

## 3M™ Scotch-Weld™ 3524 B/A FST

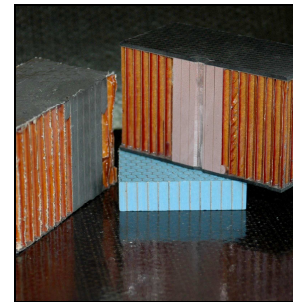
### Two Part Void Filling Compound

#### Product Description

3M™ Scotch-Weld™ void filling compound 3524 B/A FST (Fire, Smoke & Toxicity) is a two part, room temperature curing epoxy, low density void filler. It is designed for use on honeycomb sandwich structures for edge close-out and corner reinforcement, as well as local reinforcement for mechanical fixation or complex gap filling. The void filler is compatible with both metallic and non metallic constructions typically found in aircraft interiors. The cured material has excellent stand alone FST properties.

#### Key Features

- Low density material
- Fulfils stand alone FAR / JAR 25.853 and ABD0031
- 100 % solids
- Room temperature processing
- Service temperature of -55 °C to 80 °C



#### Product Characterization

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

General properties	Base (B)	Hardener (A)
Colour	Black	Off-white
Base	Modified epoxy	Modified amine
Specific gravity (approx.)	0.6	0.5
Mixing ratio (weight)	100	100
Pot life at 23 ± 1 °C	> 90 minutes	
Cured specific gravity	0.55 ± 0.03 g/cm <sup>3</sup>	

#### Product Performance

The following product performance data were obtained under the specified conditions. General application methods and curing procedures are described later.

##### Gel time

100 g of (B) and 100 g of (A) are mixed by hand, taking care to include a minimum of air, until complete mixing and stored as a sphere. Time before hardening of the centre of the sphere is measured.

At 23 ± 2 °C typical gel time is 90 minutes.

Slump during cure is < 1 mm.

## Compressive strength and shear strength

**Compressive strength:** 12.5 x 12.5 x 25 mm<sup>3</sup> samples were cut from a test block of Scotch-Weld™ 3524 FST B/A, cured for 48 h at 23 ± 2 °C. Compression was calculated with the force applied to the 12.5 mm square surface at a rate of 0.5 mm/minute.

**Shear strength test method (ejection strength):** a 40 mm length of 10 mm diameter optimized FPL etched aluminium rod is bonded into a (30 x 30x 10) mm cylindrical block of void filler such that 20 mm and 10 mm of the rod protrude on respective sides. After curing for 48 hours at 23 +/-2°C, the force necessary to push out the rod is measured for a load rate of 0.5 mm/minute.

Mechanical Properties	Test temperature	Typical value
<b>Compressive strength</b>	- 55 ± 2 °C	38.0 MPa
ISO 604	+ 23 ± 2 °C	23.0 MPa
12.5 x 12.5 x 25 mm <sup>3</sup> specimens	+ 80 ± 2 °C	5.8 MPa
<b>Shear strength</b>	+ 23 ± 2 °C	2000 N

## Flammability, Smoke Density and Toxic Gas Emission

When tested in accordance with the test procedures described in the Airbus Directives ABD 0031, the following results (typical averages) were obtained on specimens cured for 48 h at 23 ± 2 °C:

Test properties	SW 3524 FST B/A		
Flammability	vertical mode	After flame time (sec)	Less than 5
Flammability	vertical mode	After flame time of drips (sec)	0 (no drip)
Flammability	vertical mode	After burn length (mm)	60 – 70
Optical Smoke Density	after 4 minutes – flaming mode		150 – 200
Toxic gas emission	Gas components concentration (ppm)	HCN	10
Toxic gas emission	Gas components concentration (ppm)	CO, CO <sub>2</sub>	450
Toxic gas emission	Gas components concentration (ppm)	NO, NO <sub>2</sub>	25
Toxic gas emission	Gas components concentration (ppm)	SO <sub>2</sub> , H <sub>2</sub> S	0
Toxic gas emission	Gas components concentration (ppm)	HF	-
Toxic gas emission	Gas components concentration (ppm)	HCl+ (HBr+ HF)	6

## Handling, Application, Storage

### Precautionary Information

For industrial use only. Avoid eye and skin contact. Handle in ventilated areas. Remove contaminated clothes and laundry before reuse. Refer to the Material Safety Data Sheet for further information ([www.3M.com/msds](http://www.3M.com/msds)).

### Instructions for use

Process step	Instruction
Surface preparation	A thoroughly cleaned, dry, grease-free surface is essential for maximum performance.
Application	Scotch-Weld™ 3524 FST B/A may be applied by spatula, trowel or hand (use cotton gloves). Apply by working the material in place to reduce internal voids (voids can affect self extinguishing characteristics).
Mixing	Scotch-Weld™ 3524 FST B/A may be mixed by hand or machine until a uniform light grey colour is obtained. Do not mix more material than can be used within the pot life of material.
Storage	When stored in unopened containers at room temperature, the properties of the cured filler will be maintained for a period of 9 months. Rotate stock on first-in-first-out basis.

## Further Information

For additional information on this product contact your local 3M Aerospace Sales Representative or visit our homepage at [www.3m.com/aerospace](http://www.3m.com/aerospace).

**Important notice:** All statements, technical information and recommendations in this data sheet are based on tests 3M believes to be reliable, but the accuracy or completeness of those tests is not guaranteed. All technical data and information should be considered typical or representative only and should not be used for specification purposes. Given the variety of factors that affect the use and performance of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product before use to determine the suitability of the 3M product for the intended use and method of application. All questions of liability relating to the 3M product are governed by the terms of the sale subject to, where applicable, the prevailing law.



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