1. **GENERAL**
	1. **SECTION INCLUDES**
		1. Tapered insulation over wood deck.
	2. **REFERENCES**
		1. ASTM C177 - Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded Hot-Plate Apparatus.
		2. ASTM C728 - Perlite Thermal Insulation Board.
		3. ASTM E84 - Surface Burning Characteristics of Building Materials.
		4. ASTM D41 - Asphalt Primer Used in Roofing Dampproofing and Waterproofing.
		5. ASTM D312 - Asphalt Used in Roofing.
	3. **SUBMITTALS**
		1. Product Data: Provide data on product characteristics, performance criteria, limitations, and thermal properties.
		2. Manufacturer's Installation Instructions: Indicate special environmental conditions required for installation, installation techniques and limitations.
		3. Shop drawings indicating layout of units, slopes, thicknesses and profiles to produce minimum required slope to drain.
2. **PRODUCTS**
	1. **MANUFACTURERS**
		1. Products of following manufacturers form basis for design and quality intended.
			1. Johns Manville Corp., Denver, CO. Product: TAPERED FESCO BOARD.
			2. GAP Materials Corporation, Wayne, NJ. Product: PERMALITE TAPERED PERLITE.
			3. Honeywell Commercial Roofing Systems, Cary, NC; Product: Armorlite Perlite Roof Insulation.
		2. Or equal as approved in accordance with Division 1, General Requirements for substitutions.
	2. **INSULATION MATERIALS**
		1. Insulation: Rigid perlite, ASTM C728, conforming to following:
			1. Thermal Resistance ASTM C177; R of 2.78 per inch.
			2. Flame Spread ASTM E84; Less than 25.
			3. Smoke Density Less than 50
			4. Thickness Varies, 1 inch minimum

 slope 1/4 inch per foot

* + - 1. Board Size 24 by 48 inches.
			2. Compressive Strength Minimum 35 pounds per square foot.
			3. Water Absorption 1.5 percent by volume maximum
			4. Edges Square
			5. Laminar Tensile Strength Minimum 4 pounds per square foot.
			6. Density Minimum 9 pounds per square foot.
			7. Flexural Strength Minimum 40 pounds per square foot.
	1. **ACCESSORIES**
		1. Tape: Polyethylene self-adhering type, mesh reinforced, 2 inch wide.
		2. Asphalt: ASTM D312.
		3. Primer: ASTM D41.
1. **EXECUTION**
	1. **EXAMINATION**
		1. Verify site conditions.
		2. Verify that substrate and adjacent materials are dry and ready to receive insulation.
		3. Verify substrate surface is flat, free of irregularities.
		4. Maintain adequate fire protection during installation.
	2. **PREPARATION - WOOD DECK**
		1. Verify flatness and tight joints of wood decking. Seal joints with tape. Fill knot holes with latex filler acceptable to manufacturer. Apply sheet metal cover or cap sheet firmly nailed to all joints exceeding 1/4 inch in width.
	3. **INSTALLATION OVER WOOD DECK**
		1. Install insulation boards in accordance with approved shop drawings and following NRCA Specification.
			1. INS-N: Attachment of Insulation to nailable deck.
		2. Provide tapered units or as required to obtain minimum roof slope of 1/4 inch per foot.
		3. Maximum gap permitted: 1/4 inch.
		4. Maximum elevation variation between boards at joints: 1/8 inch.
		5. Cut and fit tightly to all vertical surfaces.
		6. Mechanically fasten insulation boards to deck with specified fasteners, in pattern conforming to approve fastening pattern. Penetrate deck minimum 1 inch. Seat discs with heads flush or below disc's top surface.
		7. Where double layers occur, bottom layer shall be mechanically fastened. Top layer shall be adhered in mopping of cold applied mastic at 24 lbs per square.
		8. Boards that taper to less than 1/2 inch at one edge shall be similarly mopped to lower surface.
		9. Minimum thickness of insulation boards over entire roof deck: As required to obtain specified R-value. Minimum 2 layers, install with staggered joints.
	4. **PROTECTION OF FINISHED WORK**
		1. Protect finished
		2. Do not permit Work to be damaged prior to covering insulation.
		3. Do not expose loose-laid insulation to wind conditions.

**END OF SECTION**