



TUFF-R and Super TUFF-R Insulation

TUFF-R* and Super TUFF-R polyisocyanurate insulation products consist of a high-insulating-value, closed-cell polyisocyanurate foam core sandwiched between a choice of durable, exterior facers.

On TUFF-R insulation, one facer is a continuous sheet of aluminum foil; the other Tri-Plex facer is a three-ply laminate of durable virgin kraft with aluminum foil on both sides. Where additional durability is required, Super TUFF-R insulation is the product of choice. The Super Tri-Plex facers are three-ply laminates of durable polyester, virgin kraft and reinforced aluminum foil. One side is black; the other side is reflective foil to provide radiant barrier qualities.

TUFF-R and Super TUFF-R insulation products offer the highest insulation value of any foam sheathing (Table 1). They exhibit the properties indicated in Table 2 when tested as represented.

APPLICATION

Install TUFF-R and Super TUFF-R insulation 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 type ceilings

Feature	Benefit
High, long-term R-value ¹	Reduces energy costs by using thermally efficient, closed-cell polyisocyanurate foam.
Choice of durable facers depending on design requirements	Durable surface that can be nailed, stapled or glued.
Facers provide vapor diffusion retarder properties	The facers prevent intrusion by water and water vapor into the foam. The facers also enable the foam R-value to stabilize at a higher value.
TUFF-R and Super TUFF-R insulation products can be cut with a utility knife or any sharp blade. The Tri-Plex facer improves shipping, storage and on-site durability.	Durable and easy to handle and install
Can be detailed as an air barrier	Air cannot penetrate the facers. If desired, joints can be taped with a commercially available sheathing tape.
Can be used with most exterior siding treatments	Versatile. Ideal for brick, stone, aluminum, vinyl, wood, composit, fiber-cement and stucco. ²

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

TABLE 1

TUFF-R and Super TUFF-R Insulation R-Values ¹	
Nominal Board Thickness	R-Value ²
1/2" (12.7 mm)	3.3
5/8" (15.9 mm)	4.1
3/4" (19.1 mm)	5.0
1" (25.4 mm)	6.5

¹Aged R-value of core foam @ 75°F mean temperature; R-values are expressed in ft²•h•°F/Btu.
²R-value determined by ASTM C518.

TABLE 2

Physical Properties	
Property and Test Method	Value
Nominal density, ASTM D 1622, pcf (kg/m ³)	2 (32)
Water vapor permeance, ASTM E 96 (desiccant method), perms	< .03
Operating temperature range, °F (°C)	-50 to +190 (-46 to +88)

CODE COMPLIANCE

TUFF-R and Super TUFF-R insulation products comply to the following standards and codes:

- IBC – International One and Two-Family Dwelling Code, Section 318. International Building Code, Section 2603
- BOCA – Section 2603.0 (TUFF-R, Super TUFF-R) and Research Report #95-22 (TUFF-R only)
- ICBO – Section 2602 (both products) and Evaluation Report #5009 (TUFF-R)
- SBCCI – Section 2603

(TUFF-R, Super TUFF-R) and Evaluation Report #9605B (TUFF-R)

- FHA – Federal Housing Administration Minimum Property Standards
- Federal Specification HH-I-1972/1, Class 1
- ASTM C 1289, Type I, Class 1

IN THE U.S.:

- For Technical Information: **1-866-583-BLUE (2583)**
- For Sales Information: **1-800-232-2436**

THE DOW CHEMICAL COMPANY

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COMBUSTIBLE: Protect from high heat sources. Local building codes may require a protective or thermal barrier. For more information, consult MSDS, call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400.



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