Scotch-Weld™

Super Fast Instant Adhesives

SF20 • SF100

Technical Data **January, 2015**

Product Description

3M™ Scotch-Weld™ Super Fast Instant Adhesives rely less on surface moisture for cure speed than standard cyanoacrylates. They are designed to join together difficult-to-bond plastics and rubbers, acidic and/or contaminated surfaces such as woods, leathers, cardboard, and oily surfaces. These cyanoacrylates can be used for a super fast cure in high speed production applications.

Specific Features

- 3M™ Scotch-Weld™ Super Fast Instant Adhesive SF20 is a wicking grade instant adhesive that is generally recommended for use on close-fitting parts and fairly smooth, even surfaces.
- 3M™ Scotch-Weld™ Super Fast Instant Adhesive SF100 is a low viscosity super fast cyanoacrylate.

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Typical Uncured Physical Properties

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

	3M™ Scotch-Weld™ Super Fast Instant Adhesives	
	SF20	**SF100**
Color	Clear	Clear
Base	Ethyl	Ethyl Hybrid
Appearance	Liquid	Liquid
Specific Gravity (g/ml)	1.06	1.06
Viscosity (cps)[1]	12 - 22	71 - 95
Time to Handling Strength (sec)*	4 -5	3 - 5
Full Cure Time (hr)	24	24

[1] Cone-Plate viscosity, CP75 @ 3000/s shear rate; * On EPDM. Time to handling is substrate dependent

Typical Cured Properties

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	3M™ Scotch-Weld™ Super Fast Instant Adhesives	
	SF20	**SF100**
Temperature Range (°F)	-65 to 180	-65 to 180
Gap Fill (in)	0.004	0.00
	Overlap Shear Strength (psi) [1]	
Steel [2]	1414	2109
Stainless Steel [2]	2415	2266
Aluminum [2]	1795	1689
ABS	745 [3]	914 [3]
Polycarbonate	997 [3]	755 [3]
PVC	1399 [3]	1096 [3]
Nylon	290	321
Polypropylene [4]	711 [3]	728 [3]
Silicone Elastomer [5]	85 [3]	105 [3]

[1] ASTM D-1002 [2] Grit blasted [3] Substrate failure [4] Primed with AC77 [5] Primed with AC79

	Percent of Initial Strength	
Temp (F)	**SF20**	**SF100**
72	100	100
167	92	75
212	72	59
257	22	18

Handling Information

Surface Preparation

For optimum strength structural bonds, paint, oxide films, oils, dust, mold release agents, and all other surface contaminants must be completely removed. However, the amount of surface preparation depends on the required bond strength and the environmental aging resistance desired by the user. Typical quick surface preparation would include wiping with a clean solvent (such as isopropyl alcohol*****), abrading the surface with a clean fine abrasive, and then wiping again with a clean solvent to remove loose particles.

Directions for Use

1. Ensure that parts are clean, dry, and free from oil and grease.
2. An instant adhesive activator may be required if there are bonding gaps or porous substrate surfaces, if substrates are low surface energy plastics (e.g., polyethylene, polypropylene) or if substrates have acidic surfaces (e.g., paper, leather).
3. Bond speed is typically very fast so ensure that parts are properly aligned before dispensing.
4. Product is normally hand applied from the bottle. Apply sparingly to one surface and press parts firmly together until handling strength is achieved. As a general rule, as little cyanoacrylate as possible should be used. Over application will result in slower cure speed and lower bond strength.

Cured Bond Characteristics

1. Full bond strength will typically be achieved within a 24 hour cure time.
2. Low humidity or low temperature conditions will slow down the cure rate.
3. After curing, 3M™ Scotch-Weld™ Super Fast Instant Adhesive bonds are suitable for use up to about 180°F (82°C).
4. Cyanoacrylate bond resistance to most oils and solvents is excellent. Long term humidity, moisture, or water immersion may affect the strength of a cured cyanoacrylate bond depending on the substrates and the bond gap. Testing is recommended to evaluate the effect.

***Note:** When using solvents, extinguish all ignition sources, including pilot lights, and follow the manufacturer's precautions and directions for use.

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Storage

For short term storage (<30 days), keep adhesive in a cool (60°F to 80°F [16°C to 27°C]), dry place out of direct sunlight. Keep containers tightly covered and free of moisture. Refrigeration (40°F [4°C]) gives optimum long term storage stability.

Shelf Life

3M™ Scotch-Weld™ Super Fast Instant Adhesives can be expected to have a shelf life of 12 months from the date of shipment from 3M when stored under refrigerated conditions.

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, call 1-800-364-3577 or (651) 737-6501.

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

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. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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ISO 9001:2000

This product was manufactured under a quality system registered to ISO 9001:2000 standards.

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