

Technical Data Sheet

KBX0903

Two Component Instant Repair Adhesive

Description

KBX0903 is a two part instant adhesive with excellent bonding and gap filling properties on a very wide range of substrates.

KBX0903 instant adhesive's unique two-component formulation has longer open (on-part) and working (in-mixer) times than traditional two-component epoxy products.

Working times up to 90 minutes, open times up to 30 minutes, gap filling up to 5 mm and virtually instant adhesion to plastics, wood and metals including porous and irregular surfaces, makes KBX0903 the adhesive of choice for many professional and DIY users.

The gel viscosity of KBX0903 facilitates working in any orientation whilst the static mixing nozzle ensures uniformity and precise application.

Technical Features

Technology:	Cyanoacrylate
Chemical Type:	Ethyl
State:	Gel
Appearance - Part A:	Transparent
Appearance - Part B:	Transparent
Viscosity:	Thixotropic Gel
Cure System:	By Mixing

Typical Properties of Uncured Material

PART A

Specific gravity ¹ :	1.15
Viscosity ² :	100,000 - 190, 000 cPs

PART B

Specific gravity ¹ :	1.17
Viscosity ² :	80,000 - 110, 000 cPs

¹ Measured @ 25 °C

² Brookfield RVT, Spindle 14, speed 1.5 rpm @ 25 °C

PART A + PART B - MIXED

Open time ¹ :	25 - 60 minutes
Working time ¹ :	35 - 70 minutes
Working Time in Static Mixer ¹ :	Up to 120 minutes
Glass Transition Temperature:	83.7 T _g (°C)

¹ Measured @ 25 °C

Properties of Cured Material

Operating Temperature Range:	-40 °C to +80 °C
Durometer:	60 Shore D

Typical Curing Performance

Under normal conditions, atmospheric and substrate moisture initiates the curing process.

Full functional strength is developed in a relatively short time, however the product will require curing for at least 24 hours before full chemical resistance is developed.

Fixture Times

Fixture time is the time at which an adhesive bond (250 mm²) is capable of supporting a 3 kg load for 10 seconds.

The fixture time will depend on the substrate.

The table below shows the fixture time for different substrates using lap shears.

	Time (s)
Pine Wood:	45 - 120
Beech Wood:	15 - 150
ABS:	45 - 75
Polycarbonate:	45 - 90
Aluminium A5754:	60 - 150
Mild Steel	10 - 90



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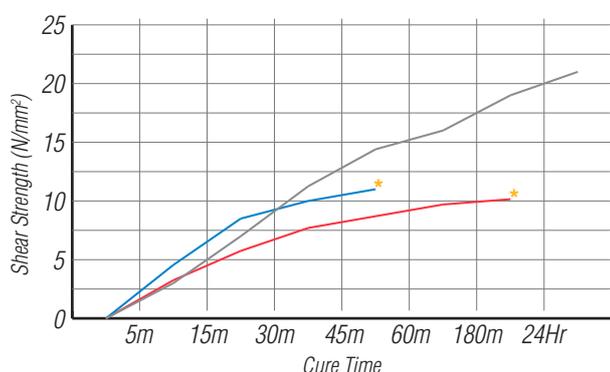
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Cure Speed vs. Substrate

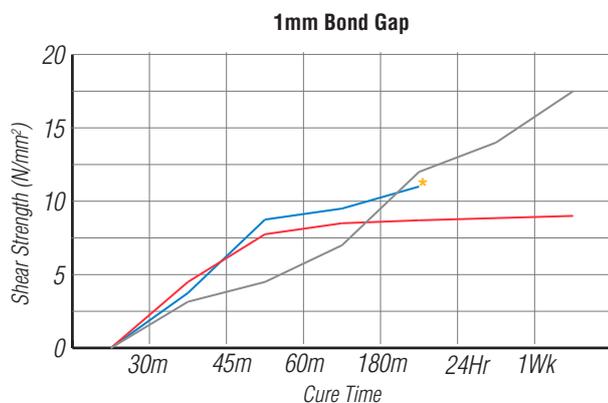
The rate and strength of cure will depend on the substrate used. The graph below shows the tensile shear strength developed with time on different materials and tested according to ISO 4587.



■ Polycarbonate ■ Pine Wood ■ Grit Blasted Mild Steel
* Substrate Failure

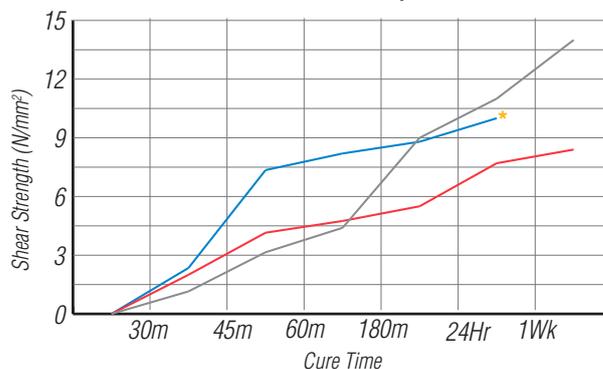
Tensile Shear Strength vs. Bond Gap

The rate and strength of cure will depend on the bondline thickness. The following graph shows the shear strength developed with time on Grit Blasted Mild Steel, Pine Wood and Polycarbonate lap shears at different controlled gaps and tested according to test method ISO 4587.



■ Polycarbonate ■ Pine Wood ■ Grit Blasted Mild Steel
* Substrate Failure

2mm Bond Gap



■ Polycarbonate ■ Pine Wood ■ Grit Blasted Mild Steel
* Substrate Failure

Tensile Shear Strength

The tensile shear strength will depend on the substrate. The Table below shows the shear strength for different substrates using lap shears with no gap, according to ISO 4587.

	Strength (N/mm ²)
Pine Wood:	5 - 10*
Beech Wood:	6 - 11*
ABS:	7 - 10*
Polycarbonate:	8 - 11*
Aluminium A5754:	5 - 10
Mild Steel	14 - 18

* Substrate Failure

Storage

Store in a cool area out of direct sunlight.
Refrigeration to 5 °C will give optimal stability.



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Shelf Life

12 months stored at 5 °C in original unopened containers.

Instructions for Use

Ensure parts are clean, dry and free from oil and grease.

Dispense small amount of adhesive from cartridge to ensure both sides are flowing. Attach appropriate mix nozzle. Dispense approximately one nozzle worth of product to ensure adequate mixing.

Apply the material on one of the two surfaces and assemble the two parts within 1 minute.

After uniting the substrates, 15-30 seconds are available for repositioning depending on the substrate.

Press the two parts together firmly for around 30 seconds. After releasing the pressure, wait 5 minutes before handling strength is achieved, 10 minutes for a fully cured material and 24hr for full strength.

To prevent product from polymerising inside the mixer, express a little product through the mixer at least every two minutes. This will help avoid excessive need to replace the mixer nozzles.

General Information

For safe handling of this product consult the Safety Data Sheet.

Cyanoacrylate bonds skin and eyes in seconds. Keep out of the reach of children.

Limitations

This product is not recommended for use in pure oxygen and / or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

Notes

The data contained in this data sheet may be reported as typical value and / or range. Values are based on actual test data and are verified on a regular basis.

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