



## TECHNICAL DATA SHEET

# PANEL BONDING ADHESIVE

Gerko panel bonding adhesive is a two-component structural epoxy adhesive system intended for use in metal and composite panel bonding. Bond line thickness is controlled by 0,25 mm glass beads comprised in the adhesive.

Bonds metal, SMC, ABS, aluminum, galvanized steel, cold rolled steel and hot rolled steel. Bond metal panels of the same, or different metal composition, together. High energy absorption. With corrosion protection for use on bare metal. Ambient curing. Paintable after curing.

The 2:1 adhesive system is available in 195 ml universal cartridge format. The universal cartridge can be used with a 1-k caulking gun with high trigger ratio (recommended 26:1).

## PROPERTIES

- Room temperature curing, heat acceleration possible
- Long open time of 60 min, handling within 4 hours @ 23°C, full cure in 24 hours
- Bond line thickness is controlled by 0,25 mm glass beads
- Withstands automotive e-coat, powder prime, and paint oven temperatures up to 230°C
- Spot-weldable (uncured!)
- Excellent corrosion protection
- High energy absorption and very good crash performance

## PHYSICAL PROPERTIES

Code	Description	Format	Colour	Pieces per box
PBA195	Panel bonding adhesive 195 ml	195 ml	Black	12

## NOMINAL VALUES

	A-Part	B-Part
Chemistry	Epoxy	Amine
Colour	Black	Tan
Consistency	Viscous paste	Viscous paste
Specific gravity, gr./ml	1,08	1,13
Ratio by weight	1,9	1,0
Ratio by Volume	2,0	1,0
Odor	None	Slight amine



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## TYPICAL CURE CHARACTERISTICS OF THE MIXED ADHESIVE

	Temperature	Time
Open time	@ 23°C	60 min
Working time	@ 23°C	90 min
Handling time	@ 23°C	4 hours
Full cure	@ 23°C	24 hours

**Open time** - also "wet time" or "pot life". The time the adhesive is wet enough to bond to a second substrate being mated in the bed of adhesive. The open time is temperature depending. All data given was measured at 23°C.

**Working time** - During working time the already joined part can still be re-positioned. Do not take the bonded assembly apart.

**Handling time** - Time when the adhesive is hard enough to hold on its own. The handling strength of freshly bonded parts depends on type and height of outside forces, that impact the bond. Typically 0.75 to 1MPa is needed.

## PHYSICAL PROPERTIES OF THE CURED ADHESIVE

	Value	Test method
Tensile strength, MPa @ 23°C	30	ASTM D-638
Young's modulus, MPa @ 23°C	4550	ASTM D-638
Elongation, %	3	ASTM D-638
Poisson ratio, @ 23°C	0,28	ASTM E-132
Water absorption, %	2,9	ASTM D-570
Shore hardness, D	80	ASTM D-2240
CLTE, 10-6/°C @ -30°C to 0°C	67	ISO MAT-2208
CLTE, 10-6/°C @ 100°C to 130°C	155	ISO MAT-2208
Glass transition temperature, °C		
G' onset	49	ASTM E-1640
G'' peak	-80, -50, 57	ASTM E-1640
Tan delta peak	-80, -49, 73	ASTM E-1640

Physical properties are values, based on material tested in our laboratories, but are subject to a standard deviation from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot.



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## APPLICATION GUIDE

<b>Cure</b>	<b>Ambient or heat accelerated cure (max 150°C)</b>
<b>Optimum bondline thickness</b>	<b>0,25 mm (glass bead incorporated)</b>
<b>Paint bake</b>	<b>up to 230°C</b>
<b>Gap filling</b>	<b>Very good</b>
<b>Sag resistance</b>	<b>For vertical applications</b>
<b>Consumption, 1/4" diameter round bead</b>	<b>app. 35gr./m</b>
<b>Consumption, 1/2" diameter round bead</b>	<b>app. 141gr./m</b>

## SURFACE PREPARATION

<b>Substrate</b>	<b>Surface preparation - Ambient Cure</b>	<b>Surface preparation - Heat Cure</b>
<b>Metal</b>	<b>Abrasion and degreasing</b>	<b>Abrasion and degreasing</b>
<b>Composite (SMC, RTM, CFRP)</b>	<b>Abrasion</b>	<b>Solvent wipe</b>

## SHELF LIFE AND STORAGE

The product has a shelf life of 24 months from date of filling, when stored indoors between 15°C to 32°C. After dispense the used mixer should be left attached to the cartridge to ensure sealing from humidity.