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Product Description Sheet

Speedbonder® Product 3101

formerly Hysol® H3101

Industrial Products, May 2002

Description

Loctite® Speedbonder® H3101 is a highly thixotropic, two component, room temperature curing, 1:1 mix ratio, methacrylate adhesive system. H3101 is formulated to provide fixturing strength within 20 - 25 minutes. This adhesive forms resilient bonds and maintains its strength over a wide range of temperatures. H3101 is suitable for bonding a variety of substrates with a minimum of surface preparation. Primer 2000, a wipe-on metal adhesion promoter, is suggested when bonding metals for harsh environments.

Recommended Substrates: PVC, polycarbonate, acrylic, ABS, FRP, aluminum, and stainless steel

Features

- Non-sagging gaps filled to .375 inch
- Superior impact and peel strength
- Little or no surface preparation
- Offers excellent tolerance to off-ratio mixing
- Rapid room temperature cure
- 100% reactive
- Excellent environmental resistance

Typical Uncured Properties	Part A	Part B	Mixed
Open Time @ 70°F, mins	---	---	12 to 18
Fixture Time @ 70°F, mins	---	---	20 to 25
Color	Cream	Pale Yellow	Cream
Viscosity, cP	80,000 to 110,000	45,000 to 70,000	---
Specific Gravity	1.04	1.08	1.06
Weight per Gallon, Lbs	8.67	8.00	8.84
Mix Ratio			
By weight	1	1	---
By volume	1	1	---

Shear Strength, psi, ASTM D1002	Typical Value
Aluminum	1610
Anodized Aluminum	2550
Steel	2510
Stainless Steel	1440
Zinc Dichromate	930
Polycarbonate	1000
Fiberglas	>1810
Gelcoat	>1570

Block Shear, ASTM D4501, psi	Typical Value
PVC	2080
ABS	1420

Side Impact Strength, kJ/m ² , GM9751P test	Typical value
Aluminum	35 to 40

T-peel, pli, etched aluminum, ASTM D1876	Typical Value
Steel	35
Aluminum	15
Etched Aluminum	25 to 35

Performance

Tensile Lap Shear Strength

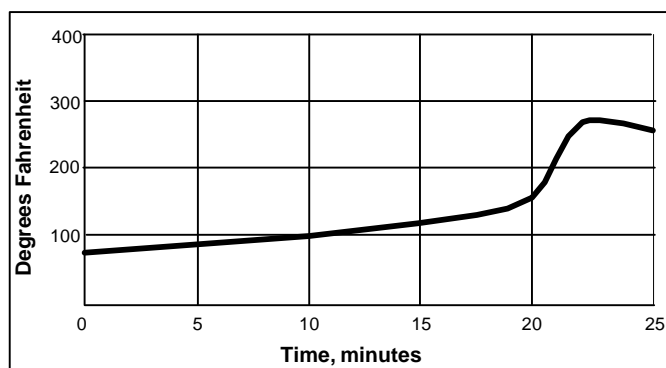
Tensile lap shear strength was tested per ASTM D1002 and D3163 on fully cured specimens. Aluminum is "as received" unless where noted.

Lap Shear Strength vs Temperature			
	Etched Aluminum	Aluminum with Primer 2000	FRP
-40°F	3900	3900	820
-20°F	4200	4000	820
75°F	4300	3800	800
180°F	2900	2900	1100
250°F	1300	1100	430

Shear Strength after Environmental Exposure, psi, ASTM D 1002			
	FRP	Aluminum with Primer 2000	Carbon Steel
Control	800	3800	3800
Water	830	3400	4300
Salt Water	780	1000	4000
Unleaded Gasoline	1100	4300	4300
Diesel Fuel	800	4000	4200
Motor Oil	780	4200	4400

Shear Strength after Environmental Exposure, psi, Steel, ASTM D 1002		
	2 Weeks	4 Weeks
120°F/100% RH	2730	2080

Peak Exotherm Curve -20 Gram Mass



GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

For safe handling information on this product, consult the Material Safety Data Sheet, (MSDS).

NOT FOR PRODUCT SPECIFICATIONS
THE TECHNICAL DATA CONTAINED HEREIN ARE INTENDED AS REFERENCE ONLY.
PLEASE CONTACT LOCTITE CORPORATION QUALITY DEPARTMENT FOR ASSISTANCE AND RECOMMENDATIONS ON SPECIFICATIONS FOR THIS PRODUCT.
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Handling and Application

Mixing: It is highly recommended that either meter mix equipment or cartridges with static mix nozzles be used to properly ratio and dispense the adhesive. For hand mixing, combine Part A and Part B in the correct ratio and mix thoroughly. Once mixed, H3101 should achieve a uniform color. This is important! Heat buildup during and after mixing is normal. To reduce the likelihood of exothermic reaction or excessive heat buildup, mix less than 100 grams at a time. Mixing smaller amounts will minimize heat buildup.

Applying: Bonding surfaces should be clean, dry, and free of contamination. Extensive surface preparation is not required for H3101, and good bonds can be formed on most substrates after a solvent wipe. To assure maximum bond strength, surfaces must be mated within the adhesive's open time. Use enough material to completely fill the joint when parts are clamped.

Curing: Parts should remain undisturbed during the interval between the adhesive's open time and fixture time. After the fixture time is achieved the material has reached handling strength. Cure temperatures below room temperature (70°F - 75°F) will slow the fixturing time. Temperatures above room temperature will shorten the open time and the fixturing time.

Clean Up: It is important to clean up excess adhesive from the work area and application equipment before it cures. Denatured alcohol and many common industrial solvents are suitable for removing uncured adhesive. Speedbonder H3101 is flammable. Keep containers tightly closed after use. Keep away from heat, sparks, and open flames.

Storage

Speedbonder adhesives should be stored in unopened containers in a dry location at 40°F +/- 5 F. For further specific shelf life information, contact your local Technical Service Center.

Packaging

50ml EPS cartridges
400ml EPS cartridges
5 Gallon Pails
55 Gallon Drums

Note

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Loctite Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Loctite Corporation's products. Loctite Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Loctite Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.