KBX0923

Two Component Metal Bonding Instant Adhesive

Description

KBX0923 has been optimized to give excellent bond strength on metal substrates, particularly aluminium, however KBX0923 also provides almost instant adhesion to most plastics, wood and other common substrates. KBX0923 can fill gaps up to 5mm.

KBX0923 instant adhesive's unique two-component formulation has longer open (on-part) and working (in-mixer) times than traditional two-component rapid epoxy products.

The gel viscosity of KBX0923 facilitates working in any orientation whilst the static mixing nozzle ensures uniformity and precise application.

Technical Features

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

Typical Properties of Uncured Material

PART A	
Specific gravity [1]:	1.07
Viscosity [2]:	100,000 - 200, 000 cPs
Viscosity [3]:	20,000 - 35,000
PART B	
Specific gravity [1]:	1.17
Viscosity [2]:	60,000 - 120, 000 cPs
Viscosity [3]:	15,000 - 35,000

1 *Measured @ 25 °C*

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

3 *Brookfield RVT, Spindle 14, speed 10 rpm @ 25 °C*

PART A + PART B - MIXED	
Open time [1]:	35 - 40 minutes
Gap Fill:	5mm
Working Time in Static Mixer [1]:	45 - 120 minutes
Operating Temperature:	-40 °C to +80 °C

1 *Measured @ 25 °C*

Typical Curing Performance

Curing is initiated by mixing the Part A and Part B components.

Handling strength is developed in a relatively short period of time, however the product will require curing for at least 24 hours before full strength is developed.

Fixture Times

Fixture time is the time at which an adhesive bond (250 mm^2) 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)
Beech Wood:	30 - 60
ABS:	60 - 75
Aluminium A5754:	60 - 210
Aluminium A5083	60 - 90
Aluminium A6082	60 - 210
Mild Steel	15 - 45

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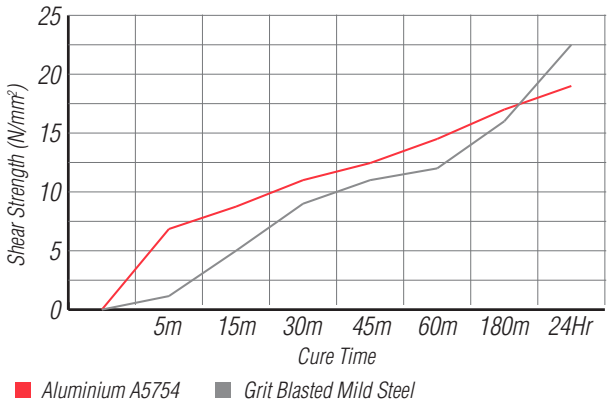
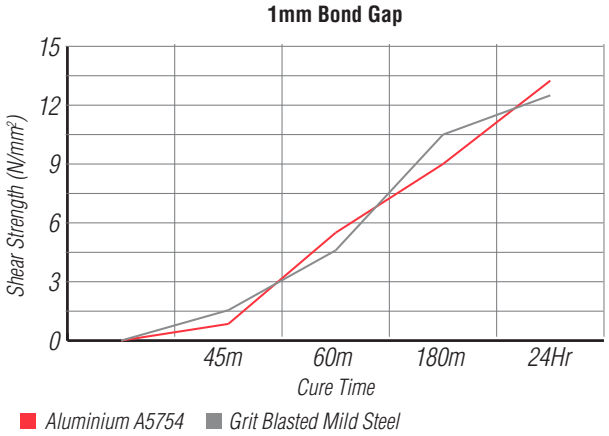
Cure Speed vs. Substrate

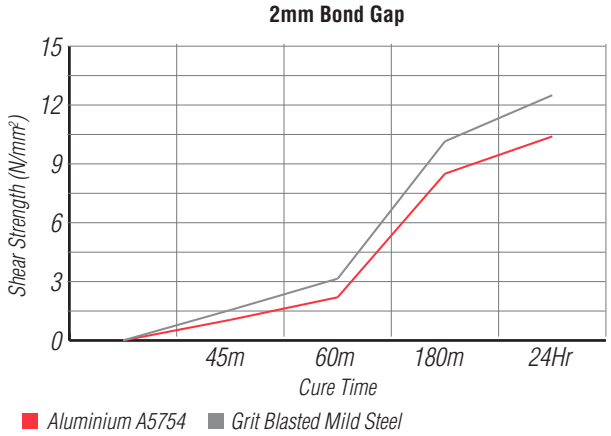
The rate and strength of cure will depend on the substrate used. The graph below shows the tensile shear strength developed with time on different materials and tested according to ISO 4587.



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





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)
Beech Wood:	9 - 11*
ABS:	9 - 10*
Aluminium A5754:	13 - 19
Aluminium A5083:	16 - 20
Aluminium A6082:	15 - 22
Mild Steel	15 - 21

* *Substrate Failure*

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.

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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.

Shelf Life

12 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 15 minutes.

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 20 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 30 minutes. This will help avoid excessive need to replace the mixer nozzles.

After use, discard the mixer and replace the cap.

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.

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.

Disclaimer

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