

3M™ Scotch-Weld™ Void Filling Compound EC-3515 B/A FR

Technical Data Sheet

Introduction

3M™ Scotch-Weld™ Void Filling Compound EC-3515 B/A FR is a two-part flame-retardant epoxy that can be stored, applied, and cured at room temperature. 3M™ Scotch-Weld™ EC-3515 B/A FR has been designed for void filling, edge sealing, and for abradable compound applications. It is available in either blue or black colour when mixed and fully cured.

Key advantages are:

- Cures to a strong, low-density material within 48 hours at 75 °F (24 °C).
- Designed to meet the flammability requirements of 14 CFR / CS 25.853 (a).
- 100 % solids.
- The compound has thixotropic properties for ease of application.
- Base is either blue or black in color, accelerator is white. Very easy to visually determine when the product is uniformly mixed.
- Provides localized stiffness for honeycomb.
- Seals and provides impact resistance to honeycomb panels edges.

Product Characteristics

NOTE: All technical data and information in this data sheet should be considered representative or typical only and should not be used for specification purposes.

	Part B	Part A
Component:	Base	Accelerator
Color:	Blue* or Black	White
Base:	Epoxy	Modified Amine
Viscosity:	Low density dough	Low density dough
Mixing Ratio (by Weight):	100	94
Mixing Ratio (by Volume):	1	1

*blue/green (Part A and B mixed) when cured at elevated temperature

Product Performance

100 grams of 3M™ Scotch-Weld™ Void Filling Compound EC-3515 Part B and 94 grams of Part A were hand (spatula) mixed for 2-3 minutes then cast into a block 2 in. x 3 in. x 6 in. / 12.5 x 12.5 x 25 mm and cured 5 hours at 52° C / 125°F.

The following typical data were obtained on specimens cut from the cured block.

Mechanical properties	Test temperature	Result	Test method
Density	75°F (24°C)	29.3 - 31.2 lbs./ft.3 (0.47 - 0.50 grams/cc)	ASTM D2240
Shore D Hardness	75°F (24°C)	Average 57	ASTM D1622
Compressive Strength	-65°F (-55°C)	5350 psi / 37 MPa	ASTM D695
	75°F (24°C)	3000 psi / 21 MPa	ASTM D695
	200°F (93°C)	450 psi / 3.1 MPa	ASTM D695
Compressive Modulus	75°F (24°C)	120 000 psi / 825 MPa	ASTM D695

Ageing properties

Compression strength was measured after exposure to different media and environments to determine the ageing resistance of 3M™ Scotch-Weld™ Void Filling Compound EC-3515 B/A FR. The curing cycle for all samples was 5 hours at 52 °C.

Mechanical properties	Exposure time	Medium and temperature	Result
Compression strength acc. ASTM D695, after ageing, measured at 23 ± 2 °C / 75 °F	500 hours	Dry heat at 200 °F/93 °C	3050 psi / 21 MPa
	500 hours	Dry heat at 250 °F/121 °C	3280 psi / 22.6 MPa
	7 days	Skydrol B4 at 75 °F / 24 °C	3300 psi / 22.7 MPa
	1 hour	Acetone at 75 °F / 24 °C	2550 psi / 17.6 MPa

Flammability

FR properties have been measured in a standalone mode. Pure material has been cured and tested in the dimensions specified.

FR or Flammability properties		Requirements	Results
Flammability - 12 seconds vertical 14 CFR / CS 25.853 (a), Appendix F, Part I (a)(1)(ii) Specimen size: 6.35 mm x 76 mm x 305 mm [0.25" x 3" x 12"]	Flame extinguishing time	≤ 15 seconds	1.75 seconds
	Burn length	≤ 203 mm (8 inch)	46 mm (1.8 inch)
	Drip flame time	≤ 5 seconds	0 seconds
Flammability - 60 seconds vertical *	Flame extinguishing time	≤ 15 seconds	0 seconds
	Burn length	≤ 152 mm (6 inch)	104 mm (4.1 inch)
	Drip flame time	≤ 3 seconds	0 seconds

* tested in accordance with 14 CFR / CS 25.853 (a), Appendix F, Part I (a)(1)(i) specimen size: 6.35 mm x 76 mm x 305 mm [0.25" x 3" x 12"]

Handling

Refer to product label and Safety Data Sheet (SDS) for health and safety information before using this product. For SDS visit our website www.3m.com/sds

Surface Preparation

A thoroughly cleaned, dry, grease-free surface is essential for maximum performance.

Mixing

3M™ Scotch-Weld™ Void Filling Compound EC-3515 B/A FR may be mixed by hand or machine until a uniform color is obtained. Do not mix any more than can be used within the work life of the material. Work life of 200g of 3M™ Scotch-Weld™ Void Filling Compound EC-3515 B/A FR is > 90min. Larger quantities and higher temperatures lead to faster reaction times. For industrial mixing applications, use a mixer that will not crush the glass microspheres contained in the compound.

Application

3M™ Scotch-Weld™ Void Filling Compound EC-3515 B/A FR compound may be applied by spatula or trowel. Apply by working the material in place to reduce internal voids and allow to set for two hours before finishing the surface. Large masses of material should be avoided until user performs suitable tests to determine the possibility of an exothermic reaction.

3M™ Scotch-Weld™ Void Filling Compound EC-3515 B/A FR will stick to rubber gloves. Cover rubber gloves with lint free cotton gloves for best handling.

Suggested temperature range for use is between 59-77°F/15-25°C.

Cleaning

When using solvents for clean-up, follow the manufacturer's precautions and directions for use for handling such materials.

Curing

The following times and temperatures will result in a full cure:

- 2 days at 23 ± 2 °C / 75 °F
- 5 hours at 52 ± 2 °C / 125 °F

Storage

Store the product at room temperature. Shelf life is minimum 6 months from date of shipment in the original unopened packaging when stored at 59-77°F/15-25°C. The specific expiry date is mentioned on the product label.

Authorization to Use

Ensure products meet all applicable specifications, standards, and maintenance manual requirements for the platform being worked on and validate all aircraft approvals against current technical documentation.

These products are manufactured under a 3M Quality Management System registered to the AS9100 standard.

Technical Information: The technical information, guidance, and other statements contained in this document or otherwise provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third-party intellectual property rights is granted or implied with this information.

Product Selection and Use: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. As a result, customer is solely responsible for evaluating the product and determining whether it is appropriate and suitable for customer's application, including conducting a workplace hazard assessment and reviewing all applicable regulations and standards (e.g., OSHA, ANSI, etc.). Failure to properly evaluate, select, and use a 3M product and appropriate safety products, or to meet all applicable safety regulations, may result in injury, sickness, death, and/or harm to property.

Warranty, Limited Remedy, and Disclaimer: Unless a different warranty is specifically stated on the applicable 3M product packaging or product literature (in which case such warranty governs), 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING OUT OF A COURSE OF DEALING, CUSTOM, OR USAGE OF TRADE. If a 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability: Except for the limited remedy stated above, and except to the extent prohibited by law, 3M will not be liable for any loss or damage arising from or related to the 3M product, whether direct, indirect, special, incidental, or consequential (including, but not limited to, lost profits or business opportunity), regardless of the legal or equitable theory asserted, including, but not limited to, warranty, contract, negligence, or strict liability.



Automotive and Aerospace Solutions Division
www.3m.com/aerospace

Issue date: 08/2023
3M and Scotch-Weld are
trademarks of 3M Company.
© 3M 2023. All rights reserved.