

Revised
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9411 Corsair Road
Frankfort, IL 60423
1-800-552-0299
Fax 1-815-464-5650
www.instantca.com

EMERGENCY PHONE 1-800-255-3924
TECHNICAL DATA SHEETS
TORQUE 20RC & 20RCHH

Description:

TORQUE 20RC and TORQUE 20RCHH are anaerobic resins that are the best method for retaining, locking, and sealing a wide range of metal parts. Even in the tightest fitting assemblies voids are presents which allows for movement and potential loosening of the parts. TORQUE 20RC and 20RCHH form a tough, durable resin, that fills all these voids, creating a unitized assembly that is completely resistant to shock, vibration, and extremely harsh environmental conditions. These materials cure in the absence of air and in the present of metal. They are ideally suited for retaining cylindrical assemblies providing shock and vibration resistance.

PROPERTIES OF UNCURED PRODUCT

| | |
|--|---------------------------------------|
| Composition | Methacrylate Ester |
| Appearance | Green liquid |
| Specific Gravity (77°F/25°C g/ml) | 1.1 |
| Viscosity, Brookfield RVT(77°F/25°C mPa.s) | |
| Spindle 5 @ 20 rpm | 8000 cps (20RC) 12000 cps (20RCHV) |
| Flash Point, TCC | >100°C |
| Shelf life at 20°C | 1 year |
| Storage temperature | 8° to 28°C |

PROPERTIES OF CURED PRODUCT

| | |
|--|---|
| Shear Strength(ISO 10123) | >2000psi |
| Coefficient of thermal expansion (ASTM D696) | $80 \times 10^{-6} 1/K$ |
| 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 |
|--------------|---------------------|
| 50° | 110% |
| 100° | 110% |
| 150° | 105% |
| 200° | 85% |

Heat aging

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

| Test temp. °C | % retained strength |
|---------------|---------------------|
| 180° | 125% |
| 150° | 170% |

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 | 95 |
| Motor Oil | 125 | 100 |
| Brake Fluid | 22 | 100 |
| Acetone | 22 | 95 |



TECHINICAL DATA SHEETS

TORQUE 20RC & 20RCHH



CURE SPEED VS. SUBSTRATE

| % Full strength | Steel | Aluminum |
|-----------------|-------------|----------|
| 25 | 1 hrs | 6 hrs |
| 50 | 1 and 30min | |
| 100 | 12-72 hrs | |

CURE SPEED VS. JOINT GAP

| % Full strength | Gap 0,05mm | Gap 0,30mm |
|-----------------|----------------|------------|
| 25 | 2 hrs | 13 hrs |
| 50 | 2hrs and 30min | 20 hrs |
| 100 | 12-72 hrs | 72 hrs |

CURE SPEED VS. TEMPERATURE

| % Full strength | Temperature | |
|-----------------|-------------|-----------|
| | 5°C | 40°C |
| 25 | 28 hrs | 20 min |
| 50 | | 40 min |
| 100 | | 15-72 hrs |

DIRECTIONS FOR USE

Clean and degrease parts for best results, apply product on male threads only, use enough quantity to fill joint completely. Assemble parts, avoid over tightening due to lubricating effect of product. Allow time to cure according to data sheet.

For potable water: approved for use with cold water, allow assemblies to cure 24 hrs before water contacting.

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.

NON-WARRANTY: Information contained herein is based on tests we believe to be reliable and accurate. It is offered in good faith for the benefit of the consumer. Adhesive Systems shall not be liable for any injury, loss, or damage in the use of its chemical products since the conditions of use are beyond our control. In every case we urge and recommend the user conduct tests to determine to their own satisfaction that the product is of acceptable quality and is suitable for their particular purpose under their own operating conditions. Statements concerning the possible use of our products are not intended as recommendations to use our products in the infringement of any patent. Because of changing reporting requirements and other variables it is impossible to guarantee the accuracy of the information contained in this document. It is the responsibility of the user to determine proper personal protection based on the actual condition of use and to comply with all Federal, State, and Local laws and regulations.

Engineering Excellence

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

www.instantca.com