SCIGRIP® ADHESIVES

*Strong, lightweight structural adhesives for whatever you're putting together...*

TECHNICAL DATA SHEET

# SG800 SERIES

METHACRYLATE ADHESIVES

## SG800: Excellent Fatigue and Impact Resistance at High Temperatures

- Formulated to meet the specific needs of the transportation and industrial markets

**SCIGRIP® SG800 Series** are two component, 10:1 ratio Methacrylate Adhesives for bonding metals at higher temperatures. The SG800 Series is formulated to meet specific requirements of the transportation industry, including high temperature strength, excellent fatigue and impact resistance and low bond-line read through on show surfaces. Minimal surface preparation requirements make the SG800 Series ideal for a variety of assembly operations.

## Performance Benefits

| FEATURE | BENEFIT |
|---|---|
| Variable working times (5 - 15 mins) | Can fit application & process requirements |
| Primerless metal bonding | No surface prep needed on most metals[1] |
| Environmental resistance | Permanent bonds in harsh environments |
| High Temperature Resistance | Withstands environments up to 300°F / 149°C continuous, and intermittent exposure[7] up to 400°F / 204°C |
| Excellent Flow Characteristics | High flow at low pressure, easy manual dispensing |
| Reduced bond line read through | Reduced post finishing requirements |

## Additional Resources

- Technical questions? Use the **Ask SCIGRIP** feature at scigrip.com
- Try our **Substrate Match Tool** at scigrip.com
- Request more information and **schedule a demo** at scigrip.com/sg800
- **Find a distributor** at scigrip.com/scigrip-us-distributors

NOTES:

1. Prepare metal for bonding by removing all dust, loose scale, rust and other surface residue including oil and grease. For maximum bond strength on steel, abrade the mating surface prior to bonding. See notes a, b on reverse side. Value will depend on strength and stiffness of substrate.
2. Polyolefins, thermoplastic polyesters, fluorocarbon plastics and other low surface energy plastics are generally not bondable.
3. Lap sheer strength of UNPRIMED aluminium to aluminium based on ASTM D1002 method.
4. Brookfield HB, T-D 10rpm
5. Tensile strength, modulus and elongation based on ASTM D638, Type IV
6. Tensile modulus as measured in the linear portion of the stress strain curve.
7. Retains strength and adhesion after 10 minutes direct exposure to 400°F (204°C) when supported.

## RECOMMENDED FOR BONDING

| Composites | Metals[1] | Thermoplastics[2] |
|---|---|---|
| Epoxy | Aluminum | ABS |
| Polyester/DCPD | Carbon Steel | Acrylics |
| Vinyl Ester | Stainless Steel | PVC/CPVC |
| Gelcoats | Coated Metals | Styrenics |

## PRODUCT PROPERTIES (In Minutes)

| Cartridge | Adhesive | Activator | Working Time | Fixture Time |
|---|---|---|---|---|
| SG800-05 | SG805A | SG805B | 4 - 6 | 12 - 15 |
| SG800-15 | SG815A | SG805B | 13 - 20 | 30 - 40 |

*Time to reach 70% of ultimate strength in lap shear @75°F (24°C)[3]*

## TYPICAL ADHESIVE CHARACTERISTICS @75°F (24°C)

| SG800 SERIES *Uncured* | Part A *Adhesive* | Part B *Activator* | A+B *Mix* |
|---|---|---|---|
| Color | Off White | Black | Black |
| Mix ratio/volume | 10 | 1 | - |
| Mix ratio/weight | 6.0 | 1 | - |
| Density, g/cc | 0.96 | 1.62 | 1.02 |
| Density, lb/gallon | 7.93 | 13.6 | 8.51 |
| Viscosity, cps[4] | 75,000 - 175,000 | 50,000-120,000 | - |

## TYPICAL PHYSICAL PROPERTIES @75°F (24°C)

| | |
|---|---|
| Tensile Strength[6] PSI (MPa) | > 2700 (19-21) |
| Maximum Tensile Elongation[5] | > 30% |
| Tensile Modulus[5,6] PSI (MPa) | >100,000 - 120,000 (689-827) |
| Lap Shear Strength[3] PSI (MPa) | >2,600 (18 - 20) |
| Service Temperatures | -40 to 300 °F (-40 to 150 °C) |

## PACKAGING & AVAILABILITY

| Cartridges *400 ML* | Pails *5 Gal./19 L* | Drums *55 Gal./ 189 L* |
|---|---|---|

*a brand of* IPS ADHESIVES

IPS Adhesives 600 Ellis Road, Durham, NC 27703 USA | 877.477.4583 | Fax: 919-598-2439 | ipsadhesives.com
IPS Adhesives Europe New York Industrial Park, Newcastle Upon Tyne, UK NE27 0QF | +44 (0) 191-259-0033

SCIGRIP® ADHESIVES

SG800 SERIES

# Safety & Handling

**SAFETY AND HANDLING:** Read Material Safety Data Sheet before handling or using this product. Adhesive component A contains methyl methacrylate monomer and is flammable. Always use in a well-ventilated area. Floor-level extraction and large quantities of moving air greatly facilitate ventilation. Activator component B contains peroxide. Both materials must be stored in a cool place away from sources of heat and open flames or sparks. Keep containers closed when not in use. Prevent contact with skin and eyes. In case of skin contact, wash with soap and water. In case of eye contact, flush with water for 15 minutes and seek immediate medical attention. Harmful if swallowed. Keep out of reach of children.

**PRODUCT APPLICATION & USE**: To ensure consistent performance, product temperatures must be held reasonably constant between 65°F (18°C) and 80°F (27°C). Substrate preparation, adhesive/activator ratio, application temperature, humidity and a variety of other environmental and end user application factors are beyond the control of IPS Adhesives; therefore, the end user is solely responsible for determining whether the product is fit for a specific purpose and suitable for the user's product, design and final application requirements.

**DISPENSING EQUIPMENT:** Dispensing directly from disposable cartridges or meter-mix dispense equipment is strongly recommended. Both methods employ convenient static motionless mixer technology. Contact your SCIGRIP representative for information and availability.

When meter-mix dispense systems are used, care must be taken to assure compatibility between the adhesive components and the materials in the equipment that they contact. All wetted metal components should be constructed of stainless steel or aluminum. Contact with copper, zinc, brass or other alloys containing these materials must be strictly prevented. All non-metallic seals and gaskets should be fabricated from PTFE or UHMW polyethylene based materials.

**CURING:** Working time is the approximate time after mixing components A and B that the adhesive remains fluid and bondable. Fixture time is the approximate time after mixing components A and B required for the adhesive to develop sufficient strength to allow careful movement, unclamping or de-molding of assembled parts. Parts can generally be put in service when 80 percent of full strength is developed. The time to achieve 80% cure is approximately 2-3 times that required for fixturing. The working and fixture times presented in this bulletin are based on laboratory tests performed at 75°F (24°C). Higher temperatures speed the curing reaction, which reduces working time and speeds the development of strength. The reverse is true for lower temperatures. If significant variation in temperatures or application at very high or low temperatures is anticipated, contact your SCIGRIP representative for technical assistance. The chemical curing recaction that occurs when components A and B are mixed generate heat. The amount of heat generated is dependant on the mass and thickness of the mixed product.

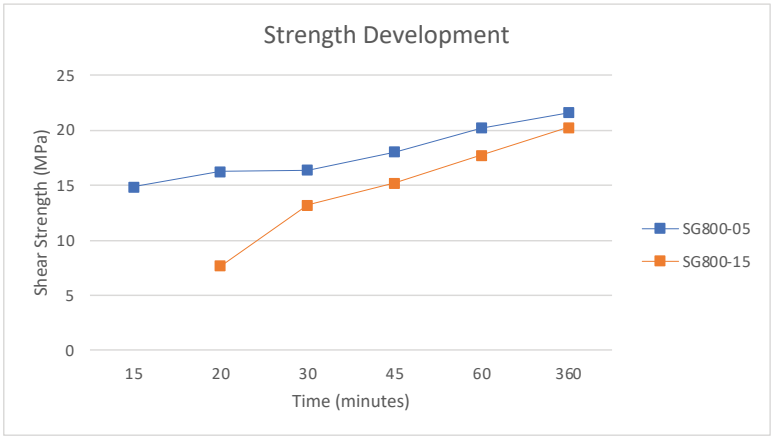
**CLEAN UP:** Adhesive components and mixed adhesive should be removed from mixing and application equipment with a suitable industrial solvent or cleaner before the mixed adhesive cures. Once the adhesive cures, soaking in a strong solvent or paint remover will be required to soften the adhesive for removal. Contact your SCIGRIP representative for additional information..

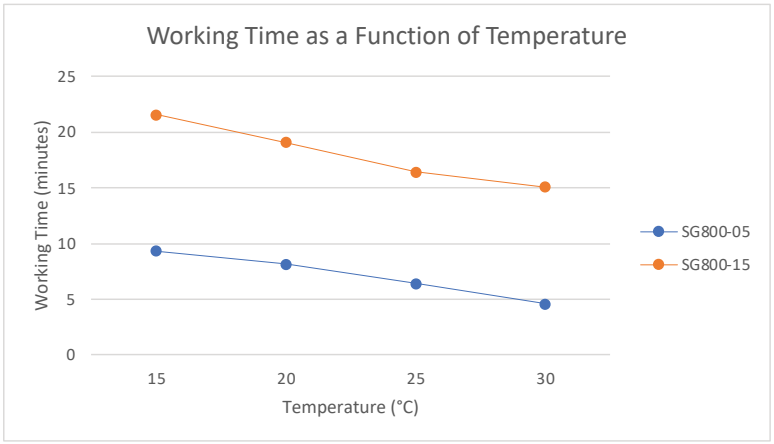
**SHELF LIFE & STORAGE CONDITIONS:** The shelf life of adhesive and activator in unopened containers is nine (9) months from the date of manufacture unless otherwise explicitly stated. Shelf life is based on a continuous, steady state storage temperature of between 65°F (18°C) and 80°F (27°C). Exposure to temperatures below 65°F (18°C) or above 80°F (27°C) will impact the product performance and viscosity. Exposure to temperatures above 80°F (27°C) will rapidly reduce the stated shelf life of the product.

## IMPORTANT NOTES

a. **SUBSTRATE AND APPLICATION COMPATIBILITY.** The user must determine the suitability of a selected adhesive for a given substrate and application. SCIGRIP strongly recommends laboratory, shop and end-use testing that simulates the actual manufacturing and end-use environment.

b. **TECHNICAL ASSISTANCE.** Contact your SCIGRIP representative for questions or assistance with the selection of adhesives and methods for evaluating adhesives for your intended application.




***NOTE:*** *This product is intended for use by skilled individuals at their own risk. Recommendations contained herein are based on information we believe to be reliable. The properties and strength values presented above are typical properties obtained under controlled conditions at the SCIGRIP laboratory. They are intended to be used only as a guide for selection for end-use evaluation. The ultimate suitability for any intended application must be verified by the end user under anticipated test conditions. Since specific use, materials and product handling are not controlled by SCIGRIP, our warranty is limited to the replacement of defective SCIGRIP products.*

**Limited Warranty: Seller warrants to the original Buyer of the goods that all new Seller goods shall be free from defects in material and workmanship for the published shelf life of the good. If any Seller good fails to conform to this Limited Warranty under normal use and storage conditions, and if the original Buyer complies with the terms of this Limited Warranty, then Seller will, without charge to Buyer, replace the nonconforming good.**

**This Limited Warranty shall not extend to, nor shall Seller be responsible for, damages or loss resulting from accident, misuse, negligent use, improper storage, or improper application.**

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PRODUCT CERTIFIED FOR LOW CHEMICAL EMISSIONS
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