

# SICOMET®

## Sicomet® 77

March 2016

### PRODUCT DESCRIPTION

Sicomet® 77 provides the following product characteristics:

<b>Technology</b>	Cyanoacrylate
<b>Chemical Type</b>	Ethyl cyanoacrylate
<b>Appearance</b>	Transparent, colorless liquid
<b>Components</b>	One part - requires no mixing
<b>Viscosity</b>	High
<b>Cure</b>	Humidity
<b>Application</b>	Bonding
<b>Key Substrates</b>	Plastics, Rubbers and Metals

Sicomet® 77 is a fast curing instant adhesive based on Ethyl-2-cyanoacrylate with a high viscosity. Due to the high viscosity Sicomet® 77 is suitable for small production based gaps for elastomer and metal bondings. The product can be used up to 80 °C operation temperature and at short-term load up to 100 °C.

### TYPICAL PROPERTIES OF UNCURED MATERIAL

Density, ISO 12185, g/cm <sup>3</sup>	1.05 to 1.1
Viscosity @ 25°C, mPa·s (cP) Cone & Plate Rheometer	950 to 1,200
Viscosity, Brookfield, 25 °C, mPa·s (cP): Spindle 3, speed 100 rpm	1,000 to 1,500
Flash Point - See SDS	

### 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/solvent resistance is developed.

### Cure Speed vs. Substrate

The rate of cure will depend on the substrate used. The table below shows the fixture time achieved on different materials at 22 °C / 50 % relative humidity. This is defined as the time to develop a shear strength of 0.1 N/mm<sup>2</sup>.

Fixture Time, seconds:	
Aluminum	40 to 60
EPDM	4 to 10
Rubber, nitrile	10 to 30
ABS	10 to 15
Polycarbonate	20 to 60

### TYPICAL PERFORMANCE OF CURED MATERIAL

After 72 hours @ 22 °C

Lap Shear Strength, ISO 4587:	
Steel (grit blasted)	N/mm <sup>2</sup> 15 to 25 (psi) (2,175 to 3,625)
Aluminum (grit blasted)	N/mm <sup>2</sup> 14 to 20 (psi) (2,030 to 2,900)
Zinc dichromate	N/mm <sup>2</sup> 3 to 9 (psi) (435 to 1,305)
ABS	N/mm <sup>2</sup> 5 to 8 (psi) (725 to 1,160)
Polycarbonate	N/mm <sup>2</sup> 7 to 11 (psi) (1,015 to 1,595)
Polyamide (6.6)	N/mm <sup>2</sup> 5 to 10 (psi) (725 to 1,450)

Tensile Strength, ISO 6922:

Nitrile	N/mm <sup>2</sup> >5 (psi) (720)
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After 24 hours @ 22 °C

Tensile Strength, ISO 6922:	
EPDM	N/mm <sup>2</sup> 2.1 to 2.5 (psi) (290 to 350)

After 7 days @ 70 °C

Tensile Strength, ISO 6922:	
EPDM	N/mm <sup>2</sup> 2.0 to 2.4 (psi) (290 to 350)

After 10 seconds @ 22 °C

Tensile Strength, ISO 6922:	
Nitrile	N/mm <sup>2</sup> ≥5 (psi) (725)

### 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).**



**Directions for use:**

1. Bond areas should be clean and free from grease. Clean all surfaces with a Loctite® cleaning solvent and allow to dry.
2. To improve bonding on low energy plastic surfaces, Sicomet Power Primer may be applied to the bond area. Avoid applying excess Primer. Allow the Primer to dry.
3. Sicomet Activator HI Speed may be used if necessary. Apply it to one bond surface (do not apply activator to the primed surface where Primer is also used). Allow the Activator to dry.
4. Apply adhesive to one of the bond surfaces (do not apply the adhesive to the activated surface). Do not use items like tissue or a brush to spread the adhesive. Assemble the parts within a few seconds. The parts should be accurately located, as the short fixture time leaves little opportunity for adjustment.
5. Sicomet Activator HI Speed can be used to cure fillets of product outside the bond area. Spray or drop the activator on the excess product.
6. Bonds should be held fixed or clamped until adhesive has fixtured.
7. 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).

**Not for product specifications**

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

**Storage**

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

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

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

**Conversions**

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$   
 $\text{kV/mm} \times 25.4 = \text{V/mil}$   
 $\text{mm} / 25.4 = \text{inches}$   
 $\mu\text{m} / 25.4 = \text{mil}$   
 $\text{N} \times 0.225 = \text{lb}$   
 $\text{N/mm} \times 5.71 = \text{lb/in}$   
 $\text{N/mm}^2 \times 145 = \text{psi}$   
 $\text{MPa} \times 145 = \text{psi}$   
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$   
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$   
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$   
 $\text{mPa}\cdot\text{s} = \text{cP}$

**Note:**

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and

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## Reference 0.2