

Technical Data Sheet

KBX9024

Two Component Flexible Instant Adhesive

Description

KBX9024 is a unique two-component, flexible, elastic and odourless instant adhesive with exceptional adhesion to a very wide range of materials including porous and irregular surfaces.

KBX9024 has high volumetric gap filling and almost instant adhesion to most plastics, wood and metals including aluminium.

KBX9024 has a curing time of only 6 minutes. After 10 minutes KBX9024 has cured to a polymer with more than 200% of elongation.

KBX9024 instant adhesive has a working time (in-mixer) of up to 6 minutes.

The gel viscosity of KBX9024 facilitates working in any orientation whilst the static mixing nozzle ensures uniformity and precise application.

Technical Features

Technology:	Cyanoacrylate
Chemical Type:	Methoxyethyl
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 :	1.18
Viscosity ² :	100,000 - 190, 000 cPs

PART B

Specific gravity ¹ :	1.23
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 :	6 - 9 minutes
Working time ¹ :	5 - 6 minutes
Gap Fill:	10mm

¹ Measured @ 25 °C

Properties of Cured Material

KBX9024 cures to a durable, flexible polymer with excellent vibration and impact resistance.

Operating Temperature Range: -40 °C to +80 °C

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:	180 - 210
Beech Wood:	90 - 120
ABS:	45 - 75
Polycarbonate:	60 - 90
Aluminium A5754:	90 - 120
Mild Steel	60 - 90



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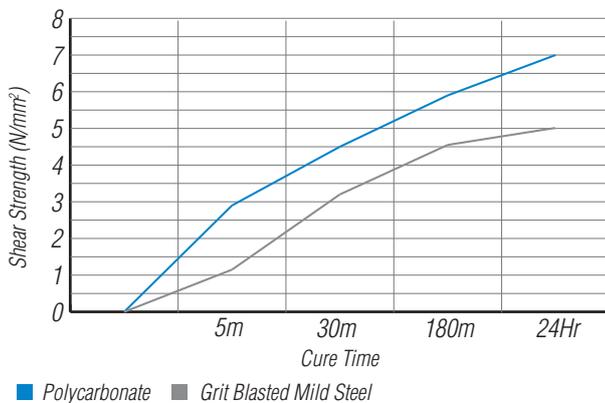
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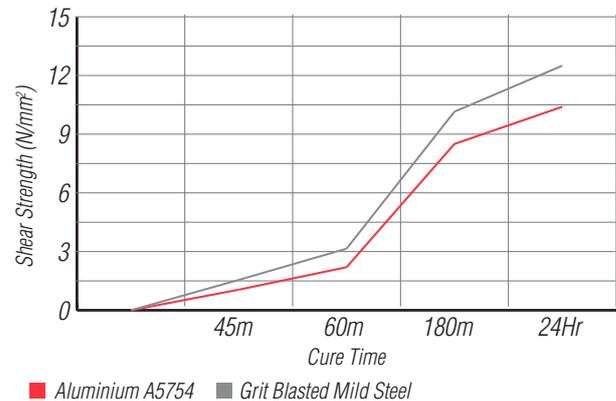
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Cure Speed vs. Substrate

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.



2mm Bond Gap



Tensile Shear Strength

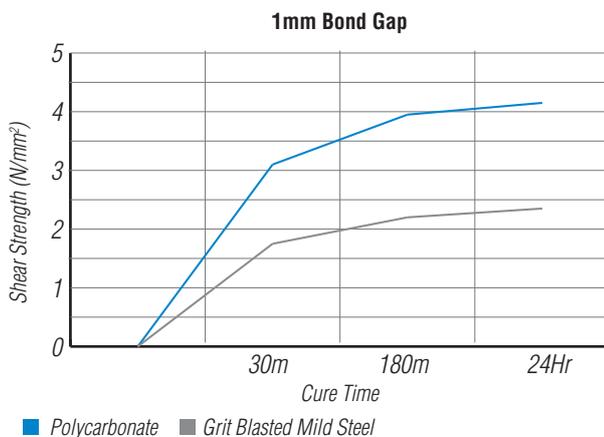
The tensile shear strength will also depend on the substrate.

The table below shows the shear strength for different substrates using lap shears with no gap, according to ISO 4587. Cured for 24hr @ 22 °C

	Strength (N/mm²)
Pine Wood	4 - 5
Beech Wood:	3 - 4
ABS:	6 - 8
Polycarbonate:	5 - 7
Aluminium A5754:	2 - 3
Mild Steel	4 - 5

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 and Polycarbonate lap shears at different controlled gaps and tested according to test method ISO 4587.



Stress-Strain

Sample cured for 24hr @ 22 °C

Elasticity was determined by % elongation at break of the sample, relative to initial sample length.

The mechanical load was recorded at sample break and the Young's Modulus (YM) was automatically calculated from recorded stress-strain data.



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Parameter	Value	Unit
Elongation at break:	>200	%
Mechanical load at break:	>150	N
Young's Modulus:	<2	MPa

Storage

Optimal storage: 2 °C to 8 °C. Storage below 2 °C or greater than 8 °C can adversely affect product properties and shelf life.

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.

Shelf Life

Nine months stored in optimal conditions, 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, 30-45 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 and 24hr for full strength.

To prevent product from polymerising inside the mixer, express a little product through the mixer at least every 2 minutes. This will help avoid excessive need to replace the mixer nozzles.

After use, discard the mixer and replace the cap.

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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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.

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