PERMABOND® ET5365

Two-Part Epoxy

Provisional Technical Datasheet

Features & Benefits

- Adhesion to a wide variety of substrates
- Easy to apply
- High shear strength
- Good impact strength
- Very smooth surface finish
- Reliable cure at low temperatures
- WRAS Drinking water approval
- Good resistance to high temperatures

Description

PERMABOND® ET5365 is a two-part, 2:1 mixable epoxy adhesive with good adhesion to a variety of substrates such as wood, metal, ceramics and some plastics and composites. Permabond ET5365 forms tough bonds with excellent shear strength. Due to the nature of the curing agent, ET5365 will cure at lower temperatures than standard epoxy grades.

Physical Properties of Uncured Adhesive

	ET5365A	ET5365B
Chemical composition	Epoxy Resin	Phenalkamine
Appearance	Cream	Black
Viscosity @ 25°C	2rpm: 500,000-600,000 mPa.s *(cP)* 20rpm: 120,000-160,000 mPa.s *(cP)*	2rpm: 120,000-160,000 mPa.s *(cP)* 20rpm: 25,000-50,000 mPa.s *(cP)*
Specific gravity	1.4	1.1

Typical Curing Properties

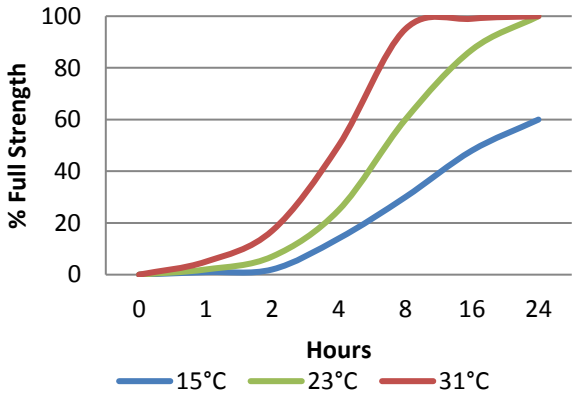
Mix ratio	2:1 by volume 100:43 by weight
Maximum gap fill	2 mm *0.08 in*
Usable / pot life 10g mixed @23°C	20 minutes
Handling time @23°C	2-4 hours
Working strength	@23°C : 6 hours @60°C: 30 mins
Full cure	@23°C: 24 hours @60°C: 1 hour

Typical Performance of Cured Adhesive

Shear strength* (ISO4587) cured 24 hrs @ 23°C	Steel: 10-14 N/mm² *(1450-2000 psi)* Aluminium: 8-10 N/mm² *(1200-1450 psi)*
Shear strength* (ISO4587)Adhesive cured 1 hour@60°C	Steel: 14-16 N/mm² *(2000-2300 psi)* Aluminium: 14-16 N/mm² *(2000-2300 psi)*

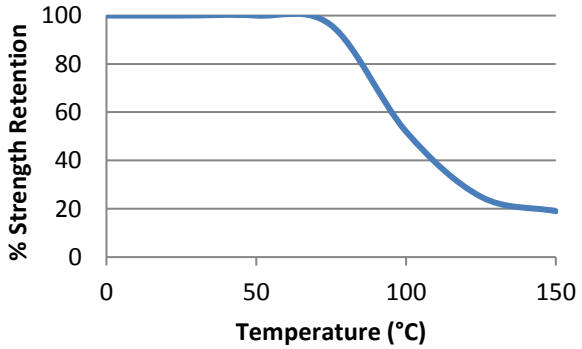
**Strength results will vary depending on the level of surface preparation and gap.*

Strength Development



Graph shows typical strength development of bonded components. An increase of 8°C in temperature will halve the cure time. Lower temperatures will result in a slower cure time.

Hot Strength



"Hot strength" shear strength tests performed on mild steel. Fully cured specimens conditioned to pull temperature for 30 minutes before testing at temperature.

ET5365 can withstand higher temperatures for brief periods (such as for paint baking and wave soldering processes) providing the joint is not unduly stressed. The minimum temperature the cured adhesive can be exposed to is -40°C (-40°F) depending on the materials being bonded.