

## PRODUCT USAGE

Enverge® ToughFoam is a spray-applied, two component, closed cell polyurethane foam insulation. Enverge ToughFoam is a high-density 10 lb. spray foam that meets Class A (Class 1) requirements and is designed specifically for use in agricultural applications and uninhabited storage buildings.

## PHYSICAL PROPERTIES

Property	Test Method	Value
NOMINAL DENSITY SPRAYED-IN-PLACE	D1622	9.0-11.0 LBS/FT <sup>3</sup>
R-VALUE (INITIAL)	ASTM C-518	4.8 @ 1" (25.4 MM) H·FT <sup>2</sup> ·°F/BTU
FLAME SPREAD INDEX	ASTM E-84	< 25
SMOKE DEVELOPED INDEX	ASTM E-84	< 110
VISCOSITY – “A” COMPONENT: VISCOSITY – “B” COMPONENT:	D2196	200 ± 50 CPS 1450 ± 50 CPS
SPECIFIC GRAVITY – “A” COMPONENT: SPECIFIC GRAVITY – “B” COMPONENT:	D1638	1.23 S.G. 1.13 S.G.

## SURFACE BURNING CHARACTERISTICS

Enverge ToughFoam spray foam is an ASTM E-84 (NFPA 255, UL723) class 1 (class A) spray foam insulation.

- **Flame Spread Index: <25**
- **Smoke Developed Index: <450**
- **Thickness: 4"**

These numerical flame spread values are not a true reflection of how this or any material will perform in actual fire conditions.

## STORAGE AND SHELF LIFE

Store drums at 50°F to 80°F (10°C to 27°C) for optimal shelf life. Excessively high temperatures may reduce shelf life. Cold or very hot chemicals can cause pump cavitation and, therefore, incorrect metering. Store material at 70°F to 90°F (21°C to 32°C) for 48 hours prior to application of the product.

**A COMPONENT - 6 MONTHS**

**B COMPONENT - 12 MONTHS**

## MATERIAL TEMPERATURE

1. Storage recommendations for maximum shelf life:

- Temperature 70°F to 90°F (21°C to 32°C)
- Humidity <85% do not allow material to freeze.

2. For best results, the resin and iso components should be 70°F to 110°F (21°C to 43°C)

## SERVICE TEMPERATURES

Enverge ToughFoam spray foam insulation is designed to be used in ambient temperatures from -40°F and 200°F (-40°C and 93°C ) intermittent. It is strongly recommended that test sprays be conducted before installation for use in extreme temperatures.

## SAFETY AND HANDLING INFORMATION

It is critical to read and become familiar with the safety data sheets prior to working with Enverge ToughFoam spray foam liquid components. During application, respiratory protection is required for the applicator, assistant, or bystanders. For more information consult safety data sheets, [www.EnvergeSprayFoam.com](http://www.EnvergeSprayFoam.com) or [www.spraypolyurethane.org](http://www.spraypolyurethane.org)

## THERMAL BARRIERS

Enverge ToughFoam spray foam must be separated from the interior of the building (occupied space) by an approved 15 minute thermal barrier such as ½" inch gypsum board or other equivalent material. Consult local building codes for requirements and restrictions.

## VAPOR RETARDER

Enverge ToughFoam meets the requirement of one perm or less for a Class II vapor retarder per the International Code Council and ASHRAE when installed at 1-5/8" (41.3 mm) in depth. However, the minimum installed thickness recommended by Enverge is 2" (5.08 mm) in depth.

The descriptions, data, designs, and information contained herein are presented in good faith and believed to be accurate. This information is provided for guidance ONLY. Many factors will affect the processing or application of Enverge products. It is necessary that you make tests to determine ultimate suitability for Enverge products for your particular application. No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made regarding products described, data, or designs presented. In no case shall the descriptions, information, data, or designs provided be considered a part of our terms and conditions of sale. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. You expressly agree to release Holcim Solutions and Products US, LLC from liability in tort or contract based on the technical information provided. All such information is accepted at your own risk.