PERMABOND® 820

Cyanoacrylate

Technical Datasheet

Features & Benefits

- High temperature resistance
- Rapid curing
- Ease of use – no mixing or heat cure
- 100% reactive, no solvents
- Cytotoxicity approved

Description

PERMABOND® 820 is a low viscosity modified ethyl cyanoacrylate suitable for applications where high temperature resistance is required. This material is fast setting and has good adhesion to rubber, metal and plastics.

Cyanoacrylate adhesives are single component adhesives that polymerize rapidly when pressed into a thin film between parts. The moisture adsorbed on the surface initiates the curing of the adhesive. Strong bonds are developed extremely fast and on a great variety of materials. These properties make **PERMABOND®** cyanoacrylates the ideal adhesives for high speed production lines.

Physical Properties of Uncured Adhesive

Chemical composition	Ethyl cyanoacrylate
Appearance	Colourless
Viscosity @ 25°C	90-110 mPa.s *(cP)*
Specific gravity	1.1

Typical Curing Properties

Maximum gap fill	0.15 mm *0.006 in*
Fixture / handling time* *(0.3 N/mm² shear strength is achieved)*	10-15 seconds (Steel) 10-15 seconds (Buna N Rubber) 10-15 seconds (Phenolic)
Full strength	24 hours

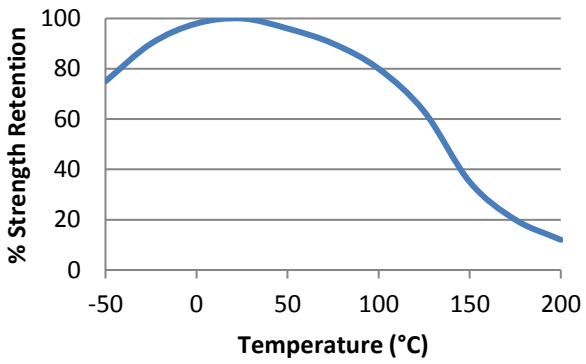
**Handling times can be affected by temperature, humidity and specific surfaces being bonded. Larger gaps or acidic surfaces will also reduce cure speed but this can be overcome by the use of Permabond C Surface Activator (CSA) or Permabond QFS 16.*

Typical Performance of Cured Adhesive

Shear strength* (ISO4587)	Steel 19-23 N/mm² *(2800-3300 psi)*
Coefficient of thermal expansion	90 x 10^{-6} mm/mm/°C
Coefficient of thermal conductivity	0.1 W/(m.K)
Hardness (ISO868)	85 Shore D
Dielectric Strength	25kV/mm

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

Hot Strength



"Hot strength" shear strength tests performed on mild steel. 24hr cure at room temperature and conditioned to pull temperature for 30 minutes before testing.

820 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 -55°C (-65°F) depending on the materials being bonded.