

September 16, 2020

SOLICITATION ADDENDUM NO. 2

ITB 20-0004

Westview High School Title IX Team Rooms

THE FOLLOWING CHANGES/ADDITIONS TO THE ABOVE CITED SOLICITATION ARE ANNOUNCED:

This Addendum modifies the Invitation to Bid (ITB) document(s) only to the extent indicated herein. All other areas not changed or otherwise modified by this Addendum shall remain in full force and effect. This Addendum is hereby made an integral part of the ITB document. Bidder must be responsive to any requirements of this Addendum as if the requirements were set forth in the ITB. Failure to do so may result in Bid rejection. See the ITB regarding requests for clarification or change and protests of this Addendum, and the deadlines for the foregoing.

This addendum is to be acknowledged in the space provided on the Bidder Certification form supplied in the solicitation document. Failure to acknowledge receipt of this addendum may be cause to reject your offer.

The closing date **REMAINS UNCHANGED: September 22, 2020 at 2:00 PM Pacific Time**

CHANGES

- 1) **Pollution Liability Insurance requirements are hereby removed from ATTACHMENT I Sample AIA A101 Contract and AIA A201 General Conditions, Exhibit E.**
- 2) **The follow are removed from Attachment J Specifications, Table of Contents: 016400 Owner Furnished Products 017900 Demonstration and Training**

CLARIFICATIONS:

Question: What is the engineer's estimate?

Answer: \$123,000.00

Question: Can the District waive the Pollution Liability Insurance?

Answer: This has been waived. Please see Changes 1).

Question: Are the locker types in the Specifications the only ones that can be included in Bids?

Answer: SECTION 10 51 13 LOCKERS AND BENCHES, PART 2 – PRODUCTS. 2.2 TYPES, B. includes the type of lockers that must be included in Bids. Alternatively, Bids may include an “approved equal” type of locker. The District must approve equals in writing, and in accordance with the pertinent terms of the Solicitation.

Question: Specification Sections 016400 Owner Furnished Products and 017900 Demonstration and Training appear to be missing from the posted attachments. Please provide clarification.

Answer: These Sections were not intended to be included in Attachment J Specifications. See Changes 2).

Question: Are there any relevant ACM/Pb surveys available for this project?

Answer: No survey is available, however, the School was built in 1993. While Bidders are responsible for independently verifying ACM/pb risk to the project and the following findings, cursory research has found that Lead-Paint was banned 1978 and Lead-Pipes were banned 1986.

SUBSTITUTION REQUESTS:

The following "Substitution Requests" encompass requests for approved equal products and/or changes to the Specifications. A Substitution Request Status of "Approved" constitutes the District's approval of any requested changes to the Specifications. A Substitution Request Status of "Denied" constitutes the District's denial of any requested changes to the Specifications. Substitution Request #1, Substitution Request #2, Substitution Request #3 are attached to this Addendum #1 and incorporated by references.

Substitution Request #1

Status: Denied

Substitution Request #2

Status: Approved

Substitution Request #3

Status: Approved

-END of Addendum

Peter Madaus

Contract Specialist

Substitution Request #1

Status: Denied

Comments:

1. Scranton only provides lockers with a max depth of 18" as opposed to the specified 21" depth.
2. Was unable to find information on gauge for material of lockers.
3. Scranton only provides plastic benches with aluminum pedestals. We specified wood with wall mounted brackets.

TUFFTEC BENCHES



BENCH LENGTH OPTIONS

25" - 60" Long: 2 Pedestals

61" - 96" Long: 3 Pedestals

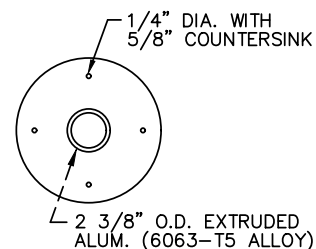
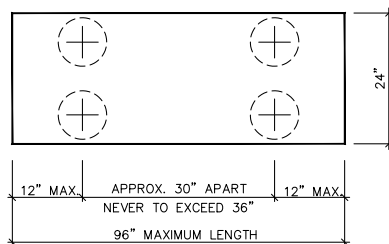
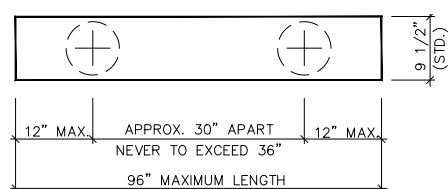
We specified wall mounted/ bracket benches

PEDESTALS

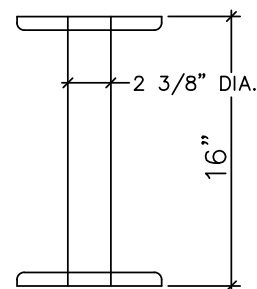
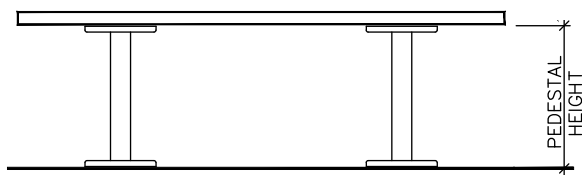
Available in black aluminum only.

PLAN VIEW

Benches are a maximum length of 96".



ELEVATION



Tufftec® Benches are available in a variety of popular designer colors to complement virtually any style or décor.



HUNTER GREEN

OP



BURGUNDY

OP



BLUEBERRY

OP



DESERT BEIGE

OP



SANDCASTLE

OP



MIDNIGHT

OP



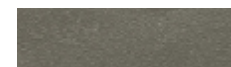
GLACIER GREY

OP



GREY

OP



CHARCOAL GREY

OP



BLACK

OP

* Color matching is limited by printing process. Actual samples available and are recommended.

* Prior to color selections, special orders require extended lead time. Minimum order requirements of 250 frames apply with additional upcharges.

THE PERFECT SYNERGY OF FORM & FUNCTION

For each industry, Tufftec Lockers® have a solution for every place and purpose. Select from a multitude of styles, configurations and interchangeable options to create customized lockers that meet the most demanding specifications and stand up to the most challenging environments.

- Solid, classic construction
- Versatile configurations
- Good looks
- Versatile storage solutions

FEATURES & BENEFITS

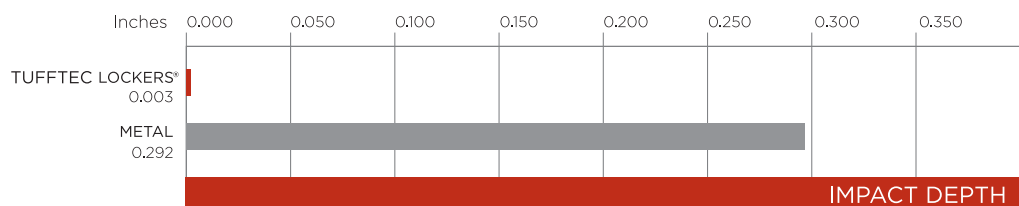
- Resistant to bacteria, mold and mildew
- Impermeable to moisture
- Impact and dent resistant
- Power washable and steam cleanable
- Will never rust, corrode or delaminate
- Common chemical resistance
- Never needs painting
- Graffiti resistance – resists pencil, pen, paint, stickers and most markers
- Scratch resistant
- Provides years of everyday low maintenance

LASTING STYLE

Tufftec Lockers® – where solid plastic construction meets good looks. We’ve combined the two to provide the perfect synergy of form and function. Engineered for strength and durability, HDPE withstands the harshest daily use and is virtually maintenance free. Formulated from a homogenous color-throughout compound, Tufftec Lockers® are the most durable, cost-effective and aesthetically pleasing products in the industry - and they are backed by our 25-year warranty.

A SOLID ADVANTAGE

A 100 lb. impact test conducted following ASTM standards showed that Tufftec Lockers® had 59 times greater resistance to impacts when compared to metal lockers.



BATHROOM PARTITIONS
LOCKERS
LOCKER ROOM BENCHES
SHOWER CUBICLES
DRESSING COMPARTMENTS
VANITIES

WE DON'T JUST TALK TOUGH.
WE BACK IT UP.

Proudly made in the USA, Scranton Products' brands provide industry-leading protection. Because Scranton Products is so confident that our solid plastic lockers will stand the test of time, they're backed with a full 25-year warranty covering breakage, corrosion and delamination under normal conditions.

Call 800.445.5148 for the Scranton Products sales representative in your area, or visit scrantonproducts.com



Scranton Products
801 E. Corey Street
Scranton, PA 18505
800.445.5148
Fax: 800.551.6993
info@scrantonproducts.com
www.scrantonproducts.com



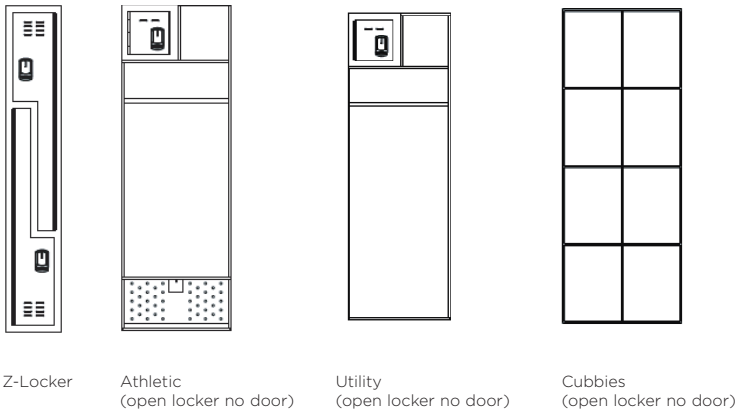


MANY APPLICATIONS; MANY OPTIONS.

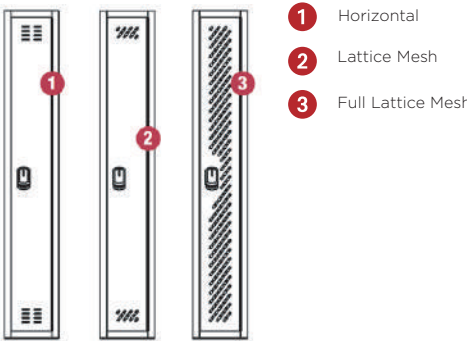
DESIGN OPTIONS

Designed to be customizable, Tufftec Lockers® offer a broad range of styles, configurations and interchangeable options, allowing you to create customized storage to meet your most demanding specifications. Engineered for strength and durability, Tufftec Lockers® are designed to withstand the harshest daily use and provide years of maintenance-free storage solutions. From healthcare, to industrial, to recreation and athletics, Tufftec Lockers® provide highly versatile, tough, aesthetically pleasing solutions for all your locker applications.

SPECIALTY STYLE OPTIONS



VENTING OPTIONS



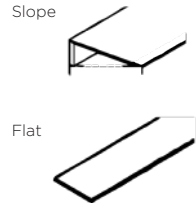
HINGE

Heavy duty extruded aluminum with corrosion-free stainless steel pin for years of superior corrosion-free performance. Available in silver and black.

We specify 21" deep

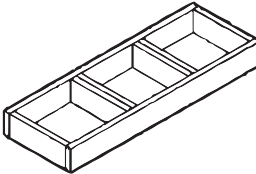
TOPS

Tops are fabricated to be shipped unattached and installed in the field.



LOCKER BASE

4" high black base. Bases are assembled in the field.



HANDLE

Ergonomic handle, designed to meet ADA code compliance.



ADA COMPLIANCE

ADA compliant conversion kits available with ADA plaques, adjustable shelves and clips.

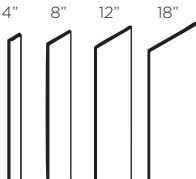


ENGRAVING

Custom engraving of team logos and other symbols available in one-color or two-color options.



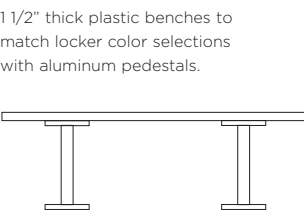
FILLERS



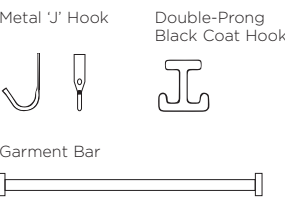
LOCK OPTIONS



PLASTIC BENCHES

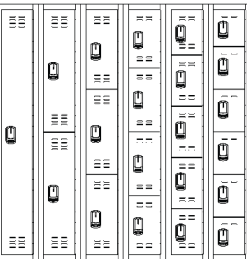


HOOKS



LOCKER OPTIONS

Tufftec® has a style and configuration for every place and purpose.



(1-6 tier)

ONE TIER LOCKERS

W"	D"	H"
12	12	36, 48, 60, 72
12	15	36, 48, 60, 72
12	18	36, 48, 60, 72
15	12	36, 48, 60, 72
15	15	36, 48, 60, 72
15	18	36, 48, 60, 72
18	12	36, 48, 60, 72
18	15	36, 48, 60, 72
18	18	36, 48, 60, 72

TWO TIER LOCKERS

W"	D"	H"
12	12	48, 60, 72
12	15	48, 60, 72
12	18	48, 60, 72
15	12	48, 60, 72
15	15	48, 60, 72
15	18	48, 60, 72
18	12	48, 60, 72
18	15	48, 60, 72
18	18	48, 60, 72

THREE TIER LOCKERS

W"	D"	H"
12	12	60, 72
12	15	60, 72
12	18	60, 72
15	12	60, 72
15	15	60, 72
15	18	60, 72
18	12	60, 72
18	15	60, 72
18	18	60, 72

FOUR TIER LOCKERS

W"	D"	H"
12	12	48, 60, 72
12	15	48, 60, 72
12	18	48, 60, 72
15	12	48, 60, 72
15	15	48, 60, 72
15	18	48, 60, 72
18	12	48, 60, 72
18	15	48, 60, 72
18	18	48, 60, 72

FIVE TIER LOCKERS

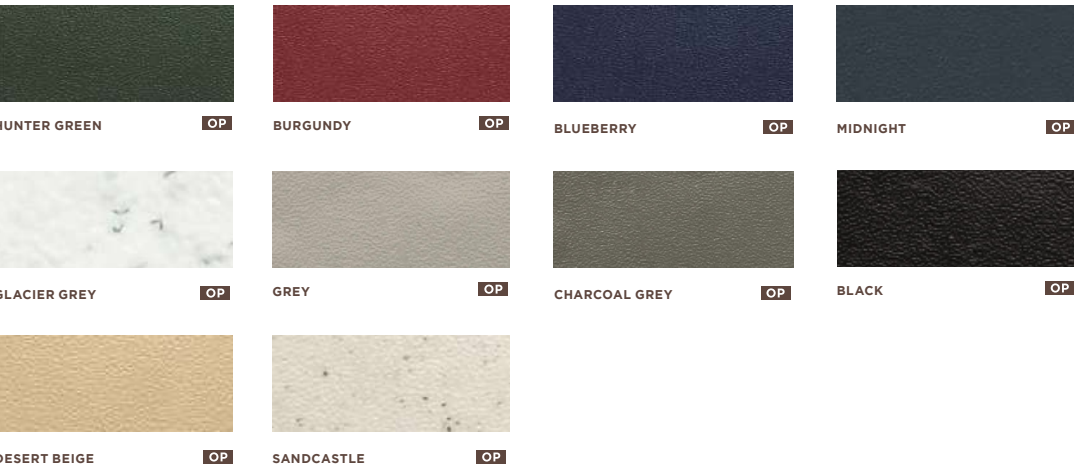
W"	D"	H"
12	12	60, 72
12	15	60, 72
12	18	60, 72
15	12	60, 72
15	15	60, 72
15	18	60, 72
18	12	60, 72
18	15	60, 72
18	18	60, 72

SIX TIER LOCKERS

W"	D"	H"
12	12	72
12	15	72
12	18	72
15	12	72
15	15	72
15	18	72
18	12	72
18	15	72
18	18	72

COLOR COLLECTION

Tufftec Lockers® are available in a variety of popular designer colors to complement virtually any style or décor.



* Color matching is limited by printing process. Actual samples available and are recommended.
* Prior to color selections, special orders require extended lead time. Minimum order requirements of 250 frames apply with additional upcharges.



Knowledge for Creating
and Sustaining
the Built Environment

Substitution Request #2

SUBSTITUTION REQUEST

(During the Bidding/Negotiating Stage)

Project: _____ Substitution Request Number: _____

From: _____
To: _____ Date: _____

A/E Project Number: _____
Re: _____ Contract For: _____

Specification Title: _____ Description: _____
Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____
Manufacturer: _____ Address: _____ Phone: _____
Trade Name: _____ Model No.: _____

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: _____
Signed by: _____
Firm: _____
Address: _____

Telephone: _____

A/E's REVIEW AND ACTION

- ☐ Substitution approved - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
☐ Substitution rejected - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: _____

Date: _____

Supporting Data Attached: ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____

MAINTENANCE INSTRUCTIONS

“RITE-ON/WIPE-OFF” PORCELAIN ENAMEL MARKERBOARDS

All new porcelain enamel markerboards should be cleaned with clean water to eliminate all handling marks prior to initial use. Periodically, depending on usage, the writing surface should be cleaned with a mild household detergent (avoid abrasive cleaners). Rinse with clear water and wipe dry with clean cloths or paper toweling.

Use only “Rite-On Wipe-Off” companion marking pens. These are the only pens totally compatible to the white porcelain enamel surface. Should unspecified pens be used with unfavorable results, the boards will have to be cleaned thoroughly using the above method, removing all foreign deposits. If this method is not successful, please contact ASI Visual Display Products

PLEASE NOTE: If using conventional chalk brush for erasing, please clean the brush regularly to avoid buildup of residue.

*** **

1. GENERAL**1.1 Shop Drawings**

- 1.1.1 Provide shop drawings in accordance with supplementary and/or general conditions. Show dimensional layouts together with fabrication and installation details based on site conditions.
- 1.1.2 The general contractor, upon request, to forward to this sub-contractor a complete set of architectural drawings, specifications, addenda and colour schedule for use in preparation of shop drawings and execution of installation.

1.2 Inspection

- 1.2.1 Prior to commencement of erection, all surfaces to be checked for irregularities, trueness and rigidity and projections and defects to be reported immediately to the general contractor for correction.
- 1.2.2 On completion of the installation all materials and workmanship to be inspected for proper operation, rigidity and appearance, and any defective materials to be replaced with new materials prior to final inspection.

1.3 Inspection

- 1.3.1 Samples to be provided to the architect, if requested, for his perusal and approval of all materials to be utilized in this installation.

1.4 Storage / Delivery

- 1.4.1 The general contractor to be responsible for providing a dry, warm storage area capable of being locked for the storage of all materials. The general contractor shall unload all materials at the site and place in the aforementioned room.

1.5 Special Protection

- 1.5.1 During installation utmost care to be taken by workmen to ensure the protection of the work from damage by other trades until the building is ready for occupation and handed over to the owner.
- 1.5.2 Protection of all materials during the painting operation shall be carried out by the use of polyethylene covering which shall be the responsibility of the painting contractor.

1.6 Special Cleaning

- 1.6.1 Upon completion of all work – clean down, remove all stains, loose dirt and excessive adhesive, and leave all elements in a first-class condition at the point of handing over to the owner.

1.7 Maintenance

- 1.7.1 A label stating instructions for the care and maintenance of whiteboards to be affixed to the upper righthand corner of all whiteboard elevations for the use of the building's maintenance staff.

1.8 Warranty

- 1.8.1 Installation of all materials to be warranted for a period of 1 (one) year. This warranty covers both labour and material for replacement of defective materials.
- 1.8.2 Whiteboards to be warranted for a period of 10 (ten) years against defects due to normal usage, and wear, and upon completion of contract a written warranty to be submitted to the owner by the sub-contractor.

2.MATERIALS AND ASSEMBLY

2.1 INSTALLATION / ERECTION

- 2.1.1 Erection of materials to be carried out by competent craftsmen supervised by a foreman with at least 10 years' experience in this specialized field.
- 2.1.2 Overhead work such as ceiling grids, plumbing, electrical services, communications systems, painting, etc., to be in an advanced stage of completion in order not to impede this sub-contractor. Millwork units forming integral part of the chalkboard/tackboard installation to be located and affixed to the walls before commencing chalkboard/tackboard installation.
- 2.1.3 Erection of materials shall be carried out in a substantial manner to ensure a rigid, straight, square, plumb and horizontal lines level.
- 2.1.4 All aluminum trims to be attached in such a manner that all fastenings shall be concealed. Fastening to be accomplished by the use of #10 x 25.4mm (1") steel wood screws attached to the walls by the use of rawl plugs.

- 2.1.5 Tackboards to be adhered to wall surface by the use of an adhesive as recommended by the supplier applied in egg-size blobs at approximately 200mm (8") centers. Tackboards to be pressed firmly into this adhesive to ensure proper adhesion.
- 2.1.6 Whiteboards to be joined together by the use of a 14-gauge x 25.4mm (1") wide steel spline and an extruded polyvinyl slotted insert to ensure a flush butt joint with a hairline appearance.

2.2 WHITEBOARDS

2.2.1 WHITEBOARD – VITRITE

By ASI Visual Display Products Inc., Mississauga, Ontario, consisting of a sandwich type construction composed of face panel, core and balancing rear sheet, in maximum panel sizes of 1219mm x 2438mm (4'0" x 8'0")

- 2.2.2 **Face Panel** – 28 gauge high quality enameling steel base with a porcelain enamel writing surface fused to a ground coat of not less than 0.076mm (.003") nor more than 0.127mm (.005") after firing at temperatures between 700°C (1300°F) and 800°C (1500°F) in accordance with the Porcelain Enamel Institute Standards PEI S104 as regards to durability, smoothness of texture, colour continuity and a gloss factor of 6 – 8 as measured by 45° glossometer.

- 2.2.3 **Core** – 11.1mm (7/16") impregnated sound absorbing fiberboard laminated under heat and pressure to face panel and back sheet utilizing adhesives that ensure rupturing of the component materials before failure of joint contact surfaces.

- 2.2.4 **Back up balancing sheet** – 28-gauge zinc coated stretcher leveled steel in one unjointed section. Overall thickness of Whiteboard lamination shall be 12.7mm (1/2").

- 2.2.5 **Colour of Whiteboards** to be determined by the Architect from the manufacturer's standard colour range.

2.3 TACKBOARDS - Forbo

- 2.3.1 **FORBO TACKBOARDS** 12.7mm (1/2") factory prelaminated consisting of 6mm (1/4") thick a.s.p. FORBO TACKABLE laminated to 6mm (1/4") particle board or masonite substrate under mechanical pressure in maximum panel sizes of 1219mm x 2438mm (4'0" x 8'0"). Bonding of materials by a waterproof adhesive that will not delaminate or rupture at the contact surfaces.

- 2.3.2 All tackboards shall meet the minimum requirements of the applicable building code and/or Ontario Fire Marshall's office.

2.4 ALUMINUM TRIM

- 2.4.1 **ASI Visual Display Products Inc. Architectural Series 200** to match details and profiles shown on architectural drawings, aluminum to be 6063T5 alloy with clear etched and anodized 0.051mm (.002') satin finish free from extruding draw marks and surface scratches.
- 2.4.2 **PERIMETER** – a.s.p. No. 205 trim for all tackboards and also vertical jambs of Whiteboards –
19.1mm (3/4") exposed face and weight of approximately 91g (.20 lbs.) per lineal foot.
- 2.4.3 **DIVIDER BAR** – a.s.p. No. 207 trim for adjacent whiteboard/tackboard panels and adjacent tackboard/tackboard panels of elevations greater than 2438mm (8'0") – 12.7mm (1/2") exposed face and weight of approximately 113g (.25lbs.) per lineal foot.
- 2.4.4 **MAPRAIL** – a.s.p. No. 206 trim for Whiteboard elevation only complete with integral cork insert, end stops and two (2) combination roller map hooks per 1829mm (6) lineal feet – 50.8mm (2") exposed face and weight of approximately 159g (.35lbs.) per lineal foot.
- 2.4.5 **MARKERTRAY** – a.s.p. No. 212 triangular box section for Whiteboard elevations only complete with contour fitting end castings – 102mm (4") projection from finished wall (*86mm (3 3/8") projection from face of board*) and weight of approximately 454g (1.0 lbs.) per lineal foot.
- 2.4.6 **MARKERTRAY OVER MILLWORK** – a.s.p. No. 264 wall mounted marker tray for elevations mounted directly on/above millwork - 70mm (2 3/4") projection from finished wall (*50mm (2") projection from face of board*) and weight of approximately 200g (.45 lbs.) per lineal foot.
- 2.4.7 **SPLINE** - Whiteboards to be joined together by the use of a 14-gauge x 25.4mm (1") wide steel spline and an extruded polyvinyl slotted insert to ensure a flush butt joint with a hairline appearance.

2.5 HORIZONTAL SLIDING WHITEBOARD/TACKBOARD UNITS

- 2.5.1 ASI Visual Display Products Inc. **Horizontal Slider Series #20** aluminum framed as detailed on architectural drawings, aluminum to be 6063T5 alloy with clear

etched and anodized 0.051mm (.002") satin finish free from extruding draw marks and surface scratches.

- 2.5.2 Head Section to be one continuous piece extrusion consisting of wall fastening member, integral map rail complete with cork insert and map hooks as previously specified, 1, 2 or 3 enclosed track sections as required. Preframed sliding whiteboard/tackboard unit to be suspended from head section by providing two heavy duty 4 nylon wheeled assemblies per sliding unit. Whiteboard and tackboard utilized for back panels and/or sliding panels, as clearly indicated in architectural drawings to be as specified in section 2.2. and 2.3 hereof. Sliding tackboard panels shall be of warp resistant construction.

2.6 HORIZONTAL SLIDING WINDOW TACKBOARD UNITS

- 2.6.1 ASI Visual Display Products Inc. **Horizontal Slider Series #20** aluminum framed as detailed on architectural drawings, aluminum to be 6063T5 alloy with clear etched and anodized 0.051mm (.002") satin finish free from extruding draw marks and surface scratches.
- 2.6.2 Head Section to be one continuous piece extrusion consisting of wall fastening member, integral maprail complete with cork insert and map hooks as previously specified, 1, 2 or 3 enclosed track sections as required. Preframed sliding tackboard unit to be suspended from head section by providing two heavy duty 4 nylon wheeled assemblies per sliding unit. Tackboard utilized for back panels and/or sliding panels, as clearly indicated in architectural drawings to be as specified in section 2.3 hereof.
- 2.6.3 Sliding tackboard panels shall be of warp resistant construction, UTILIZING 2 LAYERS of 28-gauge zinc coated stretcher leveled steel in one unjointed section.
- 2.6.4 Backs of sliding panels to be either raw zinc coated steel (see above) or finished in a factory coated in white enamel finish, free from brush strokes or roller marks.

2.7 ALTERNATE MANUFACTURERS

- 2.7.1 Material supplied by other suppliers shall be accepted as equivalent to the above-mentioned specifications only if samples are submitted to the architect for perusal and approval in writing prior to closing of the tender for this project.
- 2.6.2 Acceptable manufacturers

- ASI Visual Display Products Inc.



Learn on us.

PolyVision's *e³ environmental ceramicsteel™* surface offers the smoothest writing, easiest erasing and best visibility (not to mention longest durability) you'll find anywhere. Plus, we made it with environmental responsibility in mind: safe, clean, and 99.9 percent recyclable. With more than fifty years of excellence in creating learning tools and surfaces, we pioneered the ceramic-on-steel method—now the industry standard—and we still lead the market in quality and sustainability.

Whiteboard manufacturers, contractors and architects all around the world choose our surfaces for innovative and creative applications—from finished whiteboards to screen-printed murals in public spaces like subway stations. We make the innovative surface. You dream up the application.



White

High gloss 6100H
Satin low gloss 6100S



Light Gray

High gloss 6101H
Satin low gloss 6101S



Beige

High gloss 6102H
Satin low gloss 6102S



Green

Ultra matte 6500C



Black

Ultra matte 6501C



Gray

Ultra matte 6502C

There are characteristic and performance differences between high gloss and satin low gloss. For further detail, refer to the chart on the backside of this brochure under satin low gloss markerboards. Actual colors may vary from the colors shown. For additional questions, specifications, and sample color chips, please call 1.800.620.POLY.

e³ environmental ceramicsteel™
writing surfaces



Environmental Features

- *e³ environmental ceramicsteel* surface is 99% recyclable
- Cradle-to-Cradle™ Silver certification
- In all coatings, the total amount of heavy metals cadmium, mercury, hexavalent chromium, and lead is less than 0.1%
- No Volatile Organic Compounds (VOCs)

PolyVision Ceramicsteel Advantage

- Ultra-smooth writing and erasing
- Magnetic surface
- Ultra-clean erasing / ultimate dry-erasability and half the dust of most chalkboards
- Significantly less surface/light distortion
- Superior visibility
- Hard surface is virtually indestructible
- Forever Warranty™



Chemical Resistant



Scratch Resistant



Bacteria Resistant



Fire Resistant



Graffiti Resistant



Stain Resistant

PolyVision®

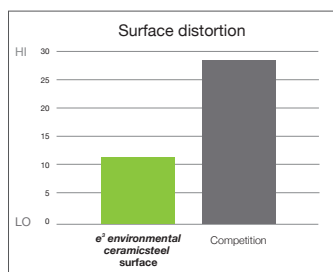
a steelcase company

bring learning to life™

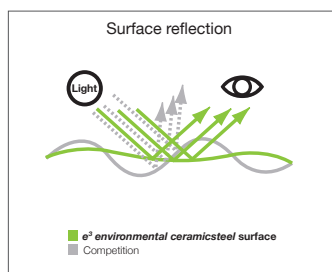
e³™ specifications

	e ³ markerboard		e ³ chalkboard
	High gloss	Satin low gloss	Ultra matte
Writeability	Use any dry erase, semi-permanent, water-soluble, permanent marker, pen, crayon without damaging the surface.		Superior, low-gloss, matte finish readily accepts chalk providing a sharp, unbroken line with less pressure and maximum surface adherence.
Erasability	Wipes clean with dry cloth or standard eraser. Crayon, semi-permanent or permanent marker can be removed with a solvent-based cleaner.	Wipes clean with dry cloth or standard eraser, however, in some cases, a dampened cloth may be required.	Erases easily with a dry cloth or standard chalk eraser. Retains minimal residual chalk dust. Minimal "ghost writing" means a clearer view for students.
Washability	All residues that remain after normal erasing can be removed by following care and cleaning instructions at www.polyvision.com	Solvents may be used to remove stubborn inks. Always clear-water rinse after using a cleaning agent on the board. Cleaning instructions available at www.polyvision.com	Ghost measurements on chalkboard surfaces before and after wet cleaning do not exceed a factor of 0.49. Care and cleaning instructions at www.polyvision.com
Wearability	High resistance to impact damage, abrasion, scratching and color fading. The e ³ surface registers a 6.5 on the revised Mohs hardness scale.		High resistance to impact damage, abrasion, scratching and color fading. The e ³ surface registers a minimum of 5.0 on the revised Mohs hardness scale.
Visibility	Contrast/waviness for markerboards (light and dark effects) is no greater than 15 when tested with BYK - Gardner Wave Scan 5+ measurement device showing visual acuity (contrast sensitivity) to the human eye at distances greater than 3 meters (10' - 0"). Resolution (visual acuity) shall be based on 3 lines per degree and be visibly maintained beyond the current standard of 3 meters.		Contrast/waviness for chalkboards (light and dark effects) is no less than 20 when tested with the contrast measurement test with 773-gram load on chalk. Resolution (visual acuity) shall be based on 3 lines per degree and be visibly maintained beyond the current standard of 3 meters.
Magnet capability	Ideal for all magnets and will not be scratched or damaged from the contact		
Flame resistance	100% non-combustible surface		

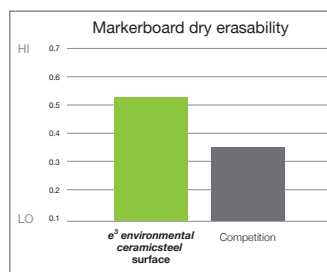
e³ environmental ceramicsteel is produced by a controlled, continuous coil-coating process. The surface consists of a steel core of .013" or .019" thickness covered on both sides with thin enamel coatings. The ceramic finish is fused to the steel at a temperature of approximately 1500°F for markerboard and 1250°F for chalkboard.



Surface distortion has been reduced significantly in direct comparison with the competition's surface.

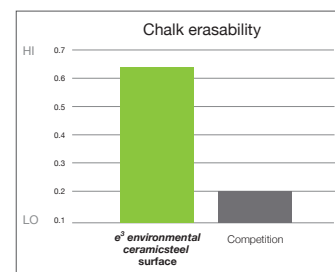


The e³ environmental ceramicsteel surface maximizes the performance of reflected light and reduces surface glare, resulting in improved visibility under a wide range of lighting conditions.



The ultra-smooth finish enables dry markers and chalk to glide easily across the e³ environmental ceramicsteel surface with minimal friction. The surface smoothness allows more dry-erase ink and chalk to be removed, improving erasability and eliminating "ghost writing."

*All markerboard erasability tests were conducted using high gloss e³ environmental ceramicsteel surfaces.



eVision™ PolyVision is committed to move toward sustainability in all areas of environmental stewardship—to protect people, replenish natural resources, and restore the communities in which we work and live.

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PolyVision®

SURFE30209



This document is printed on recycled paper.

LEED

(Leadership in Energy and Environmental Design)

Recycled Content:

Chalkboards / Markerboards / Natural Cork Tackboards / Forbo Cork Tackboards

Directory Boards

The steel utilized in the manufacture of ASI Group Canada Inc., chalkboards, markerboards, tackboards and directory boards is made from approximately 50% recycled steel (scrap, etc.)

Natural Cork

MR 4.1 (1 point): Recycled Content, 10% (post-consumer + ½ pre-consumer)

MR 4.2 (1 point): Recycled Content, 20% (post-consumer + ½ pre-consumer)

MR (1 point): Rapidly Renewable Materials

EQ 4.4 (1 point): Low-Emitting Materials, Composite Wood & Agrifiber Products.

ID Process (1-4 points): Innovation in Design, using the unique natural cellular property of cork in sound transmission reduction, thermal insulation, acoustical properties, anti-vibration, expansion joint filler, etc.

Forbo Cork

Wall covering based on a binder composed of linseed oil and natural rosin, mixed with granulated cork and limestone and pressed on a jute backing. Product is stable and has no hazardous reactions. No negative ecological effects are known. Insoluble in water.

Coat Racks

The coat racks are manufactured utilizing approximately 30% recycled steel. The balance is molten blast furnace iron. Our supplier states that the tubing is in compliance with the RoHS Directive. The RoHS Directive means the 'restriction of the use of certain hazardous substances', which limits the use of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants.

Coat Hooks

Glass

Packaging Materials

All our packaging materials are made from 100% recycled material and our corrugated shipping boxes are 100% recyclable.

Local / Regional Materials:

All chalkboards, markerboards, tackboards and directory boards are manufactured in Mississauga, Ontario. All lumber used in our crating originates either in Northern Ontario or in Quebec.

ONE YEAR GUARANTEE - TACKBOARDS

All tackboards supplied and / or installed by ASI Group Canada Inc. are hereby guaranteed for a period of one year from the date of Substantial Performance against defects in materials or workmanship.

Should any materials prove defective due to faulty workmanship or material at any time during the term of this guarantee, such work will be re-done under our guarantee.

ASI Group Canada Inc.

PORCELAIN WRITING SURFACE

All writing surfaces supplied and/or supplied and installed by ASI Group Canada Inc. are hereby guaranteed for the Life of the Building.

Guarantee does not include for misuse, neglect, lack of proper care and maintenance, or willful or accidental damage by any party.

This guarantee extends to replacement of defective writing surfaces only and does not include the labour cost for removal or re-installation, shipping costs of defective or replacement materials, applicable federal, provincial or municipal taxes.

ASI Group Canada Inc.

Substitution Request #3

CSI Form 1.5C

SUBSTITUTION REQUEST

(During the Bid Period)

Project: Westview High School
 Title IX team rooms
To: David Iglesias
 Convergence Architecture
Re: _____
Specification Title: Ceramic Tiling
Section: 093013 Page: 2-4
Substitution Request Number: _____
From: Ardex Americas
Date: 9/21/2020
A/E Project Number: _____
Contract For: _____
Description: grout materials
Article/Paragraph: 2-4A

Proposed Substitution: Ardex Americas WA epoxy grout
Manufacturer: Ardex Address: _____ Phone: 206 979 0401
Trade Name: Ardex WA Model No.: _____

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: Don Richards
Signed by: Don Richards
Firm: Ardex Americas
Address: 400 Ardex Park Dr.
 Aliquippa, PA 15001
Telephone: 206 979 0401

A/E's REVIEW AND ACTION

- ☐ Substitution approved - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01 25 00 Substitution Procedures.
☐ Substitution rejected - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

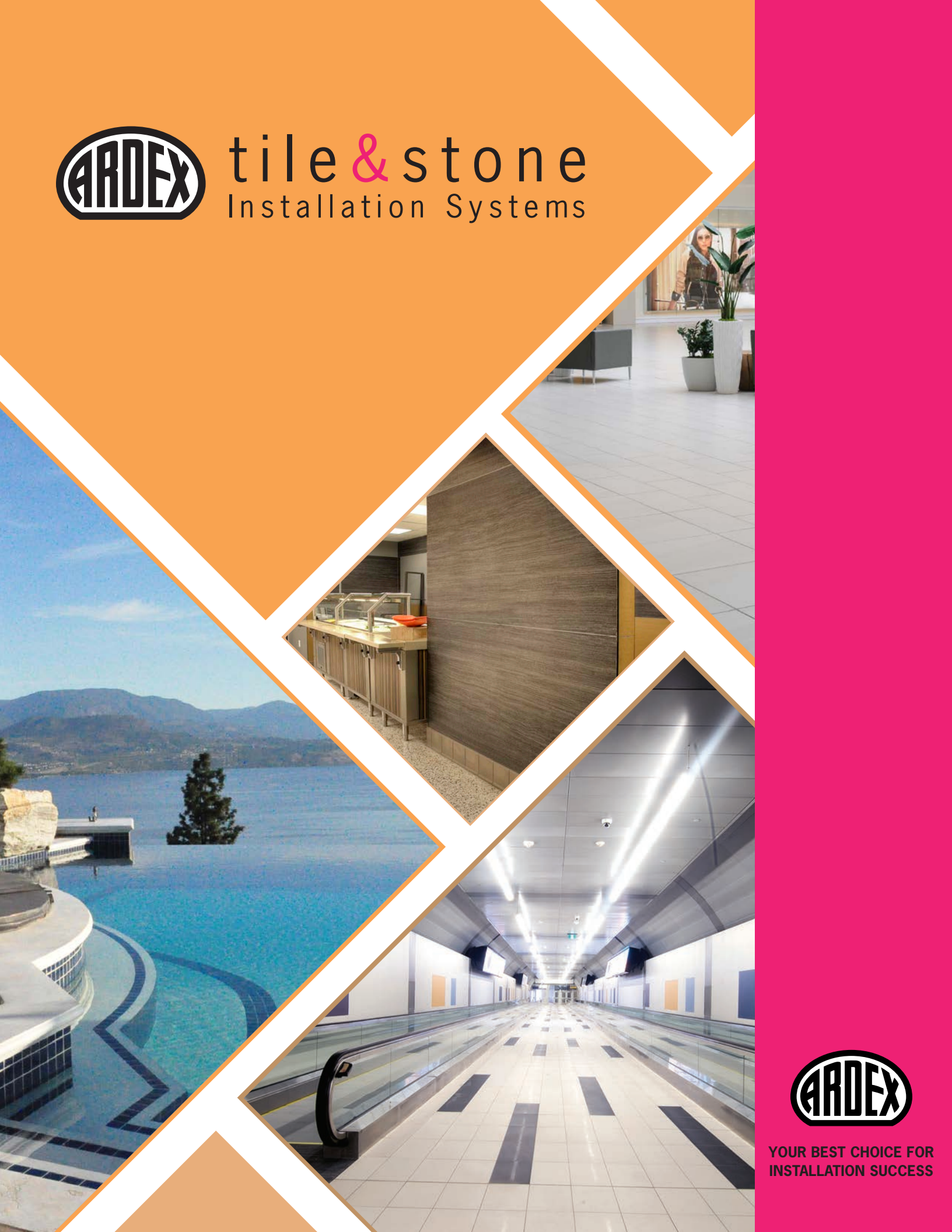
Signed by: _____

Date: _____

Supporting Data Attached: ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____



tile & stone
Installation Systems

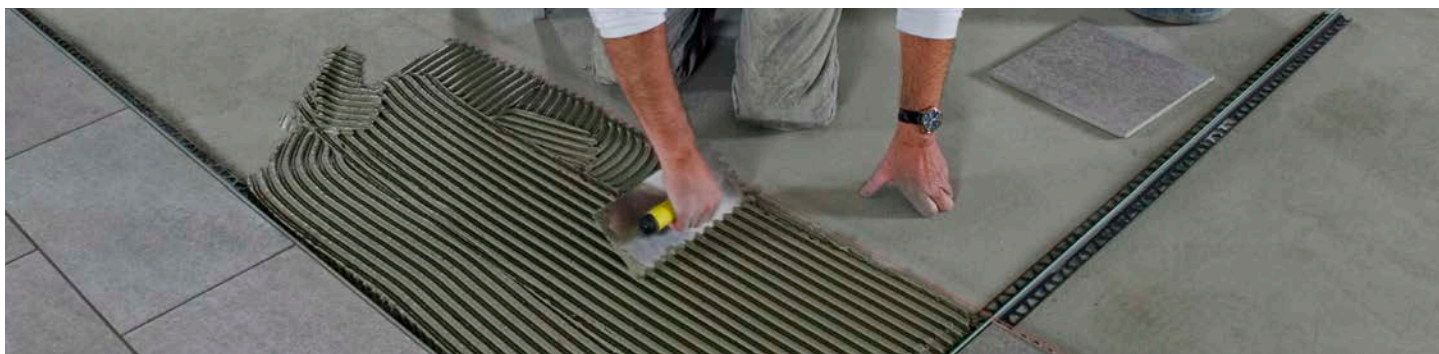


YOUR BEST CHOICE FOR
INSTALLATION SUCCESS

ARDEX MICROTEC® TECHNOLOGY

ARDEX' ongoing innovation leadership delivers the next generation in polymer-modified Portland cement-based mortars with MICROTEC® Technology. This exciting new technology introduces a specialized blend of high-performance microfibers into proprietary ARDEX polymer specialty cements providing real, tangible jobsite benefits including significant time and cost savings.

ARDEX MICROTEC® Technology is designed specifically to handle today's most challenging installations including porcelain tile, very large format tile, natural stones and installations in high-traffic, high-stress areas. ARDEX products like ARDEX X 77™ MICROTEC® have received double ISO 13007 certification standards in the areas of strength and open time.



ARDEX X 77™ MICROTEC® Fiber Reinforced Tile and Stone Mortar

A smooth, creamy and easy to trowel polymer-modified mortar with outstanding strength, flexibility and sag resistance. ARDEX X 77 is perfect solution for the most difficult installations in any environment including large format thin tile installations. *The world's most advanced tile and stone mortar!*

- True 60 minute open time
- Unmatched sag resistance
- Unique creamy consistency; extremely easy to apply
- Ideal for high traffic areas and exterior facades
- Pot Life: 3 hours
- 40 lb. (18 kg.) and 20 lb. (9 kg.) gray and white bags
- Outstanding coverage: 110 sq. ft. (10.2 m²)



ARDEX X 78™ MICROTEC® Semi-Pourable Tile and Stone Mortar

Ideal for the most challenging flooring installations including very large format tiles in high traffic areas such as malls, retail stores, lobbies, hotels and plazas. ARDEX X 78 is a polymer-modified mortar that is pourable, but still holds solid trowel lines and provides nearly 100% coverage without having to back butter.

- Open time: 60 minutes
- Very easy to apply
- Excellent flexibility and strength
- Will not contribute to efflorescence
- Pot life: 4 hours
- 40 lb. (18 kg.) bag; Gray and White
- Outstanding Coverage: 105 sq. ft. (9.75 m²)



ARDEX X 32™ MICROTEC® Universal Rapid Setting and Drying Thin-to-Thick Bed Mortar



Proprietary self-drying formulation designed to handle the most challenging moisture sensitive natural stone, marble and granite installations, as well as set all other types of tile in exterior or interior applications. Ideal for all types of natural stone including ungauged and agglomerate stone.

- Thin to thick bed applications up to 1 1/4" (32 mm.)
- Fast setting; grout in 3 hours
- Will not warp, stain or discolor moisture sensitive stone
- Working time: 20 to 30 minutes, Open time: 20 minutes
- Pot life: up to 60 minutes
- 40 lb. (18 kg.) bag; Gray and White
- Coverage: 80 sq. ft. (7.4322 m²)



ARDEX N 23™ MICROTEC® Rapid Set Natural Stone and Tile Mortar

A rapid setting thin to medium bed mortar formulated with proprietary self-drying formulation to prevent warping, staining and discoloration of moisture sensitive stone including translucent marble and granite. Use to install all types of tile and stone and is ideal for ungauged and agglomerate stone.

- Rapid setting; grout in only 2 hours
- Unique creamy consistency; very easy to apply
- Thin to medium bed applications up to 5/8" (15 mm)
- Excellent sag resistance and strength
- Open time: 30 minutes
- Pot life: 60 minutes, Working time: 15 minutes
- 40 lb. (18 kg.) bag, Gray and White
- Coverage: 103 sq. ft. (9.5 m²)



ARDEX X 90 OUTDOOR™ Microtec3 Rapid-Set, Flexible Tile and Stone Mortar

A revolutionary innovation in mortar technology formulated with specialty, high-performance ARDEX cements, polymers and microfibers to deliver maximum protection against the harshest weather conditions for exterior tile and stone applications.

- Highest levels of freeze thaw resistance- tested at 150+ freeze thaw cycles; 7x greater than ANSI requirements
- Maximum efflorescence resistance
- Outstanding rapid set properties, even at temps as low as 40° F (5° C)
- Heavy and driving rain resistant after only 2 hours
- 40 lb. (18 kg.) bag; Gray
- Excellent Coverage: 95 sq. ft. (8.8 m²)



ARDEX S 28™ MICROTEC® Rapid-Set, Rapid-Dry, Super-Format Tile and Uncoupling Membrane Mortar

A high-performance, rapid drying, rapid hardening, microfiber-reinforced, polymer-modified tile and stone mortar formulated with ARDEX Self Drying Technology making it the perfect mortar for large and Super Format Tile. Excellent when used with ARDEX FLEXBONE® and other approved uncoupling membranes.

- Rapid-drying and hardening - Walk on and grout in just 4 hours
- Outstanding open time of 45 minutes
- Perfect for large and super-format tile and stone installations
- Semi-pourable consistency; ideal for uncoupling membranes
- Ideal for use with moisture-sensitive tile and stone
- Shrinkage free - thin to medium bed installations up to 5/8" (15 mm)
- 40 lb. (18 kg.) bags; Gray
- Coverage: 103 sq. ft. (9.5 m²)



Tile and Stone Mortars

ARDEX X 7 R™ Rapid Set, Flexible Tile and Stone Mortar

A versatile, easy to apply, rapid setting, polymer modified mortar formulated with enhanced properties of adhesion and flexibility. It is the ideal everyday fast-track solution for the installation of porcelain, quarry, ceramic, mosaic and most natural stone tile.

- Rapid setting; grout in just 3 hours
- Very good sag resistance
- Suitable for wet areas; showers and swimming pools
- Can be used with in floor heating
- Working and open times: 20 minutes
- Pot life: 30 to 40 minutes
- 40 lb. (18 kg.) and 20 lb. (9 kg.) bags; Gray
- Coverage: 85 sq. ft (7.9 m²) / 40 lb. bag



ARDEX X 5™ Flexible Tile and Stone Mortar

The ideal everyday solution for the installation of large format tiles. A highly versatile, polymer modified mortar with an easy to apply creamy consistency ideal for setting all sizes of porcelain, ceramic, quarry, mosaic and most natural stone tile over common interior surfaces and exterior concrete and masonry surfaces.

- Suitable for medium bed installations up to 3/4" sq. notch trowel
- Very good sag resistance
- Working time: 15 to 20 minutes
- Open time: 10-15 minutes; Pot life: 3 hours
- 40 lb. (18 kg.) bags; Gray and White
- Coverage: 80 sq. ft. (7.4 m²)



ARDEX X 4™ Tile and Stone Mortar

The ideal everyday tile and stone mortar delivering performance and value. An easy to mix and apply, polymer-modified mortar with good sag resistance and strength for use with porcelain, ceramic, quarry, mosaics and most natural stone tile over common interior surfaces, as well as horizontal exterior installations of porcelain tile over concrete or masonry surfaces. ARDEX X 4 is recommended for most common tile sizes.

- Interior and exterior use
- Working time: 15 to 20 minutes
- Open time: 10 to 15 minutes; Pot life: 3 hours
- 40 lb. (18 kg.) bags, Gray and White
- Coverage: 80 sq.ft. (7.4 m²)



ARDEX X 3™ Tile and Stone Mortar

Portland cement-based, polymer modified mortar with good sag resistance, bond strength and flexibility. Easy to mix and apply for setting ceramic, quarry, and most natural stone tiles. Can be used to set porcelain tile on interior, absorbent concrete or cementitious surfaces.

- Water and frost resistant
- Working time: 15 minutes
- Open time: 10 minutes, Pot life: 3 hours
- 40 lb. (18 kg.) bag Gray, White
- Coverage: 80 sq.ft (7.4 m²)



ARDEX S 28™



Specialty Mortars and Adhesives

ARDEX S 48™ Rapid-Set Mortar/ Mastic Hybrid

The most versatile tile setting material available for interior tile applications. A rapid setting polymer-modified, Portland cement based mortar that is ideal for fast-track installations of glass tile and backsplashes. Can be used with porcelain, glass, ceramic, quarry, mosaics and most natural stone tile over all common substrates. Suitable for use in intermittent wet areas including residential bathrooms and kitchens. Its creamy, smooth consistency is similar to a pre-mixed mastic making it extremely easy to apply.

- Time to grout: Walls: 1 to 3 hours, Floors: 5 hours
- Excellent for quick tile repairs and fixes
- Brilliant white color, ideal for translucent glass
- Working time: 10 to 20 minutes
- Open time: 20 minutes, Pot life: 30 minutes
- 10 lb. (4.5 kg.), White
- Coverage: 80 sq. ft. (7.4 m²)



ARDEX FB 9 L™ Pourable ShearFlex® Mortar

Portland cement-based polymer modified mortar with a unique, very fluid, pourable consistency that is ideal for horizontal large format tile installations. Holds solid trowel lines and delivers full coverage eliminating the need for back buttering. Can be used over in floor heating systems on concrete subfloors.

- Grout in just 6 hours
- Excellent shear strength and flexibility
- Working time: 30 minutes
- Open time: 30 minutes, Pot life: 3 hours
- 40 lb. (18 kg.) bags, Gray
- Coverage: 90 sq. ft. (8.36 m²)



ARDEX D 14™ Type 1 Premixed Tile Adhesive (Mastic)

A TYPE 1 premixed tile adhesive that is ideal for setting quarry, ceramic, mosaic and most natural stone tile over interior surfaces. Also, it can be used to set porcelain tile over absorbent interior surfaces. Use over interior concrete block, drywall, plaster, brick and existing tile. Can be used for tub surrounds and in intermittent wet areas.

- Easy to apply
- Floors up to 6" x 6" tiles, Walls up to 12" x 12" tiles
- Time to grout: walls: 24 hours, floors: 48 hours
- Working time: 60 minutes
- 1 gallon and 3.5 gallon pails (kg), White
- Coverage: 80 sq. ft. (7.4 m²)



ARDEX AF 207™ Pre-Mixed, Rapid-Set Uncoupling Membrane Bonding Adhesive

A high performance adhesive formulated for the installation of uncoupling membranes that allows for the immediate installation of tile once the uncoupling membrane is set into place. Install uncoupling membranes over wood, OSB and gypsum subfloors prior to the installation of tile or stone.

- Set tile immediately
- Ultimate convenience: pre-mixed and resealable container
- GreenLine™ - Ultra low VOC's, antimicrobial, water based, and solvent free
- Aggressive initial grab and ample working time
- Packaging: 1 and 4 gallon pails
- Coverage: 300 sq. ft. (4 gal. unit)



ARDEX CA 20 P™ Multipurpose Construction Adhesive and Sealant

A one-component, modified silane, polymer adhesive and neutral curing sealant. Extremely flexible with excellent bond strength making it suitable for replacing tiles, general repairs and affixing accessories to tile and other surfaces. ARDEX CA 20 P is shrinkage free and can be used to fill moving joints. It bonds to a wide range of materials including glass, metal, wood, ceramics and plastic. Sticks to virtually anything even underwater!

- Interior and exterior use
- GreenLine™: zero VOC's and free of solvents, water and isocyanates
- Paintable
- Curing Time: 24 hours
- Shrinkage: < 1%
- Coverage: 1/4" (6.35 m²) bead: 32 linear ft. (9.75 linear m)
- 10.5 oz. (310 mL) cartridge





Grouts and Sealants

ARDEX FL™ Rapid Set, Flexible, Sanded Grout

A highly versatile, rapid setting sanded grout with a revolutionary creamy, fluid consistency that makes it extremely easy to apply and cover larger areas in significantly less time than traditional grouts. Super hard in the joints, but won't stick to the tile. Use for interior or exterior floors and walls in commercial or residential applications. Ideal for high traffic areas and wet areas including swimming pools, fountains and showers.

- Open to traffic in just 90 minutes
- Excellent color consistency
- Much fuller, stronger grout joints
- Stain resistant and water repellent
- For grout joints 1/16" to 1/2" (1.5 mm to 12 mm)
- No slake time or sealers required
- Available in 35 ARDEX Colors
- 10 lb. (4.5 kg.) box /25 lb. (11 kg.) bag



ARDEX WA™ Epoxy Grout and Adhesive

A revolutionary solvent-free, two-component epoxy grout and adhesive with a unique creamy consistency. It is particularly suited for installations in swimming pools, hot tubs, showers, bathrooms, breweries, food processing facilities, industrial, restaurant kitchens, hospitals or any installation requiring high standards of hygiene and chemical resistance. So easy to apply and clean you won't believe it's an epoxy!

- Grout joints up to 1/2" (12 mm)
- Cleans with only water
- Use to set all types of tile
- Water and frost resistant
- Submerged applications: open in just 7 days
- Working time, open time and pot life: 60 minutes
- Available in 35 ARDEX Colors
- 100% solids, water soluble
- 9 lb. (4.08 kg.) pail



ARDEX FG-C™ MICROTEC® Unsanded Grout

A high-performance, Portland cement-based, polymer-modified unsanded grout for walls or floors. With a creamier consistency compared to traditional unsanded grouts, ARDEX FG-C is very easy to apply delivering full grout joints with an ultra-smooth finish. Use with porcelain, glass, quarry, ceramic, mosaic and most natural stone tiles.

- Excellent color consistency
- Strong full grout joints
- Open to traffic in just 4 hours
- For grout joints up to 1/4" (6 mm)
- Porcelain tile- grout joints less than 1/8" (3 mm)
- No slake time or sealers required
- Available in 35 ARDEX Colors
- 10 lb. (4.5 kg.) box /25 lb. (11 kg.) bag



ARDEX FH™ Sanded Floor and Wall Grout

An ideal, everyday, Portland cement-based, polymer-modified sanded grout suitable for all sizes of floor and wall tiles, including mosaics. ARDEX FH is a creamy, easily applied grout with good joint filling properties, enabling deep joints to be filled in one operation. When cured, ARDEX FH is weather resistant, unaffected by water and is suitable for internal and external use in dry or wet conditions.

- For grout joints 1/16" to 3/4" (1.5 mm to 19 mm)
- Open to traffic: 16 to 24 hours
- Interior or exterior
- Working time and pot life: 2 hours
- Available in 30 ARDEX Colors
(Not available in Azure Blue, Summer Yellow, Asparagus, Burnt Orange, Fresh Magnolia)
- 10 lb. (4.5 kg.) box /25 lb. (11 kg.) bag



ARDEX SX™ 100% Silicone Sealant for Tile and Stone Installations

One-component, non-sag, permanently flexible, 100% silicone, neutral-cure sealant for filling joints in tile and stone installations. Provides excellent adhesion and cures rapidly when exposed to atmospheric moisture, forming a durable, tight, stain-resistant bond. It is non-yellowing and can be used in pools and other wet area applications.

- Interior and exterior use
- No sag or slump
- Non-staining; non-yellowing
- Outstanding adhesion, permanently flexible
- UV, mold and mildew resistant
- Very easy to tool and smooth
- Submersion in water: 24 hours
- Available in 35 ARDEX colors and clear
- 10.1 fl. oz. (299 mL) cartridge



- Mold & mildew resistant

ARDEX GCS™ Grout Colorant and Sealer

High-performance, 100% acrylic colorant and sealer provides a fresh look or a new color to existing grout joints. ARDEX GCS deeply penetrates the grout to provide lasting color and protection.

- Use to refresh, repair or change grout joint color
- Interior and exterior use
- Ideal for showers and other intermittent wet areas
- Excellent stain resistance
- Protects against mold and mildew
- Tack free in 30 minutes

ARDEX FLEX CAULK™

Siliconized Acrylic Color Caulk

Used for caulking and sealing corners, edges and joints created by change-of-plane or change-of-materials in interior and exterior applications.

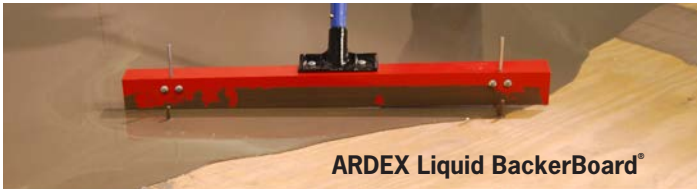
- Color matched to ARDEX Grouts (25 popular colors available)
- Stain resistant
- For joints up to 1/2" wide
- Use for interior and exterior installations



Polar White 01		Stone Beach 13		Stormy Mist 25	
Fresh Lily 02		Chocolate Mousse 14		Organic Earth 26	
Sugar Cookie 03		Gray Dusk 15		*Azure Blue 27	
Antique Ivory 04		Ground Cocoa 16		Gentle Blush 28	
Winter White 05		Coffee Bean 17		*Fresh Magnolia 29	
Classic Vanilla 06		Dove Gray 18		Pink Champagne 30	
Floating Driftwood 07		Silver Shimmer 19		*Burnt Orange 31	
Vintage Linen 08		Ocean Gray 20		Baked Terra Cotta 32	
Natural Almond 09		Slate Gray 21		*Asparagus 33	
Irish Creme 10		Cast Iron 22		*Summer Yellow 34	
Barley 11		Charcoal Dust 23		Brilliant White 35	
Wild Mushroom 12		Black Licorice 24			

Due to variations in printing processes, colors are approximate. Please refer to ARDEX Grout Kits for more accurate color comparisons. Types of tile, substrate and installation environment may cause color variation.

*Not available in ARDEX FH™



- Can receive light traffic in 2 to 4 hours

Substrate Preparation

ARDEX Liquid BackerBoard® Self-Leveling Underlayment

A Portland cement-based, polymer-modified, self-leveling underlayment that replaces traditional backer board, providing a flatter, smoother surface faster and easier for installing tile and stone. ARDEX Liquid Backerboard can be used over interior wood or concrete subfloors. It eliminates cutting, fitting, gluing, taping, fastening and the many other steps required with bulky, hard to transport traditional backer board.

The optimal tiling surface!

- No lath mesh or additives required
- Walk on: 3 hours, Tile installation: just 6 hours
- Installation thickness: up to 1 1/4" (32 mm)
- Use over in-floor heating
- Compressive Strength: 3000 psi (210 kg/cm²) at 28 days
- 50 lb. (22.7 kg.) bag, gray
- Coverage: 65 sq.ft. per bag at 1/8" (6 m² at 3 mm)

ARDEX AM 100™ Pre-Tile Ramping and Smoothing Mortar

A unique repair and smoothing compound for concrete and masonry surfaces that significantly reduces prep time for the installation of tile. It can also be used to slope balconies and drains. It is water and frost resistant making it ideal for use in wet areas such as swimming pools, fountains and below grade installations. Can be used as a brown coat for manufactured/natural veneer stone installations.

- Install tile in just 2 hours
- No sag or slump
- 1/4" (6 mm) to 1 1/4" (32 mm) in just one lift
- Interior or exterior use
- 40 lb. (18.14 kg.) bag
- Coverage: 22.5 sq. ft. per bag at 1/4" (2 m² at 6 mm)

ARDEX TL 1000™ Self-Leveling Underlayment

Portland cement-based self-leveling underlayment with specialty polymers designed specifically for fast floor leveling prior to installing tile. ARDEX TL 1000 is used to smooth new or existing concrete, terrazzo and ceramic tile substrates.

- Walk on: 4 to 5 hours
- Tile installation: 6-8 hours (other floor coverings 1-3 days)
- Installation thickness: up to 1 1/4" (32 mm)
- Compressive Strength: 4000 psi at 28 days
- 50 lb. (22.7 kg.) bag, gray
- Coverage: 25 sq. ft. (6.97 m² per bag at 1/4")

ARDEX TL WOOD™ Self-Leveling Underlayment for Wood and Distressed Gypsum Subfloors

A self-leveling underlayment used for smoothing and leveling wood subfloors and for repairing and finishing distressed gypsum substrates above grade

- Use over plywood, OSB, and strip wood flooring as well as existing gypsum substrates prior to the installation of tile or stone
- Install tile in 48 hours, other floor coverings in 2-3 days
- No metal lath required
- Install from 1/4" (6 mm) to virtually any thickness; can be tapered to 1/16" (1.5 mm)
- Use for interior, above grade floors only
- Suitable for use with in-floor hydronic and electric radiant heating systems
- Coverage – 22 sq. ft. per bag at 1/4" (2.04 m² at 6 mm)

ARDEX SKM™ Skimcoat Patch & Finishing Underlayment

A trowelable patch and skim coat underlayment that provides a permanent, smooth, durable finish prior to the installation of most floor coverings.

- Creamy, smooth, easy to apply
- Trowels to a smooth, hard surface
- Non-sanded, install from a true featheredge up to 1/2" (12 mm)
- Walk on and install floor covering in as little as 30 minutes

ARDEX A 38™ Rapid Set, Pre-Mixed Screed

Rapid setting, rapid hardening and rapid drying screed. After one day compressive strength is harder than traditional cement screeds in 28 days.

- Bonded, unbonded and floating
- Interior and exterior use
- Walk on: 3 hrs. Tile: 4 hrs.
- Can be used for in-floor heating systems
- Working time: 60 mins.
- Premixed w/ aggregate: 40 lb. bag
- Cement binder (no aggregate): 50 lb. bag

ARDEX P 4™ Premixed Rapid Drying Multipurpose Primer

Ready-to-use rapid priming with a tenacious bond.

- Premixed, ready to use in a resealable container
- Ideal for Tile over Tile installation
- Dries in as little as 30 minutes
- For use over most common substrates
- Textured surface for tenacious bond
- Drip and splash-free consistency
- White color to clearly identify primed areas
- For use prior to the installation of most ARDEX Self-Leveling Underlayments
- Interior and exterior use
- Available in 1 gal. and 3.5 gal. units



Waterproofing and Crack Isolation

ARDEX 8+9™ Rapid Waterproofing and Crack Isolation Compound

The absolute best-in-class, topside waterproofing and crack isolation membrane for use on all common substrates in commercial and residential applications prior to the installation of any type of tile or stone. A two component, very easy to use, cement based waterproofing and crack isolation compound providing outstanding bond to mortars. ARDEX 8+9 can also be used as a shower pan. Ideal for use in showers, kitchens and for exterior natural veneer stone installations.

- **Now Available in White!**
- Tile in just 90 minutes
- Flood test in only 4 hours
- Crack isolation: Up to 1/8" (3 mm)
- 1/3 the cost per square foot vs. competitive products
- 10 year warranty on a two-coat application every time
- IAPMO Certified, ANSI A 118.10
- Convenient kit: ARDEX 8 (liquid): 1 gallon (3.78 liters) bottle and ARDEX 9 (powder): 9 lb. (4 kg.) bag
- Commercial size: ARDEX 8 (liquid): 3 gallon (11.34 liters) bottle and ARDEX 9 (powder): 27 lb. (12 kg.) bag

Outstanding Coverage:



Convenient kit: 100 sq. ft. (9.29 m²) (2 coats) over drywall
Commercial size: 300 sq. ft. (27.87 m²) (2 coats) over drywall

ARDEX SK 175™ Waterproofing Membrane and Vapor Retarder

A pliable, sheet-applied, bonded waterproof membrane and vapor retarder with a high-performance fleece webbing for better bonding. For use in areas requiring topside waterproofing and vapor retarding. Tiles can be installed directly onto ARDEX SK 175 with ARDEX polymer modified mortars.

- For use over floors and walls
- Very low perm rating; use in commercial steam showers
- Interior and exterior use
- Ideal for swimming pools; just one layer required
- Use on balconies and terraces
- Use with ARDEX high-performance polymer modified mortars

SK 175™ Accessories

ARDEX SK 175 Seam Tape (5" x 16ft. or 5" x 98')

ARDEX SK 175 Inside Corners

ARDEX SK 175 Outside Corners

ARDEX SK 175 Pipe Collar

ARDEX S 1-K™

One Component Waterproofing and Crack Isolation Membrane

Convenient premixed, ready to use for every day topside waterproofing

- Flexible, topside waterproofing for interior floors and walls
- Premixed, ready to use in a resealable container
- Very easy-to-apply, 2-coat system
- Use for showers, bathrooms and other wet areas prior to the installation of tile
- Very easy to apply with a roller or paint rush
- Minimal drips and splatters
- Crack isolation up to 1/8" (3 mm)
- Bonds to a wide range of substrates



ARDEX SK 175™



ARDEX UI 720™ FLEXBONE®



ARDEX UI 740™ FLEXBONE®

ARDEX UI 720™ FLEXBONE® Floating Uncoupling Membrane

A revolutionary, loose-laid floating system for true 100% uncoupling to help prevent grout joint and tile damage from movement and deflection. ARDEX UI 720 FLEXBONE® has a unique bone-shaped pattern with GripLock Technology for the highest levels of bond and shear strength. The membrane contains underside channels and more than 1,000+ perforations per square foot for vapor pressure equalization.

- True 100% uncoupling
- Up to 50% time savings and reduced costs
- Perfect for use over difficult substrates
- Easy to fill cavities
- Ideal for frequently-changed-floor coverings
- Can be used over new concrete
- Excellent vapor equalization

ARDEX UI 740™ FLEXBONE® Uncoupling Membrane

A high load-bearing uncoupling membrane that helps to prevent grout joint and tile damage from movement and deflection. Ideal for large format tile in high traffic areas, ARDEX UI 740 FLEXBONE® has a unique bone shape pattern with GripLock Technology to deliver outstanding bond and shear strength.

- Ideal for large format tile and stone in heavy traffic areas
- GripLock Technology for highest levels of shear and tensile bond strength (Independent tests at MPA Wiesbaden, Germany)
- Easy to fill cavities
- Suitable as a waterproofing membrane

ARDEX DS 70™ Acoustic Mat

High-performance, durable sound isolation underlayment made from 92% post-consumer recycled rubber for use under hard surface floor coverings. ARDEX DS 70 delivers dual protection by providing excellent sound reduction and crack isolation. Light Commercial through Extra Heavy Commercial ratings (ASTM Robinson Test).

- Fast and easy installation with ARDEX AF 207™ Pre-Mixed Adhesive
- Crack isolation: up to 1/8" (3 mm)
- Set tile directly onto ARDEX DS 70
- 92% post-consumer recycled rubber

Sound Ratings: 16 dB – 2 mm mat / 19 dB – 5 mm mat

Available Sizes:

- 2 mm Mat - 48" wide x 75' long
(1.2 m wide x 22.9 m long) – 300 sq.ft. (27.87 m²)
- 5 mm Acoustic Mat - 48" wide x 30' long
(1.2 m wide x 9.1 m long) roll – 120 sq. ft. (11.15 m²)

ARDEX FLEXBONE® HEAT In-Floor Heating Systems

Innovative, thoughtful design for maximum heat comfort and energy efficiency. German engineered for more heat comfort faster where you want it...on your bare feet!



ARDEX FLEXBONE® HEAT Membrane

3 in 1 - In-floor heating, uncoupling and waterproofing

- Fast and easy and secure placement of the cables every time
- Fast and easy prefill in just one pass
- Minimal contact with the cables for better heat and energy efficiency

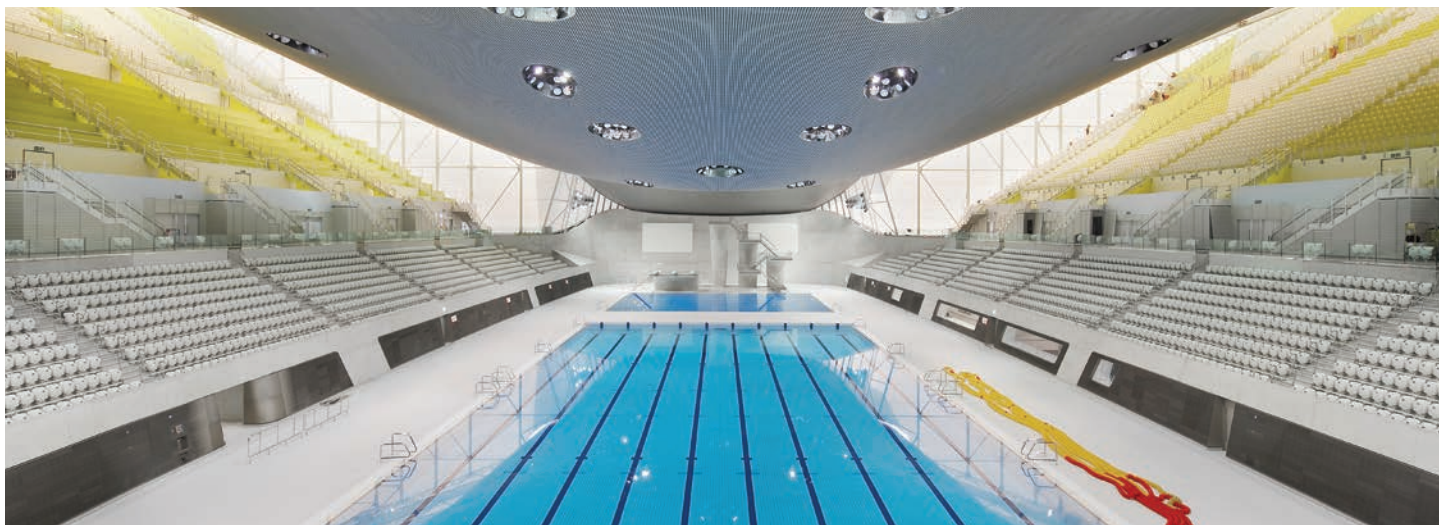
ARDEX FLEXBONE® Cables

- One diameter of cable for all sizes
- Hot / Cold lead contained within the cable, no bulky connection
- 120V and 240V options – 34 available sizes

ARDEX FLEXBONE® HEAT Thermostats

- WiFi-Touch Programmable for control from anywhere
- Touch Programmable with multiple settings
- Base model; easy to use on – off controls
- FLEXBONE HEAT Power Module; multiple cables to one thermostat





ARDEX Tile & Stone Installation Systems Warranty

The products eligible for the ARDEX Tile & Stone SystemOne™ Warranty Program are limited to interior, non-submerged applications and installations of 5,000 sq.ft. or less only. For warranty information and consideration for exterior installations, submerged applications and installations over 5,000 sq.ft., please consult with the ARDEX Technical Services Department.



	25 year	10 year	5 year
Substrate Preparation	ARDEX Liquid BackerBoard® ARDEX AM 100™ ARDEX A 38™ ARDEX A 38™ MIX	ARDEX TL 1000™ ARDEX TL Wood™ ARDEX EB 2™	
Waterproofing	ARDEX 8+9™ ARDEX SK 175™ ARDEX UI 740™ FLEXBONE®		
Crack Isolation	ARDEX 8+9™		
Sound Deadening	ARDEX DS 70™		
Uncoupling Systems	ARDEX UI 740™ FLEXBONE®	ARDEX UI 720™ FLEXBONE®	
Uncoupling Membrane Adhesive		ARDEX AF 207™	
Mortars and Adhesives	ARDEX X 77™ MICROTEC® ARDEX X 78™ MICROTEC® ARDEX X 90™ MICROTEC® ARDEX X 32™ MICROTEC® ARDEX S 28™ MICROTEC® ARDEX N 23™ MICROTEC® ARDEX S 48™ ARDEX FB 9 L™	ARDEX X 5™ ARDEX X 7 R™ ARDEX X 7 PLUS™	ARDEX X 4™ ARDEX X 3™ ARDEX D 14™
Grouts	ARDEX FL™ ARDEX FG-C™ ARDEX WA™	ARDEX FH™	

*If priming is required the appropriate ARDEX primer must be used per the technical data instructions

For more information about these and other ARDEX products, please visit www.ardexamericas.com

ARDEX TOOLS

The Legendary ARDEX Grout Sponge

- Superior absorption
- Significantly outlasts all other sponges
- Unique square shape for better tooling and work in corners



“The World’s Greatest Grout Sponge”

ARDEX white 6 Gallon Bucket

- The ideal size for ARDEX high volume tile and stone mortars and grouts
- Perfect fit for ARDEX X 77™ MICROTEC® Fiber Reinforced Tile and Stone Mortar 40lb bags

Mixing Tools

Paddles

ARDEX Mixing Paddle – T2

Standard length paddle for mixing ARDEX mortars and grouts

ARDEX Extended Mixing Paddle – T2-E

Mortar and grout mixing paddle with extended shaft for less bending

ARDEX Mini Mixing Paddle – T2-M

Hand drill mixing paddle for small batch mortar and grout mixing Perfect for mixing ARDEX WA Epoxy Grout and Adhesive in its own container



ARDEX 6 gallon bucket

ARDEX Self Leveling Mixing Barrel and Kit

Complete kit for measuring, mixing, spreading and smoothing ARDEX Self-Leveling Underlayments

Rover®

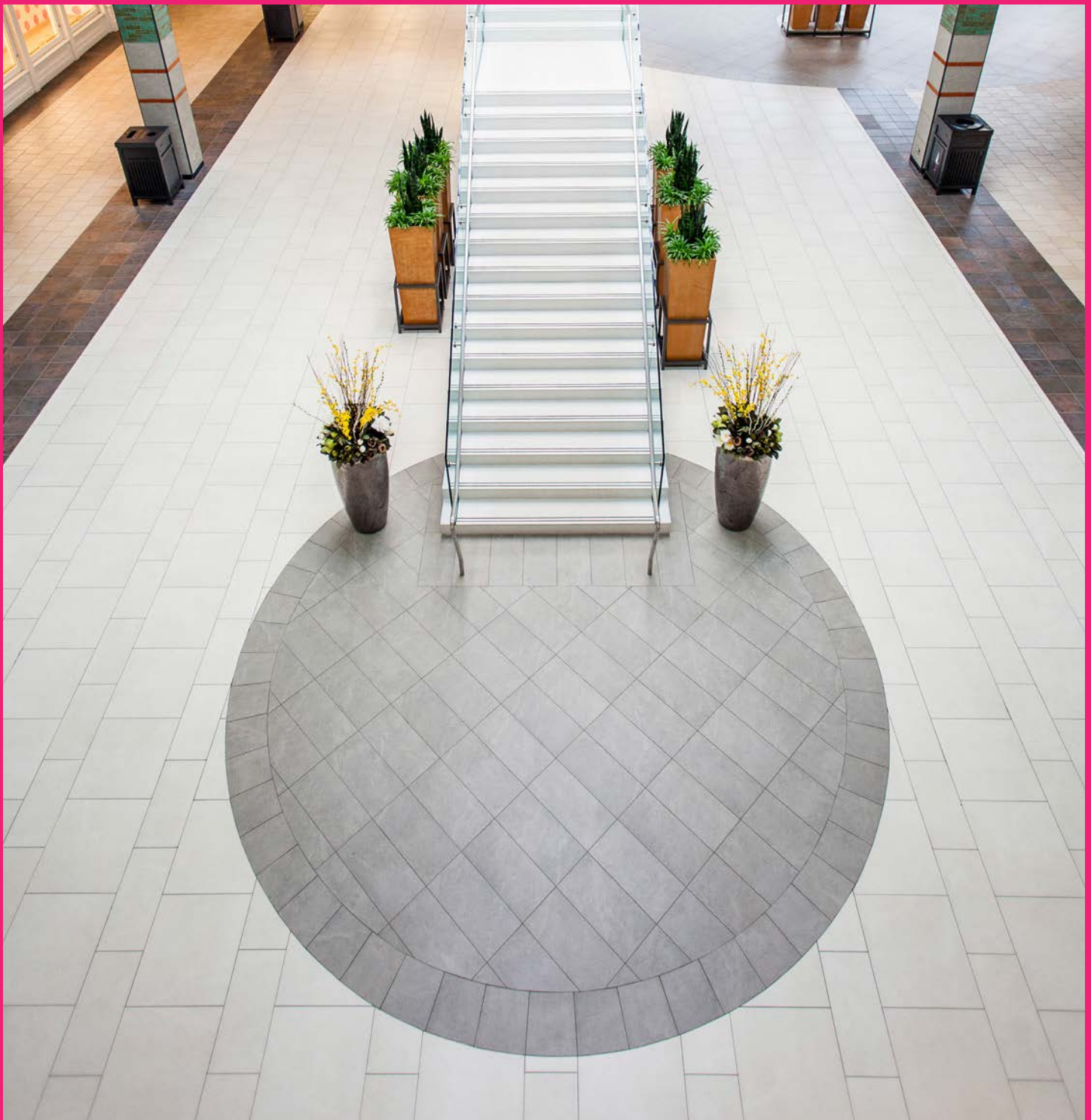
The time and back saving wheeled cart for moving filled ARDEX Mixing Barrels from mixing stations to pour areas quick and easily



ARDEX T-2 Mini Mixing Paddle



ROVER®



Visit www.youtube.com/ARDEX101 to watch product demonstration video. For easy-to-use ARDEX Product Calculators and Product Information On the Go, download the ARDEX App at the iTunes Store or Google Play.



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SECTION 09 30 13

CERAMIC TILE

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Provide ceramic tile in locations as detailed on the Drawings and as herein specified. 1.2

REFERENCES

- A. American National Standards Institute, Inc. (ANSI):
1. ANSI A108.1B: Installation of Ceramic Tile on a Cured Portland Cement Dry-Set or Latex-Portland Cement Mortar.
 2. ANSI A108.5: Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar.
 - a. ANSI A108.6: Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile- Setting and Grouting Epoxy.
 4. ANSI A108.10: Installation of Grout in Tilework.
 5. ANSI A118.1: Dry-Set Portland Cement Mortar.
 6. ANSI A118.4: Latex-Portland Cement Mortar.
 7. ANSI A118.6: Standard Cement Grouts for Tile Installation.
 - a. ANSI A136.1: Organic Adhesives for Installation of Ceramic Tile.
- B. ASTM International (ASTM):
1. ASTM C144: Standard Specification for Aggregate for Masonry Mortar.
 2. ASTM C150: Standard Specification for Portland Cement.
 3. ASTM C206: Standard Specification for Finishing Hydrated Lime.
 4. ASTM C207: Standard Specification for Hydrated Lime for Masonry Purposes.
- C. Tile Council of America, Inc. (TCA): TCA 137.1, American National Standard Specifications for Ceramic Tile.

1.3 SUBMITTALS

- A. Office Samples: Submit 2 samples of each type, color, pattern, and texture of specified tile mounted and grouted prior to tile installation.
- B. Manufacturer's Data Sheets: Submit Manufacturer's data sheets for the following.
1. Anti-fracture membrane.
 2. Mortars.
 3. Grouts.
 4. Additives.
- C. Product Data: Submit product data, preparation instructions and recommendations, storage and handling requirements and installation methods,
- D. Submit finish schedule including color information, gloss and model number for each type and color of tile specified.

1.4 QUALITY ASSURANCE

- A. Perform all work by experienced workmen skilled in the installation of ceramic tile in accordance with the recommendations and conforming to the Tile Council Specifications. Contractor shall have a minimum of five years commercial ceramic tile installation experience.

Pre-Installation Conference: Notify the Architect, tile manufacturer's representative, and tile installer at least 48-hours before starting tile work. Arrange a mutually acceptable time for meeting at the job with all notified parties to review the specifications and job conditions. Obtain the acceptance and approval of all parties on materials, details, and methods before beginning tile installation.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver all materials in manufacturer's unbroken packages and properly store to protect from contamination. Inspect all surfaces and conditions on which material is to be installed.

PART 2 PRODUCTS

2.1 TILE

- A. Standard Specification: Manufacture tile to meet Standard Specification for Ceramic Tile, TCA 137.1.
- B. Porcelain Tile (Type PT1): Tile repair walls at team rooms to match existing wall tile.
 - 1. Manufacturer: Dal-Tile.
 - 2. Style: Natural Hues.
 - 3. Color: Ivory QH24.
 - 4. Size: 2"x2"
 - 5. Base Trim: 2"x2" Cove Base.
- C. Porcelain Tile (Type PT2): Tile repair floors at team rooms to match existing floor tile.
 - 1. Manufacturer: Dal-Tile.
 - 2. Style: Keystones Mosaic.
 - 3. Color: D138 Golden Granite.
 - 4. Size: 2"x2".

2.2 BACKER BOARD

- A. Water Resistant Gypsum Board (at Vertical Surfaces of Locker Platforms): ASTM C1396; specified in Section 09 29 00 GYPSUM BOARD.

2.3 MORTAR MATERIALS

- A. Mortar:
 - 1. Latex modified Portland Cement mortar per ANSI A118.4

2.4 GROUT MATERIALS

- A. Epoxy Grout:
 - 1. Manufacturer: Ardex Americas; Ardex WA epoxy grout and adhesive
 - 4-2. TEC AccuColor EFXfi Epoxy Special Effects Grout by H.B. Fuller Construction Products, or accepted substitute.
 - 2-3. Color: Match existing.
 - 3-4. Match existing joint width.

2.5 ACCESSORIES

- A. 100% Silicone Sealant and expansion material, Mapesil T or similar.
 - 1. **ASTM: Meets C920, Type S Grade NS, Class 25, Use T1, T2, I, M.**
- B. Floor Grout Sealer: Aqua Mix Penetrating Sealer by Aqua Mix Inc. or accepted substitute.
- C. Wall Sealer: Non-sheen, natural-look, water-based penetrating sealer formulated to provide maximum stain protection. Sealers Choice US Gold by Aqua Mix Inc. or accepted substitute. Must not exceed the VOC and chemical component limits of Green Seal requirements.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine Surface: Examine substrate surfaces and conditions under which Tile work is to be completed. Correct conditions detrimental to proper and timely completion of work. Verify surface of floor slab is within 1/8" in 10'-0" for thin set tile, 1/4" in 10'-0" for mortar bed tile, concrete substrate is free of curing agents and has a light broom finish.
- B. Starting Work: Do not proceed with Tile work until unsatisfactory conditions have been corrected. Start of Tile work will be considered acceptance of surfaces and conditions within each area.

3.2 PREPARATION

- C. The Contractor shall supply broom clean floors in areas designated to receive ceramic tile. Any additional cleaning or sealing of the substrate or remaining existing mastic, necessary for floor preparation for the ceramic tile installation, shall be provided as work of this Section.
- D. Clean existing concrete floor surface as recommended in forward to ANSI A108.5 and ANSI A108.6.
- E. Coordinate with Drywall Subcontractor for the application of glass mesh mortar units on walls. Check for soundness of framing, adequate fastening, and fit of joints. Cover all horizontal and vertical joints with fiberglass tape embedding in a skim coat of mortar.
- F. Floors: Mix Portland Cement mortar with latex admixture.
- G. Floors: Keraflex Super single unit add water equal to 2-part mortar system Engineered single component bonding mortar ANSI 118.15HTE ISO 13007 C2TES1 P1

3.3 GENERAL INSTALLATION

- H. Instructions: Comply with the mortar and grout manufacturer's printed instructions.
- I. Joints: Lay tile in grid pattern with aligned joints. Adjust joints to minimize tile cutting. Provide uniform joints approximately 1/16" wide.

3.4 ADJUSTING AND CLEANING

- J. Sponge and wash tile diagonally across joints when setting and grouting is complete. Acid clean unglazed tile not less than 10 days after setting, wet tile before applying acid wash, carefully follow the manufacturer's instructions, protect all adjacent surfaces, and thoroughly flush with

water when completed. Finally, polish with clean dry cloths and apply floor sealer following the manufacturer's installation method. There should be no surface residue.

- K. Replace cracked, chipped, broken, or unbonded tile.

3.5 EXTRA STOCK

- L. At project closeout, provide to the Owner or Owner's Representative extra stock of each type of tile. Furnish from the same production run as that used in the installation. Deliver to the Owner for future repairs and maintenance.
 - 1. Quantity of Extra Stock: Provide a quantity for each unique type (or color) equal to 10 square feet, including grout.
 - 2. Provide extra materials in full, unopened manufacturer's cartons (or containers) for storage at the school.

END OF
SECTION