SICOMET®

# Sicomet® 77

April 2011

## PRODUCT DESCRIPTION

Sicomet® 77 provides the following product characteristics:

| | |
|---|---|
| **Technology** | Cyanoacrylate |
| Chemical Type | Ethyl cyanoacrylate |
| Appearance | Transparent, colorless liquid |
| Components | One part - requires no mixing |
| Viscosity | Low |
| **Cure** | Humidity |
| **Application** | Bonding |
| Key Substrates | 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 and porous or absorbent materials like wood and cork. 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/cm³ | 1.05 to 1.1 |
| Viscosity @ 20°C, mPa·s (cP) | |
| Cone & Plate Rheometer | 950 to 1,200 |
| Viscosity, Brookfield, 20 °C, mPa·s (cP): | |
| Spindle 3, speed 100 rpm | 1,000 to 1,500 |
| Flash Point - See MSDS | |

## 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/mm² .

| Fixture Time, seconds: | |
|---|---|
| Aluminum | 30 to 60 |
| EPDM | <15 |
| 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/mm² | 15 to 25 |
| | (psi) | (2,175 to 3,625) |
| Aluminum (grit blasted) | N/mm² | 14 to 20 |
| | (psi) | (2,030 to 2,900) |
| Zinc dichromate | N/mm² | 3 to 9 |
| | (psi) | (435 to 1,305) |
| ABS | N/mm² | 5 to 8 |
| | (psi) | (725 to 1,160) |
| Polycarbonate | N/mm² | 7 to 11 |
| | (psi) | (1,015 to 1,595) |
| Polyamide (6.6) | N/mm² | 5 to 10 |
| | (psi) | (725 to 1,450) |
| Tensile Strength, ISO 6922: | | |
| Nitrile | N/mm² | >5 |
| | (psi) | (720) |

After 24 hours @ 22 °C

| Tensile Strength, ISO 6922: | | |
|---|---|---|
| EPDM | N/mm² | 2.0 to 2.4 |
| | (psi) | (290 to 350) |

After 7days @ 70 °C

| Tensile Strength, ISO 6922: | | |
|---|---|---|
| EPDM | N/mm² | 2.0 to 2.4 |
| | (psi) | (290 to 350) |

After 10 seconds @ 22 °C

| Tensile Strength, ISO 6922: | | |
|---|---|---|
| Nitrile | N/mm² | ≥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 Material Safety Data Sheet (MSDS).**

**Directions for use:**

1. For best performance bond surfaces should be clean and free from grease.
2. This product performs best in bond gaps up to 0.1 mm.
3. Excess adhesive can be wiped away with organic solvent.

**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**
(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

**Note**
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Reference 0.1