

## DEFEND-R COATED GLASS

### FLAT PREMIUM PERFORMANCE FACED POLYISOCYANURATE INSULATION



*Defend-R Coated Glass is a rigid roof insulation panel composed of a closed cell polyisocyanurate foam core manufactured on-line to a premium performance coated glass facer on both sides (CGF). Manufactured using ReadyFlash® Technology, with light and dark facers. This provides the installer a choice of top side colors to better control flash-off times in fully adhered applications.*

#### APPLICATIONS

- Achieves a UL Class A combustible deck assembly rating without the use of a fire rated slip sheet or gypsum cover board when applied at a thickness of 1" or greater. Insulation joints must be staggered a minimum of 12" from the combustible deck joints. Maximum roof slope = 1/2":12"
- Specified for Single-Ply membranes (Ballasted, Mechanically Attached and Fully Adhered), BUR, Modified Bitumen, Coal-Tar
- Constructions requiring UL Class A ratings
- To achieve optimal thermal performance, Drexel Metals recommends installation of a multi-layered system with staggered joints

#### PANEL CHARACTERISTICS

- Manufactured with NexGen Chemistry: Contains no CFCs, HCFCs, is Zero ODP, EPA Compliant, and has virtually no GWP
- Provides improved dimensional stability, fire performance and resistance to mold growth. Passed (10) Resistance to Mold test ASTM D 3273
- Manufactured with a light and dark side that allows for faster or slower adhesive flash-off times.
- Available in 4' x 4' (1220mm x 1220mm) and 4' x 8' (1220mm x 2440mm) panels in thicknesses of 1" (25mm) to 4.5" (114mm)
- ASTM C 1289 Type II, Class 2 Grade 2 (20 psi) or Grade 3 (25 psi)

### POTENTIAL LEED® CREDITS FOR POLYISO USE

#### Energy and Atmosphere

- Optimize Energy Performance

#### Materials & Resources

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

#### Indoor Environmental Quality

- Thermal Comfort

### DEFEND-R COATED GLASS THERMAL VALUES

Long Term Thermal Resistance Values are based on ASTM C 1289

Thickness (inches)	(mm)	LTTR R-Value	Flute Spanability
1.00	25	5.7	2 5/8"
1.50	38	8.6	4 3/8"
1.80	46	10.3	4 3/8"
2.00	51	11.4	4 3/8"
2.50	64	14.4	4 3/8"
2.60	66	15.0	4 3/8"
3.00	76	17.4	4 3/8"
3.50	89	20.5	4 3/8"
3.80	97	22.3	4 3/8"
4.00	102	23.6	4 3/8"
4.30	109	25.5	4 3/8"
4.50	114	26.8	4 3/8"

#### CODES AND COMPLIANCES

- ASTM C 1289 Type II, Class 2 Grade 2 (20 psi) or Grade 3 (25 psi)
- International Building Code (IBC) Chapter 26
- State of Florida Product Approval Number FL 46439
- ICC-ES ESR-5453

#### UNDERWRITERS LABORATORIES INC CLASSIFICATIONS

- UL Class A at 1" thickness
- UL 1256
- Insulated Steel Deck Construction Assemblies - No. 120, 123, 292
- UL 790
- UL 263 Hourly Rated P Series Roof Assemblies

# DEFEND-R COATED GLASS

## FACTORY MUTUAL APPROVALS

- FM 4450, FM 4470
- Approved for Class 1 insulated steel, concrete, and gypsum roof deck constructions. Refer to FM Approval's RoofNav for details on specific systems

## TYPICAL PHYSICAL PROPERTY DATA

Polyiso Foam Core Only

Physical Property	Test Method	Value
Compressive Strength	ASTM D 1621	20 psi* (138kPa, Grade 2)
Dimensional Stability	ASTM D 2126	2% linear change (7 days)
Moisture Vapor Transmission	ASTM E 96	<1 perm (57.5ng/(Pa·s·m <sup>2</sup> ))
Water Absorption	ASTM C 209	<1% Volume
Flame Spread**	ASTM E 84	<75
Smoke Developed**	ASTM E 84	<450
Service Temperature		-100°F to 250°F (-73°C to 122°)

\*Also available in 25 psi, Grade 3

\*\*Meets the requirements of the IBC code. For specific Flame Spread or Smoke Developed Ratings please contact the Drexel Metals Technical Department.

## WARNINGS AND LIMITATIONS

Insulation must be protected from open flame and kept dry at all times. Store above ground on pallets and cover with breathable tarpaulins. Install only as much Polyiso as can be covered the same day with the completed roofing system. Do not leave exposed. Drexel Metals will not be responsible for specific designs by others, for deficiencies in construction or workmanship, for dangerous conditions on the job site or for improper storage and handling.

## INSTALLATION - SINGLE-PLY SYSTEMS

### Ballasted Single-Ply Systems

Defend-R Coated Glass panels are loosely laid on the roof deck. Butt the edges of the insulation panels and stagger the joints. Install the roof covering according to the manufacturer's specifications.

### Mechanically Attached Single-Ply Systems

Defend-R Coated Glass must be secured to the roof deck. Butt the edges of the insulation panels and stagger the joints. Install the roof covering according to the manufacturer's specification.

### Fully Adhered Single-Ply

Each Defend-R Coated Glass panel must be secured to the roof deck. Maximum 4' x 4' (1220mm x 1220mm) panels may be adhered to a prepared concrete deck or subsequent layers of insulation with a full mopping of hot steep asphalt, insulation adhesive, or cold applied mastic. Butt edges and stagger joints of adjacent panels. Install the roof covering according to the manufacturer's specifications.

## INSTALLATION - BUILT UP, COAL TAR AND MODIFIED BITUMEN SYSTEMS (APP, SBS)

Each Defend-R Coated Glass panel must be secured to the roof deck. Maximum 4' x 4' (1220mm x 1220mm) panels may be adhered to a prepared concrete deck or subsequent layers of insulation with an insulation adhesive, or cold applied mastic. Butt edges and stagger joints of adjacent panels. Install the roof covering according to the manufacturer's specifications.

*Review manufacturer's specifications and details for complete installation information.*

