Product Information Sheet

DuPont™ Tuff-R™ Polyisocyanurate Insulation

High-Performance Polyiso Foam with Dual Reflective Foil Facers

FEATURES/BENEFITS

Description

DuPont™ Tuff-R™ Polyisocyanurate Insulation consists of high-performance, high R-value, closed-cell polyisocyanurate foam core boards sandwiched between a choice of durable exterior foil facers. The polyisocyanurate insulation is created by an exclusive free-rise manufacturing process, which produces a uniform, closed-cell foam for better foam quality than conventional restrained rise process.

On **Tuff-R™ Insulation,** one facer is a continuous sheet of aluminum foil; the other is a durable tri-laminate facer consisting of aluminum foil, kraft and metalized polyester film.

Tuff-R™ helps reduce air infiltration through the wall by covering cracks between the framing members and sealing tightly against the studs.

Ease of Installation

Install **Tuff-R™** products in residential construction where they will be covered with a minimum of 1/2" gypsum board, or equivalent, thermal barrier. Applications include:

- New frame wall construction behind masonry, siding, exterior stucco or other compatible finishes
- Interior retrofit of existing walls under a new interior finish of 1/2" (minimum) gypsum board
- Exterior retrofit of existing walls under new exterior sidings
- Over roof decks and in cathedral ceilings

Tuff-R™ Insulation Boards are:

- Lightweight – easy to handle and install with a utility knife or any sharp blade
- Adaptable – come with a choice of durable facers depending on design requirements that can be nailed, stapled or glued
- Durable – Tri-Plex facers improve shipping, storage and job-site durability; less damage and job-site waste
- Versatile – compatible with most exterior siding treatments; ideal for brick, stone, aluminum, vinyl, wood, composite, fiber cement and stucco[2]
- Effective – high R-value[1] provides enhanced thermal efficiency; facers help reduce air penetration and water vapor intrusion allowing products to be detailed as a weather-resistive barrier

Available Sizes

Tuff-R™ Insulation Boards are available in the following sizes:

- Width and length: 4' x 8', 4' x 9', 4' x 10'
- Edge treatment: Square edge

Sustainable Solutions

As with all DuPont polyisocyanurate insulations, **Tuff-R™ insulation** is manufactured with hydrocarbon blowing agents, which have no ozone depletion potential.

[1] R means resistance to heat flow. The higher the R-value, the greater the insulating power.
[2] Siding manufacturers may restrict warranties as applied to sheathing underlayment.

PROPERTIES

DuPont™ Tuff-R™ Polyisocyanurate Insulation exhibits physical properties as indicated in Tables 1 and 2 when tested as represented. Review all instructions and (Material) Safety Data Sheet ((M)SDS) before use. Please contact DuPont at 1-833-338-7668 when additional guidance is required for writing specifications that include this product.

TABLE 1: Typical Physical Properties of Tuff-R™ Polyisocyanurate Insulation

Property and Test Method	Value
Compressive Strength[1], ASTM D1621, psi, min.	25
Flexural Strength, ASTM C203, psi, min.	40
Water Absorption, ASTM C209, % by volume, max.	< 0.1
Water Vapor Permeance[2], ASTM E96 (dessicant method), perms.	< 0.03
Nominal Density, ASTM D1622, pcf	2
Operation Temperature Range, °F	-50 to +190
Surface Burning Characteristics ASTM E84 for both foam core and finished product Flame Spread Smoke Developed	 Class B 75 < 450

[1] Vertical compressive strength is measured at 10 percent deformation or at yield, whichever occurs first.
[2] Based on 1" thickness

TABLE 2: R-Values of Tuff-R™ Polyisocyanurate Insulation

Nominal Foam Thickness, in.	Product R-Value[1][2]
0.5.	3.5
.75	5.1
1	6.8
1.5	10.2
2.0	13.5

[1] Product R-values @ 75°F mean temperature determined in accordance with ASTM C1289 and ASTM C236/C518 on full-sized product.
[2] An additional R-2.77 (2.8) may be added to the system R-value when a minimum 3/4" ideal airspace and horizontal heat flow are present in accordance with the ASHRAE Fundamentals Handbook and FTC, 16 CFR part 460.

TESTING

Applicable Standards

DuPont™ Tuff-R™ Polyisocyanurate Insulation products comply with the following codes and standards:

- International Residential Code (IRC) and International Building Code (IBC); see ICC-ES ESR-3089
- ASTM C1289 Type I
- Calif. Std. Reg.

Contact your DuPont sales representative or local authorities for state and local building code requirements and related acceptances.

Warranty

Fifteen year limited Thermal warranty available as described at building.dupont.com/warranties.

HANDLING

WARNING: For Professional Use Only – Read and follow the entire Handling section and the Safety Data Sheets (SDSs, formerly MSDSs or Material Safety Data Sheets) carefully before use. The information below is designed to protect the user and allow for safe use and handling of DuPont products. Follow all applicable federal, state, local and employer regulations.

Precautionary Statements

- **CAUTION:** This product is combustible and shall only be used as specified by the local building code with respect to flame spread classification and to the use of a suitable thermal barrier.
- Building and/or construction practices unrelated to building materials could greatly affect moisture and the potential for mold formation. No material supplier including DuPont can give assurance that mold will not develop in any specific system.

Disposal

Dispose of any residual product, coated debris, or solvent in accordance with applicable federal, state, and local government regulations.

For more information visit
building.dupont.com/tuffr
or call 1-833-338-7668

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CAUTION: This product is combustible. Protect from high heat sources. A protective barrier or thermal barrier may be required as specified in the appropriate building code. For more information call the DuPont Contact Center at 866-583-2583 or contact your local building inspector. For emergencies contact Chemtrec 800-424-9300, CCN (Contract Number) 7442

WARNING: Rigid foam insulation does not constitute a working walkable surface or qualify as a fall protection product.

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