

AFINITICA® RTA

## PRODUCT DESCRIPTION

<b>Technology</b>	Cyanoacrylate
Chemical Type	Ethyl Cyanoacrylate
Appearance (uncured)	Colorless to yellowish colored liquid
Components	One part – requires no mixing
Viscosity	High
<b>Cure</b>	Humidity

AFINITICA® RTA is a specially formulated grade of Cyanoacrylate adhesive for applications requiring high viscosity and resistance to peel and impact. AFINITICA® RTA develops strong bonds on most metals, plastics or rubbers. AFINITICA® RTA is a one-component, solvent-free system and does not require the use of a catalyst, heat or clamps. When a thin layer of AFINITICA® RTA applied between two surfaces comes into contact with atmospheric moisture, a rapid polymerization occurs producing the ultimate bond.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific gravity, 25 °C, g/cm<sup>3</sup>: 1.10  
 Viscosity, Brookfield, 25 °C, mPa·s (cP): 1000 – 3000

## 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<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.

	Time (s)
ABS	15 – 40
Polycarbonate	20 – 50
Aluminium	5 – 10
Steel	10 – 20

## TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties	
Coefficient of Thermal Expansion (K <sup>-1</sup> )	21 x 10 <sup>-5</sup>
Coefficient of Thermal Conductivity (W/m.K)	0.21
Glass Transition Temperature	130 °C

## 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 25 °C

	Strength (N/mm <sup>2</sup> )
ABS	3 – 4
Polycarbonate	8 – 9
PVC	4 - 6
Aluminium A5754	5 – 10
Steel	14 – 17
Stainless Steel	12 - 15

## 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) 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:**

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

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

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

$$\mu\text{m} / 25.4 = \text{mil}$$

$$\text{N} \times 0.225 = \text{lb}$$

$$\text{N/mm} \times 5.71 = \text{lb/in}$$

$$\text{N/mm}^2 \times 145 = \text{psi}$$

$$\text{MPa} \times 145 = \text{psi}$$

$$\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$$

$$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$$

$$\text{mPa}\cdot\text{s} = \text{cP}$$

**NOTE**

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