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TECHNICAL DATA SHEETS
SI GEL

Description:

The *ADVANCED PERFORMANCE SERIES* or the *APS* family of products have been specifically designed to meet rigorous demands of today's product assembly requirements. These products are single component , solvent free systems. They cure at room temperature and are rapid setting materials normally curing in just a matter of seconds. They are available in various viscosities and setting times to meet your specific applications needs. **The *ADVANCED PERFORMANCE SERIES*** has been formulated to bond a wide range of similar and dissimilar materials.

SI GEL is a fast setting, Cyanoacrylate adhesive gel. The **SI SERIES** is formulated to bond difficult substrates. The **SI** product is less dependent on surface moisture for cure speed than most standard CA grades. Under normal conditions, the surface moisture initiates the hardening process.

Properties:

CHEMICAL TYPE:	Ethyl Cyanoacrylate
APPEARANCE:	Clear liquid
SPECIFIC GRAVITY:	1.05 @ 25°C
VISCOSITY:	GEL
FLASH POINT:	> 176°F (80°C)
GAP FILLING:	up to 0.05 inches

Typical Environmental Resistance:

CURE PROCEDURE:	One week at 22°C
SUBSTRATE:	Grit Blasted Mild Steel
PROCEDURE:	ASTM D1002/DIN 53283

CHEMICAL / SOLVENT RESISTENCE (Tested @ 22° C)

SOLVENT	AGED TEMP.	% INITIAL STRENGTH RETAINED 100 HRS.	500 HRS.	1000HRS
MOTOR OIL	40 ° C	85	85	75
LEADED PETROL	22 ° C	100	100	100
ETHANOL	22 ° C	100	100	100
ISOPROPANOL	22 ° C	100	100	100
FREON TA	22 ° C	100	100	100
HUMIDITY 95% RH	40° C	65	55	50
HUMIDITY 95% RH (Polycarbonate)	40° C	100	100	100

TYPICAL PROPERTIES OF CURED MATERIAL **Physical Properties**

Coefficient of thermal expansion:	ASTM C696, K^{-1}	$80x10^{-6}$
Coefficient of thermal conductivity:	ASTM C177, $W,m^{-1}K^{-1}$	0.1
Glass Transition temperature:	ASTM E228 25°C	120

The SI GEL cure speed will be dependent upon the substrate used. The table below shops the fixture time achieved on different substrates at 22° C with 50% relative humidity

TIME TO DEVELOP SHEAR STRENGTH OF 0.1 N/MM^2 (14.5 psi)

SUBSTRATE	FIXTURE TIME (sec)
STEEL	4 to 19
PHENOLICMATERIAL	2 to 9
POLYCARBONATE	9 to 39
P V C	2 to 9
ABS	2 to 9
NITRILE RUBBER	< 4
NEOPRENE	< 4
ZINC DICHROMATE	9 to 19
ALUMINUM	2 to 9