

BONDPRO 320

EPOXY ADHESIVE

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.

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	24 months at 10-25°C
BONDPRO 320 Hardener	24 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.



- 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 color

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.

UNCURED COMPONENT PROPERTIES

	BONDPRO 320 RESIN	BONDPRO 320 HARDENER
Appearance	Black	Grey
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)	32 MPa
Cleavage strength* (Steel)	9 kN

*BS 5350 Part C1 **BS 5350 Part C5

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

HEALTH AND SAFETY

The following points must be considered:

1. Skin contact must be avoided by wearing protective gloves. Gurit recommends the use of disposable nitrile gloves for most applications. The use of barrier creams is not recommended, but to preserve skin condition a moisturizing cream should be used after washing.
2. Protective clothing should be worn when mixing, laminating or sanding. Contaminated work clothes should be thoroughly cleaned before re-use.
3. Eye protection should be worn if there is a risk of resin, hardener, solvent or dust entering the eyes. If this occurs flush the eye with water for 15 minutes, holding the eyelid open, and seek medical attention.
4. Ensure adequate ventilation in work areas. Respiratory protection should be worn if there is insufficient ventilation. Solvent vapors should not be inhaled as they can cause dizziness, headaches, loss of consciousness and can have long term health effects.
5. If the skin becomes contaminated, then the area must be immediately cleansed. The use of resin-removing cleansers is recommended. To finish, wash with soap and warm water. The use of solvents on the skin to remove resins etc must be avoided.

Washing should be part of routine practice:

- before eating or drinking
- before smoking & vaping
- before using the lavatory
- after finishing work

6. The inhalation of sanding dust should be avoided and if it settles on the skin then it should be washed off. After more extensive sanding operations a shower/bath and hair wash is advised.

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NOTICE

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The Company strongly recommends that Customers make test panels in the final process conditions and conduct appropriate testing of any goods or materials supplied by the Company prior to final use to ensure that they are suitable for the Customer's planned application. Such testing should include testing under conditions as close as possible to those to which the final component may be subjected. The Company specifically excludes any warranty of fitness for purpose of the goods other than as set out in writing by the Company. Due to the varied nature of end-use applications, the Company does, in particular, not warrant that the test panels in the final process conditions and/or the final component pass any fire standards.

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

Please see local contact information at www.gurit.com

24-HOUR CHEMICAL EMERGENCY NUMBER

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