

Revised
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TECHNICAL DATA SHEETS
TORQUE 09RC

Description:

TORQUE 09RC is a high strength anaerobic adhesive for retaining of close fitted parts, shafts, bushes, pulleys, rotors, especially suitable to be used on oily surfaces as is. Highly resistant to heat, corrosion, vibrations, water, gases, oils, hydrocarbons and many chemicals.

PROPERTIES OF UNCURED PRODUCT (typical value)

| | |
|---|-----------------------|
| Composition | Urethane Methacrylate |
| Appearance | Green, Fluorescent |
| Specific Gravity (77°F/25°C g/ml) | 1.1 |
| Viscosity, Brookfield (77°F/25°C mPa.s) | |
| Spindle 1- 20 rpm | 100 to 150 mPa.s |
| Flash Point, TCC | >93°C |
| Shelf life at 20°C | 1 year |
| Storage temperature | 8° - 28°C |

PROPERTIES OF CURED PRODUCT (typical value)

Functional strength at 24 hrs 20° on steel

| | |
|--|---|
| Shear Strength (ISO 10123) | 20 to 32 N.m |
| Shear Strength (DIN 54452) | 16 to 25 N.m |
| Coefficient of thermal expansion (ASTM D696) | 80 X 10 ⁻⁶ 1/K |
| Thermal conductivity (ASTM C177) | 0.1 W/Mk |
| Specific heat | 0.3 Kj.Kg ⁻¹ K ⁻¹ |
| Temperature range | -55° +150°C |

ENVIRONMENTAL RESISTANCE

Hot strength at temperature

| Test.Temp. °C | % retained strength |
|---------------|---------------------|
| 25° | 100% |
| 50° | 97% |
| 100° | 75% |
| 150° | 30% |

Heat aging

Samples aged 3000 hours at indicated temperature and tested at room temperature.

| Test temp. °C | % retained strength |
|---------------|---------------------|
| 120° | 90% |
| 150° | 20% |

Chemical / Solvent Resistance

Specimens immersed for 1000 hrs at indicated temperature and tested at room temperature.

| | Test Temp. ° C | % retained |
|----------------------|----------------|------------|
| strength | | |
| 50/50 Water / Glycol | 87 | 80 |
| Unleaded Petrol | 22 | 85 |
| Motor Oil | 125 | 100 |



TECHINCAL DATA SHEETS

TORQUE 09RC



HEAT CURE

Typical heat cure conditions consist of heating and maintaining bondline at a temperature of 40°C and after one hour more than 90% of strength on steel is achieved.

CURE SPEED VS. SUBSTRATE

| % Full strength | Steel | Aluminium |
|-----------------|----------|-----------|
| 25 | 20 min | 2 hrs |
| 50 | 35 min | 15 hrs |
| 100 | 6-72 hrs | |

CURE SPEED VS. JOINT GAP

| % Full strength | Gap 0,05mm | Gap 0,25mm |
|-----------------|------------|------------|
| 25 | 25 min | 20 hrs |
| 50 | 45 min | 48 hrs |
| 100 | 15-72 hrs | |

CURE SPEED VS. TEMPERATURE

| % Full strength | Temperature | |
|-----------------|-------------|----------|
| | 5°C | 40°C |
| 25 | 4 hrs | 7 min |
| 50 | 8 hrs | 12 min |
| 100 | 72 hrs | 3-72 hrs |

GENERAL INFORMATION

This product is not recommended for use with strong oxidizing materials.

Where aqueous washing systems are used to clean the surfaces before bonding, these aqueous washes can affect the cure and performance of the adhesive.

This product is not normally recommended for use on plastics, users must check compatibility of the product with such substrates.

Note

These information should be used as a guide only, since values obtained depend on the nature of the specimens tested. For a specific application, values should be obtain on the actual parts to be bonded, using production conditions.

Engineering Excellence

For technical information
and support call **1-800-552-0299** or visit our website at

www.instantca.com