Technical Data Sheet

LOCTITE® EA 9514

Known as Hysol 9514
October 2014

PRODUCT DESCRIPTION

LOCTITE® EA 9514 provides the following product characteristics:

Technology	Epoxy
Chemical Type	Epoxy
Cure	Heat cure
Appearance	Gray opaque paste[LMS]
Components	One-component
Application	Bonding
Maximum Gap	3.0 mm

LOCTITE® EA 9514 is a toughened, single component heat curing epoxy adhesive. It has high shear and peel strength and excellent impact resistance. LOCTITE® EA 9514 provides high reliability in high operating temperature environments. Its viscosity characteristics ensure large gap filling and sag resistance properties as well as being suitable for a wide variety of substrates. The product can be cured by induction heating or conventional means.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.42 to 1.48[LMS]
Yield Point @ 25 °C, Pa·s:	
Haake PK 100, M10/PK 1 2° Cone	272
Casson Viscosity @ 25 °C, mPa·s (cP)	
Cone & Plate Rheometer	30,000 to 60,000[LMS]
Casson Base Viscosity , mPa·s (cP):	
Haake PK 100, M10/PK 1 2° Cone	42,000

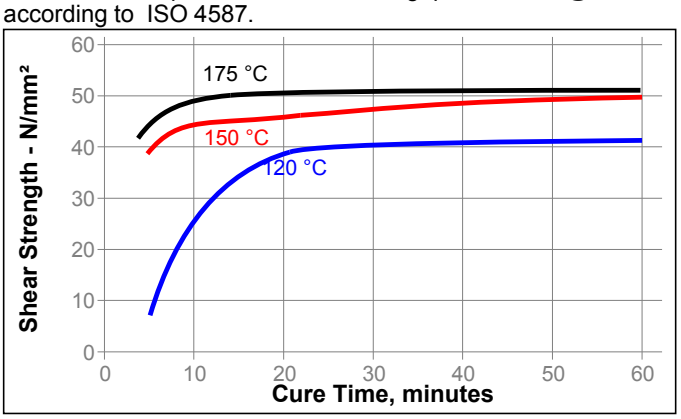
Flash Point - See SDS

TYPICAL CURING PERFORMANCE

LOCTITE® EA 9514 cures when exposed to appropriate levels of heat. Recommended conditions for curing are exposure of the bond line to temperatures at or above 120 °C, (typically 60 minutes @ 120 °C). Rate of cure and final strength will depend on the residence time at the cure temperature so cure schedule should be confirmed with actual production parts and equipment.

Cure Speed vs. Temperature

The following graph shows the shear strength developed with time at different cure temperatures. In practice, total oven time will be longer to allow for heat up period. Shear strength is measured on grit blasted mild steel (GBMS) lapshears with 25.4 mm overlap and 0.05 mm bond gap tested at @ 22 °C according to ISO 4587.



Differential Scanning Calorimetry

Delta H, J/g	≤300[LMS]

TYPICAL PROPERTIES OF CURED MATERIAL

1.2 mm thick samples cured for 30 minutes @ 150 °C

Physical Properties :

Tensile Strength, ISO 527-3	N/mm²	44
	(psi)	(6,380)
Tensile Modulus , ISO 527-3	N/mm²	1,460
	(psi)	(211,700)
Compressive Strength, ISO 604	N/mm²	62
	(psi)	(900)
Elongation , ISO 527-3,%		5.8
Glass Transition Temperature, ASTM E 1640, °C		133
Coefficient of Thermal Conductivity, ISO 8302, W/(m-K)		0.3