

Structural Adhesive SA-5

Technical Data Sheet

GENERAL INFORMATION: SAF-T-LOK SA-5 is a two part, no premix acrylic bonding system. It provides high impact resistance, has low odor, is non-flammable, quick setting and offers high bond strength and impact resistance on a wide variety of substrates including oily or "as received" metals. No mixing is required. This structural adhesive is easy to use and is not stringy.

PHYSICAL PROPERTIES: -----Uncured-----

	<u>ADHESIVE</u>	<u>ACTIVATOR</u>
Color	Amber	Amber
Specific Gravity	1.1 gm/cc	1.3 gm/cc
Viscosity	5000 cps	2-5 cps
Solids Content	100%	5%
Flash Point	>200°F	>250°F
Storage Stability	12 mo. @ <75°F	12 mo. @ <75°F

PERFORMANCE CHARACTERISTICS:

A. Speed of Cure on clean mild steel @ 77°F

<u>TIME</u>	<u>Tensile/Shear STRENGTH</u>
45 sec.	Handling Strength
5 min.	1200 psi.
15 min.	2600 psi.
24 hrs.	3500 psi.

B. Typical Mild Steel Cured properties:

	<u>STRENGTH</u>	<u>METHOD</u>
Tensile/Shear	3500 psi	ASTM D-1002
Peel (t-peel)	30 lb./in.	ASTM 1876
Torsional Impact	30 in. lb.	Automotive
Coefficient of Expansion	1.4 m/m/°Cx10	

C. Thermal Properties:

<u>TEMPERATURE</u>	<u>Tensile/Shear STRENGTH</u>
-50°F	1500 psi
75°F	3500 psi
150°F	3500 psi
260°F	1900 psi

Recommended thermal range is -65°F to 350°F.
Satisfies MIL-A-25463 Type I and II and MIL-S-34434

IMPORTANT NOTICE: All statements and technical data contained herein are based on tests we believe to be reliable, but the accuracy of completeness thereof is not guaranteed. It is recommended that the buyer test this product to determine its suitability for his application before use. SAF-T-LOK Corporation is not responsible for loss, claim or damages resulting from use of its products.

TYPICAL TENSILE SHEAR PROPERTIES ON VARIOUS SUBSTRATES:

<u>SUBSTRATE</u>	<u>Tensile/Shear STRENGTH</u>
Clean, mild steel	3500 psi.
Oily, mild steel	3000 psi.
Oily Steel @ 250°F	1900 psi.
Oily Aluminum	3000 psi.
Acrylic Plastic	1800 psi.
PVC	1400 psi.
Wood (Maple)	1500 psi.*
ABS Plastic	1200 psi.
Epoxy Board	1500 psi.
Nylon	200 psi.

*** Substrate Failure**

The above data were obtained on one half inch overlapped specimens, one inch wide. All specimens were allowed to cure for 72 hours at room temperature prior to testing. Specimens were pulled apart at one half inch per minute. Gaps were as small as possible, estimated 2 mils.

CHEMICAL RESISTANCE: SAF-T-LOK SA-5 resists water, gasoline, hydrocarbon oils, and common organic solvents.

SAE 10W30	60 days	3200 psi
Gasoline	30 days	2700 psi
Break Fluid	30 days	3200 psi
Benzene	30 days	2600 psi
Water	60 days	1500 psi
Humidity(100% @120F)	30 days	3300 psi

RECOMMENDATIONS: SAF-T-LOK SA-5 Adhesive bonds many surfaces without surface preparation. Some surfaces and general comments to maximize adhesive bond strength are listed below.

		COMMENTS:
Iron	Ceramics	"As recieved" substrates are generally suitable for bonding. Waxy coatings or heavy greases should be removed by solvent or vapor degreasing. Certain grades of hard, bright or anodized coatings may require mechanical abrasion for best adhesion. Frequently coated with silicone or wax type release agents. A solvent wipe is recommended. Some grades require mechanical abrasion. Not recommended for bonding
Steel	Wood	
Cast Iron	Fabric	
Brass	Phenolics	
Zinc	Graphite	
Aluminum	SBR Rubber	
Alinco	Sintered Metal	
Ferrites	Acrylics	
ABS	Filled Nylon	
Rigid PVC	Polyurethane	
Styrene	Fiberglass Board	
Epoxy Board	Polycarbonates	
Neoprene	Polyethylene	

APPLICATION:

Surface Preparation - Most substrates require little, if any surface preparation. Adhesion is frequently best on clean mechanically roughened surfaces. Some plastics adhere better when cleaned or prepared according to the plastic manufactureres recommendations.

1. Apply Activator to one of the surfaces to be bonded. Allow a few seconds for the solvent to evaporate. Surface will then have slightly oily appearance. For bond lines over .030 inches thick, application of activator to both surfaces is recommended. Porous surfaces may require heavier applications of activator.
2. Apply the resin to the mating surface.
3. Cure is initiated when parts are mated and preferably with a sliding motion for best contact of the two components.