Scotch-Weld™

Medical Grade Light Cure Adhesives

MG90-77 UV • MG6500-74 UV/VIS • MG250-55 UV

Technical Data **September, 2011**

Product Description

3M™ Scotch-Weld™ Medical Grade Light Cure Adhesives are single component adhesives that cure to give clear bonds when exposed to appropriate ultraviolet or visible light. They contain a fluorescing component that allows for automated verification of adhesive dispensing.

3M™ Scotch-Weld™ Medical Grade Light Cure Adhesives have been tested and met the specifications of USP Class VI. These products are not intended for use in implantable devices.

Specific Features

3M™ Scotch-Weld™ Medical Grade Light Cure Adheisve MG90-77 UV

Scotch-Weld MG90-77 UV has been formulated to give very high strength bonds between thermoplastics and metals. It is especially suited for bonding stainless steel needles into plastic hubs.

3M™ Scotch-Weld™ Medical Grade Light Cure Adheisve MG6500-74 UV/VIS

Scotch-Weld MG6500-74 UV/VIS is a high viscosity adhesive that is formulated for rapid bonding. It is well suited for bonding glass to glass and glass to metal. Scotch-Weld MG6500 can be cured using visible light but ultraviolet lamps will produce a more controlled, repeatable cure.

3M™ Scotch-Weld™ Medical Grade Light Cure Adheisve MG250-55-UV

Scotch-Weld MG250-55 UV has been formulated to produce very high strength bonds between rigid PVC and polycarbonate. The flexible nature of the bond increases the load bearing and shock absorbing characteristics of the joint.

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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™ Medical Grade Light Cure Adhesives		
	MG90-77 UV	**MG6500-74 UV/VIS**	**MG250-55 UV**
Appearance	Clear	Clear	Clear
Base	Urethane Acrylate	Urethane Acrylate	Urethane Acrylate
Specific Gravity	1.04	1.09	1.07
Viscosity (cP)	90	6500	250

Typical Cured Properties

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	3M™ Scotch-Weld™ Medical Grade Light Cure Adhesives		
	MG90-77 UV	**MG6500-74 UV/VIS**	**MG250-55 UV**
Temperature Range (°F)	-60 to 250	-60 to 270	-60 to 250
Fixture Time (sec)[1]	<10	<3	<5
Depth of Cure (mm)[2]	2	3	2
Hardness (Shore D)	77	74	55
Refractive Index	1.477	1.467	1.475
Overlap Shear Srength (PC/PC, psi)[3]			

[1] Glass slide exposed to 10 mW/cm^2 @365 nm

[2] Cured for 30 seconds at 10 mW/cm^2 @365 nm

[3] ASTM D3163

Handling Information

For optimum strength structural bonds, paint, oxide films, oils, dust, mold release, 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 wiping again with a clean solvent to remove loose particles.

Direction for Use

Ensure parts are clean, dry, and free from oil and grease. Apply adhesive to one surface, bring parts together and expose to UV light. If desired, excess adhesive should be wiped off before curing with alcohol.

Curing Mechanism

The rate of cure, depth of cure, and surface tack of the cured adhesive will depend on the intensity of the light, exposure time, spectral output of the light source, and light transmittance of the substrates to be bonded.

Cured Bond Characteristics

Continuous temperature exposure for each adhesive is noted in the Typical Cured Properties table. Intermittent temperature exposure up to 300°F (150°C) can be tolerated. Bond strength at high temperatures will be significantly reduced.

- Chemical/solvent resistance
- Heat aging

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

USP Class VI Testing

Representative samples of each of the 3M™ Scotch-Weld™ Medical Grade Light Cure Adhesives have been tested in accordance with the United States pharmacopeia General Chapter <88>, biological Reactivity Tests, In Vivo (2008). The test articles met the requirements for USP Class VI Plastics at 50°C. Test articles were cured prior to testing.

Scotch-Weld Medical Grade Light Cure Adhesives are not intended for use in implantable medical devices or for direct application to the skin.

Storage

Keep adhesives in a cool, dry location away from direct sunlight.

Shelf Life

3M™ Scotch-Weld™ Medical Grade Light Cure Adhesives can be expected to have a shelf life of at least one year from the date of shipment from 3M when stored at room temperature or below in unopened original containers.

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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, 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 9001:2008

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001:2008 standards.

3M

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