G/5® Five Minute Epoxy Adhesive

Technical Data Sheet

Specialty Epoxies

G/5

General Description

This epoxy composition has been developed for adhesive applications where an extremely fast setting time is required. The flexibility of the cured resin permits the bonding of materials with different coefficients of thermal expansion with the minimum of stress in the glue line. Both resin and hardener are medium viscosity liquids producing an almost colourless mix.

An easy to use two part "five-minute epoxy" system, ideal for quick repairs and general bonding around both the boat and house. Particularly suited for spot applications to hold component parts in position whilst bonding is completed with WEST SYSTEM epoxy.

Most materials, except thermoplastics, can be bonded with this system, including: Steel, Aluminium, Glass reinforced polyester, Phenolic, Wood, Concrete, Stone, China, Glass, Copper, Cast Iron, and Unglazed ceramic.

Handling Characteristics

Mix ratio by volume	1 part resin : 1 part hardener
by weight	1 : 1
Resin Density	1.16 gcm^{-3}
Hardener Density	1.16 gcm^{-3}
Pot life (100g at 25°C)	4 minutes
Gel time, thin film*(at 25°C)	5 minutes
Gel time, thin film*(at 7°C)	20 minutes
Cure to a solid, thin film (at 22°C)*	16 minutes
Cure to working strength	1 hour
Minimum recommended temperature	5°C

**Epoxy cures faster at higher temperatures and in thicker applications.*

Physical Properties of Cured Epoxy

Specific gravity	1.21
Hardness 1 day (Shore D) BS EN ISO 868	82
14 days (Shore D) BS EN ISO 868	85
Compression yield 14 days BS EN ISO 604	59.8 MPa
Tensile strength BS EN ISO 527-2	59 MPa
Tensile elongation BS EN ISO 527-2	2.9%
Tensile modulus BS EN ISO 527-2	3.8 GPa
Flexural strength BS EN ISO 178	95 MPa
Flexural modulus BS EN ISO 178	3.3 GPa
Onset of Tg by DSC	35°C
Ultimate Tg by DSC	40°C

Surface Preparation

All surfaces to be bonded must be degreased with a solvent such as acetone or WEST SYSTEM 850 Cleaning Solvent and abraded. Remove all sanding dust and debris with a clean brush. Another final wipe with a clean cloth soaked in fresh solvent will remove the last traces of grease and dust. Glass may be washed in detergent flushed with clean water and air dried.

Application Instructions

Mix thoroughly equal parts of the resin (PART 'A') and hardener (Part 'B') using a clean dry container and a spatula or flat stick. Very small quantities may be mixed on a non-absorbent flat surface. Do not mix more than can be used in two minutes.

Immediately after mixing apply a thin film to both prepared surfaces. Press both surfaces together excluding all air and hold in position until the resin has set. At normal room temperature the strength of the bond will continue to develop for about seven days. The application of gentle heat will accelerate this development of maximum strength.

Typical bond strengths

	30 minutes	1 day	7 days
Mild steel/mild steel	2.07 MPa	3.45 MPa	5.52 MPa
Copper/Copper	4.83 MPa	6.21 MPa	8.28 MPa
Wood/Wood	2.76 MPa	3.45 MPa	5.86 MPa
Aluminium/Aluminium	4.83 MPa	5.86 MPa	5.86 MPa

Glass/Glass No breakdown in bond after 16 hours immersion in cold water.

(detergent wash) No breakdown in bond after 7 hours immersion in boiling water

Note: G/5 Five Minute Adhesive is not recommended for long-term bonds subject to high loads or moisture

Equipment Cleaning

Mixing equipment, tools and brushes can be cleaned with acetone cellulose thinners or similar solvents before the resin hardens. Once the resin has hardened, solvents are ineffective and the resin must be chipped or ground off. (Due precautions for handling inflammable and/or volatile solvents should be taken).

Protection and cleaning of workers' hands

Avoid contact with resin, hardeners, mixed epoxy and sanding dust. Wear protective gloves and clothing when handling WEST SYSTEM materials. WEST SYSTEM 831 Barrier Cream provides additional protection for sensitive skin and allergies. DO NOT use solvents to remove epoxy from the skin. Immediately after skin contact with resin, hardeners, sanding dust from epoxy and/or solvents, use WEST SYSTEM 820 Resin Removing Cream for the initial clean-up, followed by a wash with soap and warm water.

Storage/Shelf Life

Store at room temperature (above 10°C). Keep containers sealed when not in use to prevent contamination. With proper storage, resin and hardener should remain usable for the duration of the specified self-life.

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