Product Datasheet

SP1601-0018
SP1601-0044
SP1601-0052

DESCRIPTION

SP1601-0018, SP1601-044, and SP0052 are different viscosity versions of the same one component epoxy adhesive system and are sold in frozen ready-to-use syringes. The 3 different versions have different viscosities and flow properties, but when cured have essentially identical properties. These adhesives are excellent for bonding rigid materials such as metals, stone, porcelain, glass, and ceramics and also have good adhesion to many plastics, composites, and other materials. The adhesive cures at room temperature or can be more rapidly cured with heat. The cured polymer has a low coefficient of thermal expansion, high thermal conductivity, and good chemical and environmental resistance, and is electrically insulating.

HANDLING PROPERTIES	VALUE	TEST METHOD
SP1601-0018		
Visual Appearance	White Paste	
Viscosity at 2 rpm shear rate	9,800 cps	
Viscosity at 20 rpm shear rate	5,400 cps	
Thixotropic Index	1.8	
SP1601-0044		
Visual Appearance	White Paste	
Viscosity at 2 rpm shear rate	180,000 cps	
Viscosity at 20 rpm shear rate	44,600 cps	
Thixotropic Index	4.1	
SP1601-0052		
Visual Appearance	White Paste	
Viscosity at 2 rpm shear rate	55,000 cps	
Viscosity at 20 rpm shear rate	16,000 cps	
Thixotropic Index	3.2	
Properties Common to all 3 versions:		
Specific Gravity	2.2	
Flash Point	>100°C	ASTM D-92
Shelf-life	At least 6 months from date of shipment when stored at -40ºC or colder.	
Gel time @ 25ºC (100 grams)	90 minutes	

Product Datasheet

Cure Schedules: At 25ºC(77ºF) the minimum cure time is 24 – 48 hours, but full properties may take up to 2 – 3 days to fully develop. Alternately the adhesives may be heat cured for 3-4 hours at 65ºC **or** 2 hours at 80ºC **or** 30 - 60 minute at 93ºC (200ºF).

*Note: many other cure schedules are possible, please contact us for alternate cure schedule suggestions

PHYSICAL PROPERTIES: Tested at 25°C unless otherwise noted – cured 60 minutes @ 93°C)

	VALUE	TEST METHOD
Color	White	Visual
Shore D Hardness	82D	ASTM D-2240
Tensile Lap Shear Strength (Al to Al):		ASTM D-2240
@ 25ºC	1400 psi	
Tensile Strength	7,500 psi	ASTM D-638
Tensile Elongation at break	2.0%	ASTM D-638
Flexural Strength	12,000 psi	ASTM D-638
Compressive Strength	14,500 psi	ASTM D-695
Glass Transition Temperature	65ºC	ASTM E-381
Coefficient of Thermal Expansion	47 ppm/ºC	ASTM E-381
Thermal Conductivity	1.1 W/mK	ASTM D-2214
Water Absorption, 24 hr. immersion	0.08%	

ELECTRICAL PROPERTIES

	VALUE	TEST METHOD
Volume Resistivity @ 25ºC, ohm-cm	8.0×10^{14}	ASTM D-257
Dielectric Constant @ 25ºC, 1 KHz	5.5	ASTM D-150
Dissipitation Factor @ 25ºC, 1 KHz	0.012	ASTM D-150
Dielectric Strength, volts/mil	550	ASTM D-149

NOTE : Values are based on laboratory or average production results – not for specification purposes.

PROCESSING AND APPLICATION INSTRUCTIONS :

Remove frozen syringes from -40C storage and thaw for approximately 15 – 30 minutes or until syringes are at room temperature. Do not use a hot plate or other heating methods. For best results, place syringes directly in contact with a metal surface to allow for gentle warming.

Syringes are ready to use once thawed. Leur lock dispensing needles may be used to control the amount of material dispensed. Air pressure operated dispensing systems and hand-held dispensing guns are also available. Please contact for assistance if you are interested in this type of dispensing equipment to use with the thawed syringes.

SURFACE PREPARATION

For best bond strength, roughen the surface to be bonded using sandpaper, a wire brush, sand-blasting or similar means. If needed, clean and degrease surface prior to application. For critical applications or hard to bond surfaces please contact us for further surface preparation procedures.

HANDLING PRECAUTIONS:

Mandatory and recommended industrial hygiene procedures should be followed whenever these products are being handled and processed. For additional information please consult the corresponding material safety data sheets.

PERSONAL HYGIENE:

WARNING! May causes skin and eye irritation. May cause allergic skin and respiratory reactions. Harmful if inhaled or swallowed. Do NOT get in eyes, on skin, or clothing. Wear chemical splash goggles and impervious gloves when handling. Wash skin and clothing thoroughly after handling. Avoid breathing vapor or mist. Use only with adequate ventilation. Keep containers closed when not in use. Do NOT take internally.

FIRST AID

In case of contact:

Skin – Immediately wash skin thoroughly with mild soap and water. Remove contaminated clothing and wash before reuse. Destroy contaminated shoes and other articles made of leather.

Eyes – Immediately flush eyes with plenty of water for 15 minutes and get prompt medical attention.

Inhalation - Remove person to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.

Ingestion - Do not induce vomiting. Dilute with plenty of water and contact physician immediately. Never give anything by mouth to an unconscious person.

DISCLAIMER:

IMPORTANT: The following supercedes Buyer's documents. SELLER / MANUFACTURER MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller / Manufacturer be liable for incidental, consequential or indirect damages for alleged negligence, breach of warranty, strict liability, tort or contract arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results presented are based on controlled or laboratory work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended

Specialty Polymers & Services, Inc. (SP&S)
28064 Avenue Stanford, Suite F **Tel: 661-294-1790**
Valencia, CA 91355 **Fax : 661-294-0640**
www.spolymers.com **info@spolymers.com**