



# CLASSIC PLUS™

## TECHNICAL DATA SHEET

**THERMAL INSULATION AND AIR BARRIER**  
**ESR-1826**

Specification Sections: 07 21 19 Foamed-in-Place Insulation, 07 27 00 Spray Polyurethane Foam Air Barriers

**PRODUCT DESCRIPTION**

Huntsman Building Solutions Classic Plus™ is a high R-value spray-in-place low density, open celled, flexible, nominal 0.7 lbs/ft³ density, 100% water-blown polyurethane foam insulation manufactured by Huntsman Building Solutions. It is a low VOC product allowing for 4 hour job site re-entry and 24 hour job site re-occupancy at applicable ventilation rates. It is capable of being installed in unvented attics without an ignition barrier or a coating. Huntsman Building Solutions Classic Plus™ has a yield of 16,000 board feet (annual average). It is suitable for buildings in accordance with the IRC and the IBC including Type I, II, III, IV and V construction. The product is for use as a thermal insulation and air barrier in:

- wall cavities
- floor assemblies
- ceiling assemblies
- roof assemblies (interior)
- attics (vented and unvented)
- crawl spaces (vented and unvented)

PROPERTIES OF CURED FOAM		
Characteristic	Test Method	Value
Core Density	ASTM D 1622	0.7 lb/ft³
Color		Cream
Aged Thermal Resistance at 1"	ASTM C 518	R-4.0
Air Permeance at 2"	ASTM E 2178	< 0.019 L/s.m²
Water Vapor Permeance at 2"	ASTM E 96	20.7 perm (Class III Vapor Retarder at 4.25")
Water Absorption	ASTM D 2842	5%
Dimensional Stability at 7 days (Volume Change)	ASTM D 2126	1.7% at 158°F and 97% RH

BURN CHARACTERISTICS		
Surface Burning at 4 inches:	ASTM E 84	Class 1
Flame Spread Index		20
Smoke Development		450
Wall & Ceiling Application Maximum Thickness	NFPA 286	Walls- 7.5"   Ceiling- 11.5"
Limited Access Unvented Attic Walls & Roof Max Thickness (Uncoated)	Technical Evaluation*	Walls - 20"   Roof - 20"
Limited Access Unvented Crawl Space Walls & Ceiling Max Thickness (Uncoated)	Technical Evaluation*	Walls- 3.5"   Ceiling- 14"
Attic Floor Uncoated Thickness	ASTM E 970	13"

\*consult Huntsman Building Solutions Engineering Department for details.

- Huntsman Building Solutions Classic Plus™ must be covered with ½" of gypsum board, or approved thermal barrier.
- Huntsman Building Solutions Classic Plus™ is subject to all applicable National/State and County building codes regarding fire prevention. Requirements for Thermal Barrier and Ignition Barrier coverings must be met as per the applicable building code as required by the authority having jurisdiction.

**UNVENTED ATTICS**

Huntsman Building Solutions Classic Plus™ can be applied to the underside of the roof deck to a maximum of 20 inches and be left bare if its thickness is a minimum of 3½ inches at roof decking. Consult Huntsman Building Solutions Engineering Department for details.

## ACOUSTICAL PROPERTIES

Performance in a 38 x 89 mm (2 x 4") wood stud wall:

STC Sound Transmission Class - 37						
Hertz Frequency	125	250	500	1000	2000	4000
ASTM E 90	19	30	31	42	38	46

NRC Noise Reduction Coeff. - .70						
Hertz Frequency	125	250	500	1000	2000	4000
ASTM C 423	.11	.43	.89	.72	.71	.67

## AIR BARRIER/ MECHANICAL VENTILATION

- Huntsman Building Solutions Classic Plus™ fills any shaped cavity, and adheres to most construction materials, creating assemblies with very low air permeance.
- Additional interior or exterior air infiltration protection is subject to applicable codes.
- All buildings insulated and air sealed with Huntsman Building Solutions Classic Plus™ must be designed to include adequate mechanical ventilation/outdoor air supply for optimum IAQ (Indoor Air Quality).
- For mechanical ventilation see ASHRAE Standard 62 –Ventilation for Acceptable Indoor Air Quality or any other acceptable good engineering practice.

## WATER ABSORPTION PROPERTIES

- Water can be forced into the foam under pressure because it is open celled.
- Water will drain by gravity, given favorable drying potential, and upon drying all chemical and physical properties are fully restored.

## ELECTRICAL WIRING

- Huntsman Building Solutions Classic Plus™ has been evaluated with energized 14/3 and 12/2 residential wiring (max. 122°F/50°C).
- It is chemically compatible with typical electrical wiring coverings.
- For any insulation of older knob and tube wiring, please reference local electrical code.

## CORROSION

- Huntsman Building Solutions Classic Plus™ did not cause corrosion when evaluated in contact with steel and copper at 120°F (48°C) and 85% relative humidity conditions.

## PLASTIC PIPING

- Huntsman Building Solutions Classic Plus™ is compatible in direct contact with the following piping systems, as per Paschal Engineering Study:
  - CPVC
  - ABS
  - PVC
  - PP-R

## ENVIRONMENTAL AND HEALTH

- Huntsman Building Solutions Classic Plus™ is 100% water-blown and therefore has zero ozone-depletion potential.
- The reaction used to create Huntsman Building Solutions Classic Plus™ generates carbon dioxide to expand the foam. Huntsman Building Solutions Classic Plus™ has the lowest Global Warming Potential (GWP of 1) value for foam insulation products.
- Huntsman Building Solutions Classic Plus™ is PBDE-free.

## INSTALLATION

- Huntsman Building Solutions Classic Plus™ is installed by a network of Licensed Dealers, trained in its installation.
- Not intended for exterior use. Not to be installed within 3"(76 mm) of heat emitting devices or where the temperature is in excess of 180°F (maximum service temperature), as per ASTM C411 or in accordance with applicable codes.
- Installation is generally independent of environmental conditions.
- Huntsman Building Solutions Classic Plus™ has excellent adhesion to a wide variety of substrates including common construction materials.
- It can be installed in hot, humid or freezing conditions. Minimum substrate temperature for application is 14°F (-10°C).
- Surface preparation is generally not necessary.
- Within seconds, the foaming process is complete.

## OSHA CONFINED SPACE INFORMATION

An ASTM E-918 test of Huntsman Building Solutions Classic Plus™ for flammability at 140°F concluded that it is not flammable. Consult Safety Data Sheets for details.

## HANDLING AND SAFETY

For information on Health and Safety, refer to the Spray Polyurethane Foam Alliance Health and Safety guidance documents at [www.spraypolyurethane.com](http://www.spraypolyurethane.com).

## AVAILABILITY

Contact Huntsman Building Solutions at 817-640-4900 or visit our website at [www.huntsmanbuildingsolutions.com](http://www.huntsmanbuildingsolutions.com).

## WARRANTY

WHEN INSTALLED PROPERLY IN ACCORDANCE WITH INSTRUCTIONS, THE COMPANY WARRANTS THAT THE PROPERTIES OF THE PRODUCT MEET PRODUCT SPECIFICATIONS AS OUTLINED IN THIS TECHNICAL DATA SHEET. SAVE AND EXCEPT ANY EXCLUSIONS REFERENCED IN THE WARRANTY.

## TECHNICAL

Huntsman Building Solutions Licensed Dealers and Huntsman Building Solutions provide support on both technical and regulatory issues. Architectural specifications in CSI 3-Part format and design details are available at our website at [www.huntsmanbuildingsolutions.com](http://www.huntsmanbuildingsolutions.com).

## REGULATORY

- ESR-1826 has been issued by the ICC-ES for Huntsman Building Solutions Classic Plus™ and all Huntsman Building Solutions low density products. ICC-ES Evaluations are the most widely accepted by building code officials.
- For additional information on the use of Classic Plus in unvented attics without an ignition barrier or a coating refer to the Technical Evaluation Report issued by Dr.J Engineering.
- Huntsman Building Solutions Classic Plus™ has been tested as per the requirements of the International Code Council Evaluation Service's AC377 Acceptance Criteria (April 2016).
- For regulatory issues concerning Huntsman Building Solutions Classic Plus™ contact Huntsman Building Solutions at 817-640-4900.

## RELATED REFERENCES

All physical properties were determined through testing by accredited third party agencies. Huntsman Building Solutions reserves the right to change specifications in its effort of continuous improvement. Please confirm that technical data literature is current.

## PACKAGING AND STORAGE

- Packaging - 55 US gallon, steel drums
- Component 'A' - 520 lb. per drum. Base Seal® MDI
- Component 'B' - 480 lb. per drum. Huntsman Building Solutions Classic Plus™ - Resin
- Huntsman Building Solutions Classic Plus™ (Component A and Component B) ideally should be stored between 60°F (15°C) and 85°F (30°C).
- Component A should be protected from freezing.
- Shelf life is 12 months.