

BONDPRO 320

EPOXY ADHESIVE



PRODUCT DESCRIPTION

BONDPRO 320 is a two-component toughened epoxy structural adhesive offering outstanding performance in numerous bonding applications. It has an extended working time and slow cure which is ideally suited for the assembly of complex components.

- 140 Minutes Working Time at 21°C
- Cured Solid in 10 hours
- Mix ratio by volume 2:1
- Bonds Multiple Substrates
- Application thickness 0.5 to 15mm
- Black Cured Colour

SUITABLE SUBSTRATES

BONDPRO 320 offers strong adhesion to various substrates, including wood, metal, ceramics, certain plastics, and composites. It creates durable bonds with exceptional shear strength.

HEALTH AND SAFETY

Gurit produces a separate full Safety Data Sheet for all hazardous products. Please ensure that you have the correct SDS to hand for the materials you are using before commencing work.

STORAGE AND HANDLING

Storage should be in a warm dry place out of direct sunlight and protected from frost. The storage temperature should be kept constant between 10°C and 25°C, cyclic fluctuations in temperature can cause crystallization.

BONDPRO 320 Resin	36 months at 10-25°C
BONDPRO 320 Hardener	36 months at 10-25°C

SURFACE PREPARATION

Ensure surfaces are clean, dry, and free of grease before applying the adhesive. Use an appropriate solvent, such as acetone or isopropanol, to degrease the surfaces. For metals like aluminium, copper, and their alloys, light abrasion with an emery cloth or similar material can help remove the oxide layer and improve adhesion.

UNCURED COMPONENT PROPERTIES

	BONDPRO 320 RESIN	BONDPRO 320 HARDENER
Appearance	Black	Red
Viscosity @ 25°C	270 +/- 30 P	160 +/- 20 P
Density @ 21°C	1.17	1.10

APPLICATION PROPERTIES

Mix Ratio by Volume	2:1
Gelation Time @ 21°C	140 Minutes
Handling Time @ 21°C	10 Hours
Application Thickness @ 21°C	0.5 – 15 mm
Glass Transition DSC Tg°C (16 hours @ 40°C)	63°C
Glass Transition DMA Tg°C (5 hours @ 85°C)	72°C

BONDING PERFORMANCE (Metals)

Lap Shear Strength** (Steel)	28 MPa
Lap Shear Strength ** (Aluminium)	11 MPa
Cleavage Strength* (Steel)	9 kN

*BS 5350 Part C1 **BS 5350 Part C5

DIRECTIONS FOR USE

Cartridge Application Instructions:

Prepare the Cartridge:

- Insert the cartridge into the application gun and align the plunger.
- Remove the cartridge cap and dispense a small amount until both components flow evenly.
- Attach the static mixer to the cartridge and begin dispensing, ensuring the adhesive is fully mixed (uniform black with no streaks).

Application:

- Apply the mixed adhesive to one of the substrates.

Assembly:

- Join the parts before the adhesive gels which is typically 140 minutes after mixing. The gelation time will depend on application thickness and ambient temperature.

Pot Life Considerations:

- Large quantities or higher temperatures will shorten the working time.

Curing Process:

- Apply clamping pressure for at least 10 hours or until the assembly reaches handling strength.
- Cure is achieved after 7 days at 21°C (73°F).

For professional or industrial use only. This Technical Datasheet (TDS) provides general guidelines and does not serve as a formal specification.

BONDING PERFORMANCE (Plastics)

Material	Lap Shear Strength**
Polycarbonate	8 MPa
ABS	5.9 MPa
Acrylic	4.4 MPa
Nylon 6	2.4 MPa
PVC	4.1 MPa
G10 Epoxy Laminate	29 MPa
Carbon FRP	30 MPa

**BS 5350 Part C5

STRENGTH DEVELOPMENT

Cure	Lap Shear Strength (on steel) **
7 Days @21°C	28.5 MPa
16 hours @ 50°C	28 MPa

CURED MECHANICAL PROPERTIES

Tensile Strength*** (ISO 527-2)	47 MPa
Tensile Modulus*** (ISO 527-2)	3.2 GPa
Tensile Elongation*** (ISO 527-2)	>8%
3 Point Flexural Strength*** (ISO 178)	85 MPa
3 Point Flexural Modulus*** (ISO 178)	3.0 GPa

***Test temperature 23°C

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The Company reserves the right to change specifications and prices without notice and Customers should satisfy themselves that information relied on by the Customer is that which is currently published by the Company on its website. Any queries may be addressed to the Technical Services Department.

Gurit is continuously reviewing and updating literature. Please ensure that you have the current version by contacting your sales contact and quoting the revision number in the bottom left-hand corner of this page.

CONTACT INFORMATION

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