Scotch-Weld™ Polyurethane High Performance Adhesive Sealant 560

Product Data Sheet

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Product Description

3M™ Scotch-Weld™ Polyurethane Adhesive Sealant 560 is a one component, moisture curing product which forms permanent elastic bonds. It bonds to a wide variety of materials including plastics, FRP, SMC, aluminum, steel, coated metal and wood.

Key Features

Features	Advantages
One component/moisture curing	• No Mixing • Simplifies production
Bonds dissimilar materials	• Gives design flexibility
Adheres to a wide variety of materials	• Multiple uses and design flexibility
Permanently elastic	• Provides long lasting bonds
Fast curing	• Speeds production
Paint-able	• Improves appearance
High tensile strength	• Gives high strength bonds • Replace rivets and mechanical fasteners

Technical Data

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

Properties	Scotch-Weld™ Polyurethane High Performance Adhesive Sealant 560
Tack-Free Time @ 23º C and 50% Relative Humidity	50 minutes
Rate of Cure @ 23º C and 50% Relative Humidity	4 mm per 24 hours
Conventional solids content (EN827)	>93%
Shore A Hardness (ISO 868-3 seconds)	Ca 55
Density at 20º C	Black: 1,16 ± 0,05 Others: 1,18 ± 0,05
Elongation at Break (ISO 8339)	>300%
100% Modulus (ISO 8339)	1 MPa (145 psi)
Sagging (ISO 7390)	None
Service Temperature	-40ºC to + 90ºC
Colours	White, Black and Grey

Application temperature	5ºC to + 35ºC
Resistance to dilute acids and bases	average
Water and salt spray resistance	Excellent
Consistency	Medium paste
UV resistance	Good

Performance Data

Note: The following data represents a 30-day at 22º C, ambient humidity and a 0,43 mm bond thickness. All substrate were abraded and solvent wiped prior to making bonds. Actual values will vary, as the final bond strengths are dependent upon many variables such as substrate type, substrate uniformity and environmental conditions

Overlap Shear Data:

Substrate	Scotch-Weld™ Polyurethane High Performance Sealant 560 **in MPa (psi)**	**Failure Mode**
Fir	2,56 (371)	Cohesive
Stainless Steel	1,61 (223)	Cohesive
Aluminium	2,44 (354)	Cohesive
Cold Rolled Steel	1,94 (281)	Cohesive
Nylon 66	1,68 (243)	Adhesive
ABS	1,08 (156)	Adhesive
Acrylic	0,34 (49)	Adhesive
Polycarbonate	1,31(190)	Cohesive
FRP	3,03 (440)	Cohesive
Polypropylene	0,17 (25)	Adhesive
Polyethylene	0,17 (25)	Adhesive
PVC	0,79 (114)	Adhesive
EPDM	0,05 (7)	Adhesive

UV Properties

The product has good resistance to UV aging and will retain strength and flexibility over long-term exposure to UV light. The white product may show some yellowing with long-term exposure to UV light.

Heat Resistance:

Long term exposure to temperatures greater than 80º C will decrease tensile strength over time. For this reason these products should not be used in applications were the temperatures will continuously exceed 80º C.

Direction for use

Surface Preparation:

Surfaces to be sealed or bonded should be clean and dry. Surfaces should be free from grease, mould release, oil, water/condensation and other contaminates that may affect the adhesion of the sealant. Abrading with 180 to 220 grit abrasive followed by a solvent wipe will improve the bond strength. Suitable solvents include 3M™ Citrus Based Adhesive Remover, 3M™ Scotch-Weld™ Solvent No. 2 or methyl ethyl ketone (MEK).*

***When using solvents, use in a well ventilated area. Extinguish all sources of ignition in the work area and observe product directions for use and precautionary measures. Refer to product label and MSDS for further precautions. Always pre-test solvent to ensure it is compatible with substrates.**

Local and federal air quality regulations may regulate or prohibit the use of this product or surface preparation and cleanup materials. Consult local and federal air quality regulations before using these products.

Note: Alcohol will interfere with the curing process and extra care must be taken when using alcohol as a cleaning solvent to prevent any contact with the sealant.

Use of a primer is an extra step and cost and will depend on substrates and the final end use. Using primer can improve the corrosion resistance of certain metals as well as improve the durability of the bond when exposed to high humidity conditions. For most applications high strength bonds on metal can be achieved without the use of a primer. Pre-testing for adhesion is suggested to determine if a primer is needed. The 3M™ Scotch-Weld™ Structural Adhesive Primer EC-1945 B/A works well for most metals.

Application:

Puncture seal in nozzle and knock out the thin seal at cartridge bottom before placing in caulking gun. (For flex packs cut off the small crimp at the end and then place in caulking gun barrel with the open end up). Assemble tip and retaining ring on gun, cut tip to desired size. Product should be used within 24 hours after seal is punctured and should be pressed firmly into the joint to ensure adequate contact of the sealant with the substrate. Apply product when temperatures are between 5º C and 35º C. Do not apply on frozen surfaces or wet surfaces. Do not apply over silicones or in the presence of curing silicones. Avoid contact with alcohol and solvents during curing. Sealant can be tooled immediately after applying to give desired appearance.

Cleanup:

While sealant is still soft cleaning can be done with the same solvents used for surface preparation. If sealant is already cured, removal is done mechanically with razor knife, piano wire, sanding or 3M™ Scotch-Brite™ Moulding Adhesive and Stripe Removal Disc. This disc is available from 3M Automotive Aftermarket Division.

Application Equipment Suggestions	**Cartridge and Flex Pack:** For ease of dispensing an all metal, rod driven, friction feed manual applicator gun or an air operated applicator gun is suggested. Please contact your 3M sales representative for these items. **Bulk Dispensing:** For bulk dispensing a 46:1 ratio dual action piston pump with a ram is suggested. Actual equipment is dependent on the fluid flow desired, the number of guns to be supplied for each pump and distance product has to be pumped. It is best to consult with the equipment supplier to make sure the proper type and size of equipment is specified. Common suppliers of this type of pumping systems are Graco and Binks. It is best to work with a distributor for Graco or Binks located in your area. Our technical service group will be glad to work with you and your chosen supplier to ensure the proper equipment is selected.
Storage	Scotch-Weld™ Polyurethane High Performance Sealant 540 must be stored in the original, un-opened containers below 32º C for maximum shelf life. Rotate stock on a “first in-first out” basis.
Shelf Life	When stored at the recommended conditions in original un-opened containers, Scotch-Weld™ Polyurethane High Performance Sealant 560 has a shelf life of 12 months after date of manufacture.
Precautionary Information	Refer to product label and Material Safety Data Sheet for health and safety information before using the product. For information please contact your local 3M Office. www.3M.se
For Additional Information	To request additional product information or to arrange for sales assistance, call: 08-92 22 50 Address correspondence to: 3M Svenska AB, Industri, 191 89 Sollentuna
Important Notice	All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M’s control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user’s knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user’s method or application. All questions of liability relating to this product are governed by the terms of the sale subject, where applicable, to the prevailing law

Values presented have been determined by standard test methods and are average values not to be used for specification purposes. Our recommendations on the use of our products are based on tests believed to be reliable but we would ask that you conduct your own tests to determine their suitability for your applications.
This is because 3M cannot accept any responsibility or liability direct or consequential for loss or damage caused as a result of our recommendations

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