

FAST SPEC

SECTION 07 21 14 METAL FACED INSULATED SHEATHING



TetraShield™

4-IN-1 INSULATED SHEATHING

1. Product Name

TetraShield™

2. Manufacturer

CENTRIA
1005 Beaver Grade Road
Moon Township PA 15108-2944
800-759-7474
412-299-8000
www.CENTRIA.com

3. Product Description

Basic Use

TetraShield™ Metal Faced Insulated Sheathing Panel is designed for use with virtually any exterior cladding to create a complete wall system solution. The composite design of the TetraShield sheathing panel provides an air barrier, moisture barrier, vapor barrier and thermal insulation. The product exceeds code requirements as a single, easy-to-install sheathing that serves as a substrate for the application of a wide variety of cladding types. TetraShield sheathing is the fastest backup wall solution. It eliminates the need for separate cavity or outboard insulation, exterior gypsum board sheathing, air barriers, vapor retarders and building wraps, while providing better thermal efficiency and moisture control for exterior walls.

Composition and Materials

The TetraShield insulated sheathing panel is a foam composite panel constructed of two 26 ga. (.0179-inch) G90 galvanized roll-formed steel faces surrounding and entirely bonded to a closed cell, poured-in-place polyisocyanurate foam core. The exterior steel face and interior steel liner separated by the foam core eliminates the chance of a thermal short thus improving the panel thermal performance. The exterior face is flat while the interior steel face is planked. The exterior face is finished with a polyester paint to allow for longer exposure during construction. The interior liner face is finished with an epoxy primer. The facings and the flashing tape create a vapor, air and moisture barrier and along with the foam core provide long-term thermal stability. The double tongue-and-groove joint provides for ease of installation and a locking joint from panel to panel.

Sizes

TetraShield comes in thicknesses of 2" and 2.75". It is available in two lengths; 12' and 20'. See Table 1 for summary of the product offering.

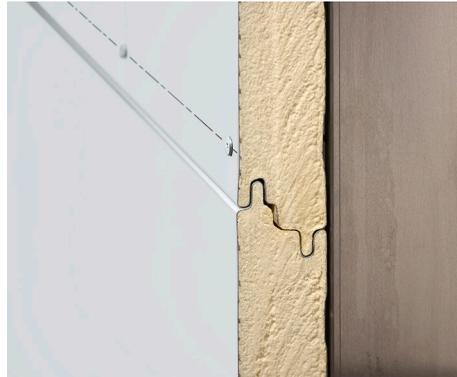


Table 1

Product Information	TetraShield
Orientation	Horizontal
Thickness	2", 2.75"
Nominal Width/ Coverage	36"
Standard Lengths	12', 20'
Skin Thickness Exterior/Interior	26 ga. (.0179) G90 Galvanized
Profile Exterior	Non-Embossed Flat
Profile Interior	Non-Embossed Planked
Exterior Face	Polyester paint
Interior Liner	Epoxy primer
Span Capabilities	Up to 24" o.c.
Attachment Method	Face fastened at each stud and then sealed with flashing tape over each horizontal and vertical joint
Exterior Cladding Attachment Method	Sub-framing is installed through panel into support member behind

Benefits - Performance

- Exceeds IECC energy codes based on U-Factor performance
- Provides air barrier performance to ensure thermal performance
- Provides vapor management to ensure building performance
- Provides water barrier and drainage plane
- Complies with NFPA 285 requirements

Benefits - Construction

- Reduced jobsite coordination hassles
- Installs quickly and easily by one contractor
- Reduces construction time because of fast building enclosure
- Ensures quality as compared to multi-layer backup walls

4. Technical Data

Applicable Standards

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE)

- ASHRAE 90.1 Energy Standard for Buildings Except Low-Rise Residential Buildings

American Society for Testing and Materials (ASTM)

- ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or by the Hot-Dip Process

- ASTM C 1363 - Test Method for Thermal Performance of Building Materials and Envelope Assemblies by Means of a Hot Box Apparatus

- ASTM E 72 - Test Methods of Conducting Strength Tests of Panels for Building Construction

- ASTM E 84 - Test Methods for Surface Burning Characteristics of Building Materials

- ASTM E 2357 - Standard Test Method for Determining Air Leakage of Air Barrier Assemblies

- ASTM E 330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference

- ASTM E 331 - Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference

- ASTM E 96 - Test Methods for Water Vapor Transmission of Materials

National Fire Protection Association (NFPA)

- NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components.

Test Standard	Test Performance	Comment
Thermal Performance - ASTM C 1363	2" - R-11, U= .088 2.75" - R-16, U= .062	2.75" MW exceeds 2015 IECC requirements in CZ 1-7 based on U-Factor
Water Performance - ASTM E 331	No water penetration at 15 psf	Qualifies as a water barrier w/ drainage plane
Vapor Performance - ASTM E 96	.011 gn/h/ft2 inHg (Note 1 perm = 1gr)	Categorized as Class I Vapor Retarder (<0.1 perms)
Air Infiltration - ASTM E 2357	.0038 cfm/ft2 at 1.57 lbs/ft2 or .019 L/s-m2 @ 75pa	Provides superior air barrier assembly performance based on requirement of 2015 IECC Chapter 4 (C402.5.1.2.2)
Surface Burning - ASTM E 84	Flame Spread < 25 Smoke Developed < 450	Meets all flame spread and smoke development requirements in IBC
Fire - NFPA 285	Passed Test and Engineering Judgment	Requires minimum 5/8" thick Type X gypsum board on the interior side of the steel framing or panels.
Structural Capacity - ASTM E 330	+/- 50 PSF	6" x 18 ga studs @ 16" o.c.

Table 2

Technical Performance

See Table 2

5. Installation Instructions

General installation must follow the Manufacturer's published installation guide and applicable codes. Review standard details for specific conditions. For more information go to www.TetraShield.com

Preparatory Work

Upon arrival of the panel bundles at the job site, inspect the shipment for damage, shortages and dampness. Any moisture must be removed from any damp or wet components. Metal products should be carefully handled at all times to prevent irreversible damage to the composite bond, surface edges and ends. Exercise caution in handling bundles with fork lift trucks or cranes. Once removed from their stretch wrap packaging, a panel or stack of panels longer than 12-foot length should not be lifted with a fork truck in the flat position or carried flat wise about the ends. Panels that are normally utilized within eight weeks from shipment can be staged at convenient locations to minimize handling during installation. Block these bundles above the ground and cover to keep out the water. Stack bundles no more than two high. For longer storage over eight weeks it is recommended that the panel bundles be placed under shelter from sun and rain, while permitting good air circulation around and between the bundles.

Methods

Prepare the first panel for the base course by removing 3-inches from the panel bottom edge. Install the panel base course ensuring that it is level. Through fasten the base course of panels at 2-1/4-inch up from the cut bottom edge using the specified pancake head screws at each stud location. Ensure that bottom screw course fastens through the base flashing. Begin erection of panels from left to right or bottom to top.

After the base course, the next course will be the full 36" panel with joinery top and bottom. Stack it on top of base course engaging down on the joinery. Fasten at the bottom 1 1/2" from the bottom edge of panel at each stud location. Install panels either fully or partially over all openings to keep building enclosed until ready for window and door installation. Cut out window openings just prior to window delivery and installation.

Start taping all horizontal joints first. Tape must cover all joints, fastener heads, inside and outside corners. After all horizontal joints are taped begin taping all vertical joints starting from the bottom to create a shingle effect over the horizontal tape at the joint. Apply perimeter flashings and secure each with continuous tape. Where perimeter flashing is not utilized, be certain to use corner edge bead to soften the metal edge before application of the tape. Use an appropriate sealant to match the material and movement requirements to tie the TetraShield panel system perimeter flashing to the adjacent material. Refer to TetraShield Installation Guide for more details.

Precautions

Always follow OSHA guidelines and safety requirements when they are applicable. Wear work gloves to protect hands from cuts and injuries when working with steel. Safety goggles are recommended at all times. Make sure all cutting is done in a well-ventilated area.

Building Codes

Installation must comply with the requirements of all applicable local, state and national code jurisdictions.

6. Availability and Cost

Availability

TetraShield sheathing panels are available throughout the U.S. from a network of dealers.

Cost

TetraShield sheathing panels are designed to be cost competitive with multi-layer back up walls based on total installed cost. TetraShield Sheathing shortens the construction time leading to on-site cost savings.

7. Warranty

CENTRIA warrants to repair or replace metal faced insulated sheathing panels that fail in materials within [2] years from the date of substantial completion. TetraShield will not deteriorate as a result of exposure to normal weather conditions for a period of [6] months commencing with the date of installation of the product in such structure. As part of normal installation all TetraShield must be taped at the time of installation for exposure warranty to be in effect.

8. Maintenance

TetraShield sheathing panels require no maintenance and will last for the life of the structure when installed properly in a designed and maintained wall assembly that includes the proper interior and exterior finish.

9. Technical Services

Technical assistance including details, test information, project submittals are available upon request by contacting CENTRIA. Technical information is also available by visiting www.CENTRIA.com

10. Filing Systems

- Sweets
- Additional product information is available from the manufacturer at www.CENTRIA.com.