

## SUPER FLEX Y

### PRODUCT DESCRIPTION

<b>Technology</b>	Cyanoacrylate
Chemical Type	Methoxyethyl Cyanoacrylate
Appearance (Comp. A)	Transparent gel
Appearance (Comp. B)	Transparent gel
Components	Two component – requires mixing
Viscosity	High, thixotropic gel
<b>Cure</b>	By mixing

AFINITICA® Super Flex Y is a flexible, elastic, fast and odourless instant adhesive. AFINITICA® Super Flex Y shows a low blooming properties with exceptional adhesion to a very broad range of materials and surfaces. Curing times of only 5 minutes while a polymer with more than 200% of elongation results within 10 minutes, working times (in-mixer) up to 6 minutes, high volumetric gap filling\*\*, instant adhesion to most plastics, wood and metals including aluminium, and to porous and irregular surfaces. The gel consistency enables applications in any orientation whilst the static mixing nozzle ensures uniform and precise application for exceptional user convenience.

### TYPICAL PROPERTIES OF UNCURED MATERIAL

#### **PART A:**

Specific gravity, 25 °C, g/cm <sup>3</sup> :	1.1
Viscosity, 25 °C, mPa·s (cP):	
Spindle 14, speed 1.5 rpm:	140,000 – 230,000
Viscosity, 25 °C, mPa·s (cP):	
Spindle 14, speed 10 rpm:	23,000 – 50,000

#### **PART B:**

Specific gravity, 25 °C, g/cm <sup>3</sup> :	1.1
Viscosity, 25 °C, mPa·s (cP):	
Spindle 14, speed 1.5 rpm	50,000 – 120,000
Viscosity, 25 °C, mPa·s (cP):	
Spindle 14, speed 10 rpm	5000 – 25,000

#### **MIXED:**

Open time at 25 °C:	5 – 12 minutes
Working time at 25 °C (in the static mixer):	5 - 11 minutes

### TYPICAL CURING PERFORMANCE

Curing is initiated by mixing the Part A and Part B components. Handling strength is achieved rapidly; full strength is achieved within 24 hours.

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

	<b>Time (s)</b>
<b>Beech Wood</b>	30-120
<b>Pine Wood</b>	60-210
<b>Polycarbonate</b>	30 – 150
<b>ABS</b>	30-90
<b>Aluminium A5754</b>	15-100
<b>Mild Steel</b>	20-70

### TYPICAL PERFORMANCE OF CURED MATERIAL

#### **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 according to ISO 4587.

Cured for 24h at 22°C

	<b>Strength (N/mm<sup>2</sup>)</b>
<b>Beech Wood</b>	6 – 7
<b>Pine Wood</b>	3 – 6
<b>Polycarbonate</b>	4 – 7
<b>ABS</b>	9 – 10
<b>Aluminium A5754</b>	5 – 12
<b>Grit Blasted Mild Steel</b>	4-12

#### **STRESS-STRAIN**

Elasticity was measured by % elongation of the sample at break relative to initial sample length located between the sample holding clamps of the mechanical tester. The mechanical load was recorded at sample

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

Cured for 24h at 22°C (Room temperature; HR% 30-50)  
Elongation at break (%): >200  
Tensile Strength: 2-20 MPa

## 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.

### Directions for use:

- 1) Before applying the glue, make sure the gluing surface is clean, dry and free of grease.
- 2) To assemble the syringe, first introduce the plunger, then exchange the cap with a mixer. Discard the first few drops.
- 3) Apply the material on one of the two surfaces and assemble the two parts within 15 minutes.
- 4) 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 good handling strength and 24h for full strength.
- 5) Make use of the syringe or discard product at least every 40 minutes to avoid the product from polymerizing inside the mixer, if you do not want to replace the mixer.
- 6) After use, discard the mixer and replace the cap. Store the syringe in a cool and dry environment.
- 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:

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$   
 $\text{kV/mm} \times 25.4 = \text{V/mil}$   
 $\text{mm} / 25.4 = \text{in}$   
 $\mu\text{m} / 25.4 = \text{mil}$   
 $\text{N} \times 0.225 = \text{lb}$   
 $\text{N/mm} \times 5.71 = \text{lb/in}$   
 $\text{N/mm}^2 \times 145 = \text{psi}$   
 $\text{MPa} \times 145 = \text{psi}$   
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$   
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$   
 $\text{mPa}\cdot\text{s} = \text{cP}$

### NOTE

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\*\*When used in application with gap, the product's flexibility properties will depend on many variables such as substrates & aging conditions. AFINITICA recommends validating the product performance over time in its application.