

3M

Introductory Datasheet

Scotch-Weld™ 3524 B/A Black

Introduction	Scotch-Weld™ 3524 B/A Black is a 2 part, room temperature curing , low density void filling compound. It offers the following advantages :	• Low density • 100 % solids • Thixotropic for ease of application • Service temperature of 55°C to + 80°C	• Cured material is flame retardant according to FAR 25.853 (a) (b) requirements • Excellent water and chemical resistance		
Description	(This is not a specification)	<u>Base compound</u>	<u>Accelerator compound</u>		
	Colour :	Black	Off-white		
	Base :	Epoxy	Modified amine		
	Mix ratio by weight :	100	94		
	Consistency :	Thixotropic paste	Thixotropic paste		
	Worklife :	90-120 minutes at 15-25°C (200 grams of mixed product)			
	Flow (Boeing jig) :	Less than 0.5 mm			
	Viscosity (mixed product) :	200-300 at 23°C by penetrometer (150g Brass cone after 5s.)			
	Volatiles loss on cure :	Less than 1 % after 48 hours cure at 15-25°C			
Applications	• Designed for honeycomb sandwich constructions typically found in interiors aircraft structures.	• Honeycomb joining and bonding (interior furnishing, ceiling panels) • Edge panels sealing	• Inserts bonding • Abradable layers for jet engines • Aerodynamic “smoother”		
Product performance	Cured density : The cured density of Scotch-Weld™ 3524 B/A Black was measured on (12.5 x 12.5 x 25) mm specimens cut from a cured (5 hours at 50 ± 2°C) test block. Density : approximately 0.45 g/ml Compressive strength : (12.5 x 12.5 x 25) mm samples were cut from a cured (48 hours at 23 +/- 2°C) test block of Scotch-Weld™ 3524 B/A lack Compression was run with the force applied to the 12.5 mm square surface at a rate of 0.5 mm/minute. <table><tr><td>Test temperatures</td><td>Typical compressive strength (average of 10 lots)</td></tr></table>			Test temperatures	Typical compressive strength (average of 10 lots)
Test temperatures	Typical compressive strength (average of 10 lots)				

+ 23 ± 2°C	17.1 Mpa
+ 100 ± 2 °C	2.5 MPa

Filler strength (Ejection test) :

A 40 mm length of 10 mm diameter optimized FPL etched aluminium rod is bonded into a (30 x 30 x 10) mm block of void filler such that 20 mm and 10 mm of the rod protudes on either side. 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.

Test temperatures	Typical Filler Strength (average of 10 lots)
+ 23 ± 2°C	6,0 MPa

Flammability :

1- Horizontal mode :

Horizontal samples of (125 x 12.5 x 6.4) mm were cut from a cured test block of Scotch-Weld™ 3524 B/A Black. Each sample is then clamped in a horizontal position with the 12.5 mm direction making a 45° angle with the vertical. A Bunsen burner is placed with the flame tip at one end of the specimen for 60 seconds. The flame on the sample extinguishes within 5 seconds upon removal of the Bunsen burner. Typical self-extinguishing time is 3 seconds.

2- Vertical mode :

Vertical samples of (12.5 x 12.5 x 12.5) mm were cut from a cured test block of Scotch-Weld™ 3524 B/A Black. Each sample is then clamped in a vertical position at the top. A Bunsen burner is placed with the flame tip at the bottom end of the sample. The flame was applied for 60 seconds. Upon removal of the Bunsen burner the flame on the specimen extinguishes within 5 seconds. Typical self-extinguishing time is 2 seconds.

3- Vertical mode to FAR 25.853 (a) (b) :

SW 3524 B/A Black meets the requirements of the FAR 25.853 (a) (b) for self-extinguishing time.

**Product
application**

Surface preparation :

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

Mixing :

Scotch-Weld 3524 B/A Black may be mixed by hand or machine until an uniform light blue colour is obtained. A 200 g mix has a worklife of approximately 2 hours - larger mix quantities will give a shorter worklife.

Adhesive application :

Scotch-Weld 3524 B/A Black can be applied by spatula or trowel. The most appropriate work temperature is comprised between 20 and 25°C.

Recommended cure cycle :

A minimum room temperature cure time of 48 hours at 15-25°C is recommended to obtain the optimum mechanical properties of the product. Scotch-Weld™ 3524 B/A Black can be worked out after 6 hours at room temperature. The test results reported in the product performance section were obtained by using a 48 hours cure at 15-25°C unless otherwise stated.

The application of heat can also be used to accelerate the cure cycle (e.g. 5 hours at 50-55°C or 30 minutes at 120-125°C).

Cleanup :

Excess adhesive and equipment can be cleaned with a solvent like Methyl-Ethyl-Ketone (M.E.K.).¹⁾

1) When using solvents, extinguish all ignition sources in the area and observe precautionary measures.

Storage stability	Store the product at room temperature or below. Storage life at 15-25°C is 6 months for the two components in their original unopened containers. Rotate stock on a "first in - first out" basis.
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Precautionary Information	See Material Safety Data Sheet for precautionary information.
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Important notice to purchaser	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. The following is made in lieu of all warranties, express or implied.	The seller's and manufacturer's only obligation will be to replace the quantity of the product proved to be defective. Neither the seller nor 3M will be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the	inability to use the product. Before using, the user must determine the suitability of the product for his or her intended use. The user assumes all risk and liability in connection with the use of the product.
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Product Information source	3M Engineered Adhesives Division. European Technical Center, Aerospace Materials, France Phone +33 - 1 30 40 26 51
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