

AFINITICA® BEMO59

**PRODUCT DESCRIPTION**

Technology	Cyanoacrylate
Chemical Type	Methoxyethyl Cyanoacrylate
Appearance (uncured)	Transparent, colourless to light yellow, cloudy gel
Components	One part - requires no mixing
Viscosity	High
Cure	Humidity

AFINITICA® BEMO59 is an odour free instant adhesive. It is a gel based product suitable for working on surfaces oriented in any direction, horizontal, inclined, vertical, or overhead, as it will not run or sag. It is a non-irritant, non-staining product that is a colourless cloudy gel before cure and practically transparent after curing. The resulting polymer is flexible.

**TYPICAL PROPERTIES OF UNCURED MATERIAL**

Specific gravity, 25 °C, g/cm <sup>3</sup> :	1.15
Viscosity, Brookfield, 25 °C, mPa·s (cP):	
Spindle 14, speed 10 rpm	30,000 – 50,000

**TYPICAL CURING PERFORMANCE**

When cured, the product is a flexible and transparent polymer. 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<sup>2</sup>) is capable of supporting a 3 kg load for 10 seconds. The fixture time will depend on the substrate. The following table shows the fixture time for different substrates using lap shears.

	Time (seconds)
Pine Wood	> 300
Beech Wood	180 – 300
ABS	60 – 105
Polycarbonate	180 – 240
Aluminium A5754	> 300
Mild Steel	150 – 270

**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 °C

	Strength (N/mm <sup>2</sup> )
Pine Wood	8 – 11*
Beech Wood	12 – 14*
ABS	10 – 12*
Polycarbonate	3 – 5
Aluminium A5754	7 – 14
Mild steel	16 – 19

\* Substrate Failure

**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): 242936

**Directions for use:**

- 1) Before applying the glue, make sure the gluing surface is clean, dry and free of grease.
- 2) For metal tube products, remove cap and squeeze tube gently with minimum pressure from the end to dispense product. For plastic tube twist cap anticlockwise and squeeze tube gently from one end to dispense.
- 3) Dispense as little material of gel as possible – the thinner the layer of adhesive, the faster and stronger the bond.
- 4) After dispensing, close tubes by replacing cap or twisting cap on plastic tube clockwise
- 5) Assemble parts and press firmly together. Handling strength is achieved after 5-10 minutes.
- 6) 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).
- 7) Optimal storage: 2 °C to 8 °C. Storage below 2 °C or greater than 8 °C can adversely affect product properties.
- 8) Product shelf-life: 12 months

**Conversions:**

$$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$$

$$\text{kV/mm} \times 25.4 = \text{V/mil}$$

$$\text{mm} / 25.4 = \text{in}$$

$\mu\text{m} / 25.4 = \text{mil}$   
 $\text{N} \times 0.225 = \text{lb}$   
 $\text{N}/\text{mm} \times 5.71 = \text{lb}/\text{in}$   
 $\text{N}/\text{mm}^2 \times 145 = \text{psi}$   
 $\text{MPa} \times 145 = \text{psi}$   
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$   
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$   
 $\text{mPa}\cdot\text{s} = \text{cP}$

**NOTE**

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