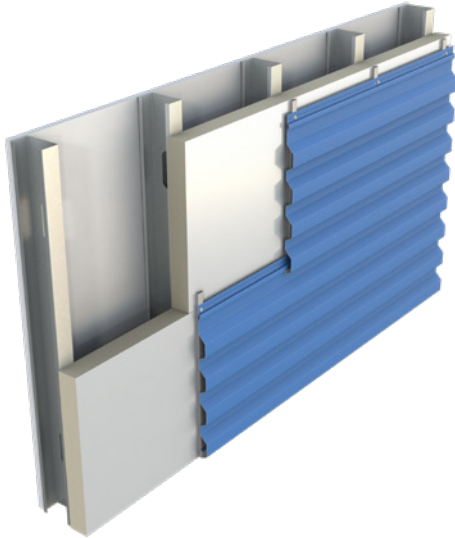


# DEFEND-R CI FOIL

## POLYISOCYANURATE INSULATION MANUFACTURED ON-LINE TO FOIL FACERS FOR EXTERIOR COMMERCIAL WALL APPLICATIONS



*Defend-R CI Foil is an energy efficient rigid insulation panel composed of a closed cell polyisocyanurate foam core manufactured on-line to an impermeable foil facing material. It is designed for use in commercial and residential wall applications to provide continuous insulation within the building envelope.*

### APPLICATIONS

- Provides continuous insulation (ci) for standard wood frame, FRT wood frame, steel stud, CMU and concrete exterior wall constructions
- Can be applied to the exterior or interior of exterior walls, when separated from the interior by a 15-minute thermal barrier. Please contact Drexel Metals for more information regarding interior applications that require NFPA 285 compliance

### PANEL CHARACTERISTICS

- Manufactured with NexGen Chemistry: Zero Ozone Depleting Potential (ODP); Contains no CFCs, HCFCs or HFCs; Virtually zero Global Warming Potential (GWP). Use of Drexel Metals products helps reduce the carbon footprint of buildings
- Lightweight yet durable, easy to handle. Cuts with a knife or saw
- Polyiso offers increased R-value per inch vs mineral fiber, XPS or EPS options
- ASTM C 1289 Type I, Class 1 and Class 2 Grade 2 (20 PSI) or Grade 3 (25 PSI)

- Available in 4' x 8' (1220mm x 2440mm) panels in thickness of 1" (25mm) – 4" (102mm)
- Other widths/lengths are available upon special request

### DEFEND-R CI FOIL THERMAL VALUES

Long Term Thermal Resistance Values are based on ASTM C 1289

Thickness (inches)	(mm)	LTR R-Value
1.00	25	6.5
1.50	38	10.0
2.00	51	13.3
2.50	64	17.0
3.00	76	20.3
3.50	89	24.0
4.00	102	27.0

### LEED® POTENTIAL CREDITS FOR POLYISO USE

#### Energy and Atmosphere

- Optimize Energy Performance

#### Materials and Resources

- Building Life-Cycle Impact Reduction
- Environment Product Declaration
- Material Reuse
- Recycled Content
- Construction and Demolition Waste Management

#### Indoor Environmental Quality

- Thermal Comfort

### INSTALLATION

Defend-R CI Foil can be installed directly to structure as a continuous insulation barrier. It can also be installed between concrete block wall and exterior masonry. Attach insulation panels against the inner wall using construction grade adhesive or mechanical attachment. Defend-R CI Foil may also be applied directly to oil based waterproofing adhesives.

### POST-INSTALLATION EXPOSURE

During the time frame between installation of Defend-R CI Foil and the application of the finished exterior cladding, it is recommended that a building wrap be applied to the Defend-R CI Foil. If a building wrap has not been specified, ALL UNFACED FOAM EXPOSED TO DIRECT DAYLIGHT (i.e. corners, window and door openings) should be taped with a compatible waterproof tape. Defend-R CI Foil is not intended to be left exposed for extended periods of time (i.e. in excess of 60 days) without adequate protection.

*Please contact Drexel Metals for details.*

## TYPICAL PHYSICAL PROPERTY DATA

Physical Property	Test Method	Value
Compressive Strength	ASTM D 1621	20 psi* (138kPa, Grade 2)
Dimensional Stability	ASTM D 2126	1.5% linear change (7 days)
Moisture Vapor Transmission	ASTM E 96	<0.05 perm (2.875ng/(Pa·s·m <sup>2</sup> ))
Water Absorption	ASTM C 209	<0.05% volume
Service Temperature		-100°F to 250°F (-73°C to 122°)
Flame Spread Index (foam core)	ASTM E 84	<75
Smoke Developed (foam core)	ASTM E 84	<450
Recycled Content		9% pre-consumer

\*Also available in 25 psi, Grade 3

## CODES AND COMPLIANCES

- ASTM C 1289
- IBC Chapter 26 and IRC Section R316
- Numerous NFPA 285 compliant assemblies

## R-VALUE CALCULATION

Cavity Wall Systems Comparison

	2" Polyiso	2.5" Polyiso	2" XPS
Inside Air Film	.68	.68	.68
8" Concrete Block	1.11	1.11	1.11
Insulation	13.30	17.00	10.00
4" Face Brick	.44	.44	.44
Outside Air Film	.17	.17	.17
<b>Total Design R-Value</b>	<b>15.70</b>	<b>19.40</b>	<b>12.40</b>

## WEATHER RESISTANT BARRIER

The incorporation of Weather Resistant Barriers (air, vapor and moisture) is a critical element of a wall assembly. A design professional familiar with local code requirements should specify the selection and placement of any WRB. Furthermore, it is recommended that a hygrothermal analysis of the proposed assembly be conducted to determine the type and locations of a proposed WRB.

Note: The NFPA 285 fire test is an assembly test. The performance of the WRB must also be considered. Please consult Drexel Metals for details and specifications.

## JOB-SITE STORAGE

Good construction practice dictates that all insulations should be protected from moisture and direct sunlight during job-site storage. Pallets of Drexel Metals Defend-R CI Foil are double packaged in a UV resistant polyethylene bag. This moisture resistant package is designed for protection from the elements during flat bed shipment from our factories to the job-site. Outdoor storage for extended periods of time requires waterproof tarpaulins and elevated storage above ground level a minimum of 2". Additionally, we recommend slitting the bundle packaging vertically down the center of the two short sides to prevent moisture accumulation within the package.

## WARNINGS AND LIMITATIONS

Insulation must be protected from open flame. Drexel Metals will not be responsible for specific building design by others, for deficiencies in construction or workmanship, for dangerous conditions on the job site or for improper storage and handling. Technical specifications shown in this literature are intended to be used as general guidelines only and are subject to change without notice. Call Drexel Metals for more specific details.

