

EPIBOND® 1210 A-1 Resin / Hardener 9861 Epoxy Adhesive

Product Description

EPIBOND® 1210 A-1 / Hardener 9861 epoxy adhesive is a two-part paste which gives good properties at temperatures up to 300°F (149°C). This adhesive product is ideal for spacecraft applications due to its low out-gassing properties. EPIBOND® 1210 A-1 / Hardener 9861 epoxy adhesive mixes to a semi-paste consistency and may be applied in glue lines of up to 50 mils for gap-filling applications. EPIBOND® 1210 A-1 / Hardener 9861 epoxy adhesive bonds metals, composite laminates, most thermoplastics, rubbers and many other dissimilar materials. The epoxy adhesive is also available in different working life versions – EPIBOND® 1210 A-1/B and EPIBOND® 1210 A-1 / Hardener 9861.

Features

- High service temperature
- Low outgassing
- One hour work life

Typical Properties*

Property	Test Method	1210 A-1 Resin	Hardener 9861	Mixed System
Appearance	Visual	Tan	Amber	Tan
Density at 25°C, g/cm ³	ASTM D792	1.49	1.00	1.35
Viscosity at 77°F (25°C), cP	ASTM D2196	250,000	16,000	Semi-Paste

*Properties are based on Huntsman test methods. Copies are available upon request.

Processing

Mix Ratio

Product	Parts by weight
EPIBOND® 1210 A-1 Resin	100
Hardener 9861	20

Processing Data

Parameter	Value
Gel Time (ASTM D2461), 100g at 77°F (25°C), min	35 - 60 min
Typical cure cycles	48 hours at 77°F (25°C), or
	*Gel at room temperature + 1-2 hours at 150°F (66°C)

*Elevated temperature properties are improved with post cure of one hour at service temperature.

Typical Physical Properties

Unless otherwise stated, the data were determined with typical production batches using standard test methods. They are typical values only, and do not constitute a product specification.

Property	Test Method	Condition	Value
Lap shear strength, Al-Al, psi (MPa)	ASTM D1002	77°F (25°C) 200°F (93°C) 300°F (149°C)	2,800 (19.3) 2,500 (17.2) 500 (3.4)
Tg (DMA) , °F (°C)	Huntsman	E' Onset Tanδ peak	85°C 113°C
CTE (TMA), ppm/°C	Huntsman	α1: Below transition α2: Above transition	53.5 160.5
Thermal Conductivity, W/mK	C-Therm TCi	N/A	0.50
Shear Modulus (torsional), psi (MPa)	Huntsman	at 77°F (25°C)	
Tensile Strength, ksi (MPa)	ASTM D638	at 77°F (25°C)	8.6 (59.3)
Tensile Modulus, ksi (GPa)	ASTM D638	at 77°F (25°C)	806.5 (5.6)
Tensile Elongation, %	ASTM D638	at 77°F (25°C)	1.3
Flexural Strength, ksi (MPa)	ASTM D790	at 77°F (25°C)	15.4 (106.2)
Flexural Modulus, ksi (GPa)	ASTM D790	at 77°F (25°C)	811.3 (5.6)
Hardness, Shore D	ASTM D2240	at 77°F (25°C)	88
Lap Shear Strength after fluid immersion, 7 days at 75°F (23°C), psi (MPa)	ASTM D1002	JP-4 Skydrol Distilled water	2,700 (18.6) 2,400 (16.5) 2,400 (16.5)
Outgassing, %	ASTM E595	TML CVCM	0.77 0.00

Storage

EPIBOND® 1210 A-1 Resin / Hardener 9861 should be stored in a dry place in the original sealed containers at temperatures between 2°C and 40°C (36°F and 104°F). After use, tightly reseal containers. Under these storage conditions, and when supplied under Huntsman standard certification, the product has a shelf life of **1 year** from date of shipment. The product should not be exposed to direct sunlight.

Precautionary Statement

Huntsman Advanced Materials Americas LLC maintains up-to-date Safety Data Sheets (SDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest MSDS to determine possible health hazards and appropriate precautions to implement prior to using this material.

First Aid!

Refer to SDS as mentioned above.

KEEP OUT OF REACH OF CHILDREN

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