

Carlisle EPS Flute Fill



Overview

Carlisle SynTec Systems' flute fill is a custom-made, engineered insulation consisting of a superior closed-cell, lightweight expanded polystyrene (EPS). Carlisle flute fill is manufactured to meet or exceed the requirements of ASTM C578 Standard Specification for rigid, cellular polystyrene thermal insulation. Carlisle flute fill can be manufactured in a range of sizes, densities, thicknesses and profiles to meet any job-specific needs.

Features and Benefits

- » Lightweight and easy to handle and install
- » Contains up to 25% recycled material
- » 100% recyclable foam core

Product Characteristics

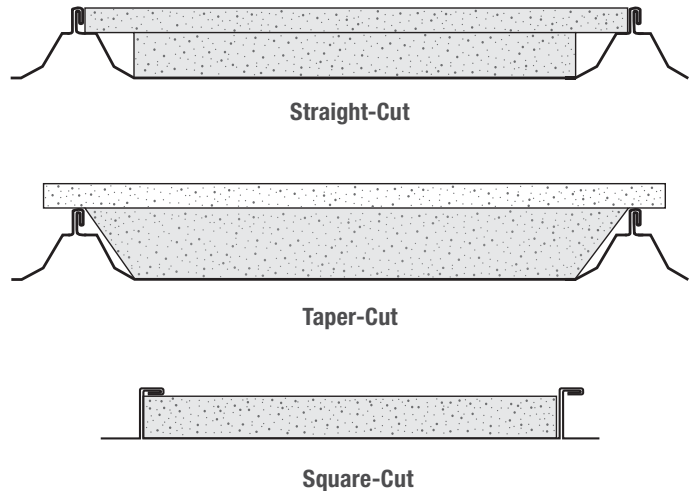
- » Standard density: 1.0# EPS
- » Compressive Strength: Minimum 10 psi
- » R-Value: 3.85R per inch

Codes and Compliances

- » Manufactured in accordance with ASTM C578
- » UL Standard 790 & 1256: Component of Class A Roof Systems (refer to UL Roof Materials' system directory)

Applications

Carlisle flute fill is specifically manufactured for use as a component in a recover roof system over existing standing seam metal roof systems. Available in taper-cut or square-cut, EPS Flute fill is installed within the flutes of a standing seam metal roof.



Installation Considerations

1. Install only as much insulation as can be covered by a roof membrane system, and/or made watertight by the end of each day.
2. EPS flute fill should not be exposed directly to solvent- or petroleum-based adhesives and sealants.
3. Utilize code approval tables below for designing with EPS flute fill.

Typical Properties and Characteristics

Property	Type I	Test Method
Nominal Density (pcf)	1	ASTM C303
C-Value (Conductance) - per inch BTU/(hr•ft ² •°F)	0.26	ASTM C518
R-Value (Thermal Resistance) - per inch (hr•ft ² •°F)/BTU	3.85	ASTM C518
Compressive Strength (psi, 10% deformation)	10–14	ASTM D1621
Flexural Strength (min. psi)	25	ASTM C203
Dimensional Stability (maximum %)	2.0	ASTM D2126
Water Vapor Permeance (max. perm., 1 inch)	5.0	ASTM E96
Water Absorption (max. % vol.)	4.0	ASTM C272
Capillarity	None	–
Flame Spread	< 20	ASTM E84
Smoke Developed	150–300	ASTM E84

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

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Code Approval Tables

Mechanically-Fastened Membranes

TPO Metal Retrofit with EPS Flute-Fill				
	System 1	System 2	System 3	System 4
Deck	Metal Roof	Metal Roof	Metal Roof	Metal Roof
Flute-Fill	Type I EPS (1 lb)	Type I EPS (1 lb)	Type I EPS (1 lb)	Type I EPS (1 lb)
Cover Board	min. 1" SecurShield™/ InsulBase	½" SecurShield HD	min. ¼" gypsum	min. ¼" gypsum
TPO	45 mil, 60 mil, 80 mil	45 mil, 60 mil, 80 mil	45 mil, 60 mil	80 mil
Slope	½" max. (HS-1" max.)	½" max. (HS-1" max.)	3" max.	2.5" max.

1. HS = High Slope TPO

PVC Metal Retrofit with EPS Flute-Fill			
	System 1	System 2	System 3
Deck	Metal Roof	Metal Roof	Metal Roof
Flute-Fill	Type I EPS (1 lb)	Type I EPS (1 lb)	Type I EPS (1 lb)
Cover Board	Min. 1" SecurShield/InsulBase	½" SecurShield HD	min. ¼" gypsum
PVC	50 mil, 60 mil, 80 mil	50 mil, 60 mil, 80 mil	50 mil, 60 mil, 80 mil
Slope	1" max.	1" max.	Unlimited

EPDM Metal Retrofit with EPS Flute-Fill			
	System 1	System 2	System 3
Deck	Metal Roof	Metal Roof	Metal Roof
Flute-Fill	Type I EPS (1 lb)	Type I EPS (1 lb)	Type I EPS (1 lb)
Cover Board	Min. 1" SecurShield/InsulBase	½" SecurShield HD	min. ¼" gypsum
Reinforced	45 mil, 60 mil, 75 mil	45 mil, 60 mil, 75 mil	45 mil, 60 mil, 75 mil
Slope	½" max.	½" max.	3" max.

Adhered Membranes

TPO Metal Retrofit with EPS Flute-Fill				
	System 1	System 2	System 3	System 4
Deck	Metal Roof	Metal Roof	Metal Roof	Metal Roof
Flute-Fill	Type I EPS (1 lb)	Type I EPS (1 lb)	Type I EPS (1 lb)	Type I EPS (1 lb)
Cover Board	min. 1" SecurShield/ InsulBase	½" SecurShield HD	min. ¼" gypsum	min. ¼" gypsum
TPO	45 mil, 60 mil, 80 mil	45 mil, 60 mil, 80 mil	45 mil, 60 mil	80 mil
Slope	¼" max. (HS - ½" max.)	¼" max. (HS - ½" max.)	3" max. (HS - unlimited)	max. 2.5" (HS - unlimited)

1. HS = High Slope TPO

PVC Metal Retrofit with EPS Flute-Fill			
	System 1	System 2	System 3
Deck	Metal Roof	Metal Roof	Metal Roof
Flute-Fill	Type I EPS (1 lb)	Type I EPS (1 lb)	Type I EPS (1 lb)
Cover Board	Min. 1" SecurShield/InsulBase	½" SecurShield HD	min. ¼" gypsum
PVC	50 mil, 60 mil, 80 mil	50 mil, 60 mil, 80 mil	50 mil, 60 mil, 80 mil
Slope	1" max.	1" max.	Unlimited

EPDM Metal Retrofit with EPS Flute-Fill			
	System 1	System 2	System 3
Deck	Metal Roof	Metal Roof	Metal Roof
Flute-Fill	Type I EPS (1 lb)	Type I EPS (1 lb)	Type I EPS (1 lb)
Cover Board	Min. 1" SecurShield/InsulBase	½" SecurShield HD	min. ¼" gypsum
Non-reinforced	45 mil, 60 mil, 90 mil	45 mil, 60 mil, 90 mil	45 mil, 60 mil, 90 mil
Slope	½" max.	½" max.	Unlimited