x 38mm) welded to outer end. Mounting plate shall be included and shall be 18 gauge. A stainless steel setscrew shall be provided on bottom perimeter of flange to lock unit to mounting plate. Surface finish shall be bright or satin as chosen by option and indicated by code suffix.

Towel Pin unit shall be Model N° 7301-B or N° 7301-S of American Specialties, Inc., 441 Saw Mill River Road, Yonkers, New York 10701-4913

INSTALLATION

Surface mount unit on door or wall using N° 10 self tapping screws (by others) through holes provided in mounting plate into suitable prepared mountings (by others) or other suitable mounting hardware (by others) to suit door or wall conditions. Hang post and flange assembly on mounting plate and tighten setscrew to lock unit to plate. For compliance with ICC/ANSI A-117.1-2003 and ADA Accessibility Guidelines install unit with top of towel pin 48" (1219mm) maximum above finished floor (MAX AFF) if clear floor forward reach or if clear floor side reach access only is provided or 46" (1168mm) MAX AFF if side reach access over an obstruction (e.g. vanity) with reach depth greater than 10" (254mm) and less than 25" (635mm) is only provided or 44" (1118mm) MAX AFF if forward reach over an obstruction with reach depth greater than 20" (508mm) and less than 25" (635mm) is only provided. For general utility install pin with centerline of mounting plate between 55" and 68" (1397mm to 1727mm) AFF.