

3M™ Scotch-Weld™ Structural Void Filling Compound

EC-3550 B/A FST • EC-3555 B/A FST

Product Description

3M™ Scotch-Weld™ Structural Void Filling Compounds EC-3550 B/A FST and EC-3555 B/A FST (Fire Smoke Toxicity) are two-part, low-density, flame-retardant epoxy compounds that can be stored, applied and cured at room temperature.

Scotch-Weld EC-3550 B/A FST and EC-3555 B/A FST are non-sag, non-brittle compounds designed for void-filling, edge-sealing/close-out, corner reinforcement, local reinforcement for mechanical fixation and complex gap-filling in honeycomb sandwich structures. The cured materials meet 14 CFR 25.853 (a) and Airbus Directive (ABD) 0031.

Scotch-Weld 3550 B/A FST and EC-3555 B/A FST Compounds are available in dual-chamber cartridges and bulk kits for use with pneumatic dispensers and bulk pumping equipment.

Features

- 100% solids.
- Base is brown with black spots; accelerator is off-white.
- Meets the flammability requirements of J.A.R./F.A.R. 25.853 (a).
- Meets Airbus stand-alone FST requirement.
- Available in duo-pack cartridges with static mixing nozzle or in bulk pumpable kits.
- Thixotropic properties for ease of application.
- Excellent sag resistance.
- Scotch-Weld EC-3550 B/A FST: Sandable & machinable within twelve hours at 75°F (23°C) of mixing or 1/2 hour at 175°F (80°C).
- Scotch-Weld EC-3555 B/A FST: Sandable & machinable within 6 hours at 75°F (23°C) of mixing or 1/2 hour at 175°F (80°C).
- Cures to a strong, low-density material within 48 hours at 75°F (24°C) or one hour at 175°F (80°C).
- Service temperature of -65°F to 212°F (-55°C to 100°C).
- Seals honeycomb panel edges and provides impact resistance to panel.
- Paintable.



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Features

3M™ Scotch-Weld™ Structural Void Filling Compounds EC-3550 B/A FST and EC-3555 B/A FST are designed for honeycomb sandwich constructions typically found in aircraft interiors such as galley structures, luggage bins, partition walls, lavatory structures, crew rest compartments, seating structures, ceiling panels, closets, stowage compartments, sidewall panels, cargo bay panels, bar units, coatrooms and passenger doors.

Typical Physical Properties

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

	Scotch-Weld EC-3550 B/A FST		Scotch-Weld EC-3555 B/A FST	
	Part B	Part A	Part B	Part A
Chemistry	epoxy	modified amine	epoxy	modified amine
Color	brown with black spots	off-white	brown with black spots	off-white
Typical Uncured Density	0.58 g/cm ³	0.61 g/cm ³	0.58 g/cm ³	0.62 g/cm ³
Typical Mixed Pot Life	120 min @ 73°F (23°C)		60 min @ 73°F (23°C)	
Typical Cured Density	0.58 g/cm ³			
Form Stability (10g mixture) – Handleability	9 h @ 73°F (23°C) or 4 h @ 110°F (43°C)		4.5 h @ 73°F (23°C) or 2 h @ 110°F (43°C)	
Full Cure (10g mixture - Optimum mechanical properties)	48 h @ 73°F (23°C) or 6 h @ 110°F (43°C)			
Curing Process	Room Temperature 73°F (23°C); max 110°F (43°C)			
Consistency	thixotropic paste			
Slump/Sag (AITM 2-0033)	less than 0.02 inch (0.5 mm)			
Mix Ratio	100:50 cc by volume; 100:52 g by weight			
Solid Content	100%			
Application Method	pumpable / cartridge dispensable / manual mix			
Volatile Loss on Cure	Less than 0.25%			
Service Temperature Range	-67°F to 212°F (-55°C to 100°C)			

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Typical Product Performance

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Compressive Strength

A block was prepared from approximately 3.5 oz (100 grams) of manually mixed low density void-filler, which was carefully introduced into a mold with inner dimensions of approximately 2" x 2" x 8" (50 x 50 x 200 mm).

Individual specimens of the dimensions of 0.5" x 0.5" x 1.0" (12.5 x 12.5 x 25.0 mm) were cut from a cured block of void-filler with an accuracy of + 0.008" (+ 0.2 mm) on each dimension.

Compression strength tests were performed using a crosshead displacement rate of 0.02 inch/min (0.5 mm/min). All specimens were loaded with force applied to the 0.5" (12.5 mm) square surface.

Cure (air circulating oven): 48 hours at 72 ± 8°F (22 ± 5°C) followed by 60 ± 10 minutes at 150 ± 5°F (66 ± 3°C) with no additional pressure.

Properties	Test Method	Test Temperature	EC-3550 B/A FST		EC-3555 B/A FST	
			MPa	PSI	MPa	PSI
Typical Compressive Strength	ASTM D-695	73 ± 4°F (23 ± 2°C)	24	3500	24	3500

Typical Product Application

Surface Preparation:

A cleaned, dry, contamination free surface is essential for maximum performance. For repeatable results the void-filler and the surfaces should have a temperature between 68-77°F (20-25°C).

Mixing:

3M™ Scotch-Weld™ Structural Void Filling Compounds EC-3550 B/A FST and EC-3555 B/A FST compounds can be mixed manually or automatically (using static mixer, minimum 18 elements, 13mm id). For repeatable performance keep mixing ratio in a range of ± 5% (100:50cc/100:52g).

Dual Cartridge application provides maximum accuracy and ease of handling. Scrap the first 2 cc and until you have a uniform color when using a new static mixer. From the start of mixing the work life refer to “Handability” on **Typical Physical Properties** table above. For ease of extrudability the product should be at the temperature of 75°F (25°C) but not greater than 110°F (43°C). Bulk pumping & mixing equipment recommendations are available upon request.

Curing Conditions:

A minimum cure time of 48 hours at room temperature or 48 hours at room temperature followed with a 1 hour at 150°F (66°C) post cure cycle to obtain the optimum mechanical properties of the product. Heat application accelerates the curing cycle.

Clean up of Void-Filler:

Uncured void-filler can be wiped with solvent e.g. Methylene-ketone (M.E.K). Cured material can be cleanly removed mechanically.

Storage Stability

Store 3M™ Scotch-Weld™ Structural Void Filling Compound EC-3550 B/A FST and 3M™ Scotch-Weld™ Structural Void Filling Compound EC-3555 B/A FST at 44°F and 77°F (7°C and 25°C). Rotate stock on “first in - first out” basis.”

Shelf Life

Standard shelf life for 3M™ Scotch-Weld™ Structural Void Filling Compound EC-3550 B/A FST and 3M™ Scotch-Weld™ Structural Void Filling Compound EC-3555 B/A FST is 12 months from date of shipment when stored between 44°F and 77°F (7°C and 25°C).

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Precautionary Information

Refer to Product Label and Material Safety Data Sheet for health and safety information before using this product. For additional health and safety information, please visit www.3M.com/msds or call 1-800-364-3577 or (651) 737-6501.

For Additional Information

In the U.S., call toll free 1-800-235-2376, or fax 1-800-435-3082 or 651-737-2171. For U.S. Military, call 1-866-556-5714. If you are outside of the U.S., please contact your nearest 3M office or one of the following branches:

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Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use

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