BX05

TECHNICAL DATA SHEET

TDS200107
V3 (MARCH 2017)

AFINITICA® BX05

PRODUCT DESCRIPTION

Technology	Cyanoacrylate
Chemical Type	Methoxyethyl Cyanoacrylate
Appearance (uncured)	Transparent liquid
Components	One part
Viscosity	High
Cure	Humidity

AFINITICA® BX05 has low odour and low blooming properties and is particularly suitable for applications where vapor control is difficult. AFINITICA® BX05 is particularly suited for bonding porous or absorbent materials such as wood, paper, leather and fabric. The product is non-irritant.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific gravity, 25 ºC, g/cm^3: 1.12
Viscosity, Brookfield, 25 ºC, mPa·s (cP):
Spindle 03, speed 30 rpm 1100 to 1750

TYPICAL CURING PERFORMANCE

Under normal conditions, the atmospheric moisture initiates the curing process. Although full functional strength is developed in a relatively short time, curing continues for at least 24 hours before full chemical resistance is developed.

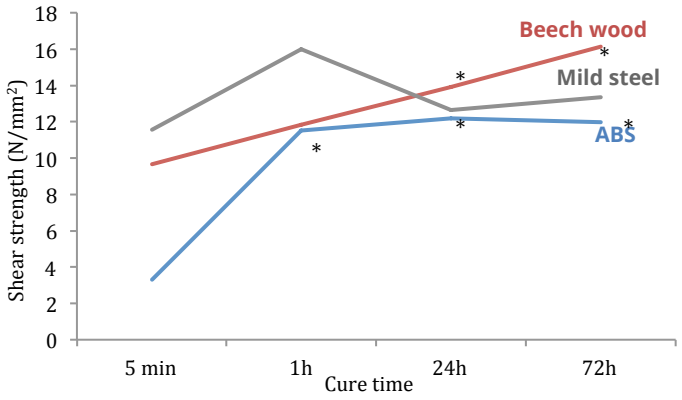
FIXTURE TIMES

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)
Pine Wood	20 – 45
Beech Wood	15 – 45
ABS	20 – 50
Polycarbonate	45 – 90
Aluminium A5754	45 – 75
Mild steel	15 – 60

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.



* Substrate Failure

TYPICAL PERFORMANCE OF CURED MATERIAL

TENSILE SHEAR STRENGTH

The shear strength will depend on the substrate. The Table below shows the shear strength for different substrates using lap shears according to ISO 4587.

Cured for 24h at 22 ºC

	Strength (N/mm^2)
Pine Wood	9 – 11*
Beech Wood	11 – 14*
ABS	11 – 12*
Aluminium A5754	4 – 6
Mild steel	7 – 12

* Substrate Failure

TYPICAL ENVIRONMENTAL RESISTANCE

Cured for 1 week at 22 ºC
Lap Shear Strength, ISO 4587

HEAT AGING

Aged at temperature indicated and tested at 22 °C

Heat Aging at 60ºC

	Strength (N/mm^2)	
	Mild Steel	ABS
Initial Strength	7 – 12	11 – 12*

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After 3 days @ 60ºC	7 – 12	9 – 10*
After 1 week @ 60ºC	7 – 10	9 – 10*
After 2 weeks @ 60ºC	7 – 10	9 – 10*

* Susbtrate Failure

Heat Aging at 80ºC

	Strength (N/mm^2)	
	Mild Steel	ABS
Initial Strength	7 – 12	11 – 12*
After 3 days @ 60ºC	7 – 12	9 – 10*
After 1 week @ 60ºC	7 – 10	8 – 9*
After 2 weeks @ 60ºC	7 – 10	8 – 9*

* Susbtrate Failure

WATER RESISTANCE

Aged under conditions indicated and tested at 22 °C
Lap Shear Strength, ISO 4587

Total submersion test in water

	Strength (N/mm^2)	
	Mild Steel	ABS
Initial Strength	7 – 12	11 – 12*
After 3 days @ 22ºC	7 – 12	9 – 10*
After 1 week @ 22ºC	7 – 12	9 – 10*
After 2 weeks @ 22ºC	7 – 10	9 – 10*

GENERAL INFORMATION

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.
For safe handling information on this product, consult the Safety Data Sheet (SDS): SDS242931

Directions for use:

1) Before applying the glue, make sure the gluing surface is clean, dry and free of grease.

2) Apply adhesive to one of the surfaces. Do not use items like tissue or a brush to spread the adhesive.

3) Assemble the parts within a few seconds. The parts should be accurately located, as the short fixture time leaves little opportunity for adjustment.

4) Bonds should be held fixed or clamped until adhesive has fixture.

5) Product should be allowed to develop full strength before subjecting to any service loads (typically 24 to 72 hours after assembly, depending on bond gap, materials and ambient conditions).

6) Optimal Storage: 2 °C to 8 °C. Storage below 2 °C or greater than 8 °C can adversely affect product properties

7) Product shelf-life: 12 months

Conversions:

(ºC x 1.8) + 32 = ºF
kV/mm x 25.4 = V/mil
mm / 25.4 = in
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm^2 x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·mm x 0.142 = oz·in
mPa·s = cP

NOTE

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