



TECHNICAL BULLETIN

SetWORX™ 411HP HIGH STRENGTH, TOUGHENED EPOXY ADHESIVE

SetWORX™ 411HP is a toughened, high strength, industrial grade structural epoxy adhesive. This adhesive has an excellent combination of shear and peel strength. 411HP is a one component, heat cure, conductive epoxy adhesive. It has also excellent impact and vibration resistance and low temperature flexibility. This high-performance epoxy adhesive exhibits very good physical, thermal, and electrical insulation properties. It is recommended for bonding engineering thermoplastics, SMC (sheet molding compounds) in aerospace and automotive applications.

TYPICAL HANDLING PROPERTIES:

Viscosity (25°C),	Paste
Pot Life at 100°C (20 grams), minutes	10-15
Shelf life, 25°C	3 months
Shelf life, 0°C	6 months
Typical Curing Time	
30 min @ 120°C or 20 min @ 150°C	

TYPICAL CURED PROPERTIES AFTER RECOMMENDED CURE:

(Tested @ 25°C unless otherwise indicated)

Color	Grey
Specific Gravity	1.44
Hardness, Shore D	85
Elongation, %	<2
Water Absorption, 7 days @ 25°C	0.28%
Lap Shear Strength to Aluminum, psi	4500
Lap Shear Strength, psi	
Stainless Steel	2500
Grit Blasted Steel	4300
Polycarbonate	2000
T-peel strength (Steel) lb/in of width (5-8mil bondline)	50
Service Temperature range, °C	-55 to 200
Glass Transition Temperature, °C	>100
Coefficient of Linear Thermal Expansion, 10 ⁻⁶ /°C	
Below Tg	40
Above Tg	160
NASA Outgassing	
TML %	0.29
WVR %	0.23
CVCM%	0.01
Dielectric Strength, Volts/mil	80
Dielectric Constant, 1 kHz	4.28
Dissipation Factor, 1 kHz	0.4
Volume Resistivity, ohm-cm	2.5 x 10 ¹⁴

INSTRUCTIONS FOR USE:

1. Dispense or apply needed amount on to the device or substrate.
2. Cure as recommended achieving the desired properties.
3. Typical cured properties were determined using recommended cure schedule. Some difference in properties may occur with the alternate or other cure schedules.

FOR INDUSTRIAL USE ONLY:

These materials are intended for industrial use only, and the practices of good housekeeping, safety and cleanliness should be followed before, during and after use.

PACKAGING OPTIONS:

Available in quart and gallon containers.

Also available in 30mL syringe or 10oz cartridge.

WARNING!

Although the system contains low volatility materials, care should be taken in handling. Adequate ventilation of workplace and ovens is essential. These materials may cause injury to the skin following prolonged or repeated contact and dermatitis in susceptible individuals. In case of skin contact, wash thoroughly with soap and water. For eyes, flush immediately with plenty of water for at least 10 minutes and seek medical attention. Refer to Safety Data Sheet (SDS) for additional health and safety information.

SHELF LIFE:

The shelf life of these materials is 3 months when stored in unopened containers at an average temperature of 25°C or 6 months when stored at 0°C or below.

DISCLAIMER: All data given here is offered as a guide to the use of these materials and not as a guarantee of their performance. The user should evaluate their suitability for own purposes. Properties are typical and should not be used in preparing specifications. Statements are not to be construed as recommendations to infringe any patent.