KRYLEX® Adhesives and sealants

# KR486

## High Strength, High Temperature Anaerobic Retainer


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| Document No: | KX-01-600-2524 |
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TECHNICAL DATA

### PRODUCT DESCRIPTION

**KRYLEX®** KR486 is a single component, high strength anaerobic retaining compound. KR486 is a fast curing grade that develops high strength quickly and will withstand higher service temperatures than standard products.

KR486 cures when confined in the absence of air between close-fitting metal surfaces.

### TYPICAL APPLICATIONS

**KRYLEX®** KR486 is formulated for bonding cylindrical parts, to give high strength bonds. Typical applications include mounting gears and rotors on to shafts. KR486 is designed to augment the strength of press fit and slip fit assemblies. Once applied, parts slip together easily, lubricated by the adhesive.

KR486 prevents corrosion of assembled parts.

### PROPERTIES OF MATERIAL

| | | | Value |
|---|---|---|---|
| Chemical type | | | Dimethacrylate/ triacrylate |
| Appearance | | | Green |
| Specific Gravity | | | ~1.08 |
| Viscosity[1] cPs | | (Range) | 400 - 800 |
| | | (Typical Value) | 600 |
| Breakaway Torque[2] | N/m | Range | 13 - 40 |
| | | Typical | 32 |
| Prevail Torque[2] | N/m | Range | 20 - 33 |
| | | Typical | 26 |
| Shear Strength[3] | N/mm$^2$ | Range | 13 - 40 |
| | | Typical | 26 |
| Initial Fixture Time[4] | | (mins) | ~10 |
| Full Cure | | (Hrs) | 24 |
| Flash Point | | (°C) | > 100 |
| Max Gap Fill | | (mm) | 0.20 |
| Shelf Life @ 20°C | | (Months) | 12 |
| Temp Range °C | | Continuous | -50 to +150 |
| | | Intermittent | -50 t0 +175 |

1 Brookfield LVF spindle 2, 2.5rpm

2 On M10 black oxide steel bolt and M10 bright steel nut, ISO 10964

3 On mild steel pin and collar, ISO10123

4 ISO 10964

### CHEMICAL / SOLVENT RESISTANCE

**KRYLEX®** anaerobics exhibit excellent chemical resistance to most oils and solvents including motor oil, leaded petrol, brake fluid, acetone, ethanol, propanol and water. Anaerobic adhesives and sealants are not recommended for use in pure oxygen or chlorine lines.

### TYPICAL ENVIRONMENTAL RESISTANCE

**Hot strength**

**KRYLEX®** KR486 is suitable for use at temperatures up to 175°C. At 130°C the bond strength will be ~50% of the strength at 21°C

**Heat ageing**

**KRYLEX®** KR486 retains over 90% full strength when heated to 100°C for 90 days then cooled and tested at 21°C.

### CURE SPEED VS. TEMPERATURE

All figures relating to cure speed are tested at 21°C. Lower temperatures will result in slower cure. Heating the assembled parts accelerates the curing process.

**KRYLEX®** KP6497 Anaerobic activator should be used when the temperature is less than 5°C.

### CURE SPEED VS. SUBSTRATE

Cure speed and strength vary according to the substrates. When used on mild steel and brass components anaerobic adhesives will reach full strength more rapidly than more inert materials such as stainless steel and zinc dichromate

**KRYLEX®** KP6497 activator may be used to accelerate cure speed.

Anaerobic adhesives only cure in the absence of air and with metal part activation.

### CURE SPEED VS. ACTIVATOR

Where speed of cure is too slow or the bond gap is very large, *KRYLEX®* KP6497 Anaerobic Activator may be used to accelerate cure speed. The use of an accelerator may reduce bond strength by up to 30%.

Chemence recommends testing on the parts to measure the effect.

### CURE SPEED VS. BOND GAP

The size of the bond gap greatly affects the speed of cure of anaerobic adhesives. The larger the gap between surfaces, the slower the cure speed. Maximum recommended gap for KR486 is 0.20mm, which will give approximately the cure schedule as detailed in the properties table.

### CURING PERFORMANCE

Typical curing speed[4] as % of final strength

| | |
|---|---|
| 15 mins | ~10% strength |
| 45 mins | ~50% strength |
| 24 hours | 100% strength |

### DIRECTIONS FOR USE

**KRYLEX®** KR486 is suitable for high strength retaining applications that require medium gap filling.

Ensure parts are clean and dry and free from grease or oil.

Apply adhesive to all the engaged area. Assemble parts and allow to cure. Wipe excess adhesive from outside of joint.

Product is normally hand applied from the bottle or tube. Dispensing systems are available for high volume assembly applications. Please contact your **KRYLEX®** representative for further advice on dispensing solutions.

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### STORAGE

Optimal storage conditions are between 8°C and 21°C. Storage outside this temperature range can adversely affect product properties and may affect the stated shelf life.

### GENERAL INFORMATION

For safe handling of this product consult the Material Safety Data Sheet. **Important:** Product packed in bulk (≥5kg) has a shelf life of 6 months. The material must be filled into smaller bottles/tubes within this time period.

### DATA RANGES

The data contained in this data sheet may be reported as typical value and/or range. Values are based on actual test data and are verified on a regular basis

### PRESENTATION

Bottles: . . . . . .10ml, 50ml and 250ml.

Available in bulk for use with dispensing systems.

**Please Note:** When packed an air space above the product is vital to maintain stability.

### LIMITATIONS

KRYLEX® KR486 is not recommended on certain plastics as stress cracking can sometimes result. Some anti corrosion chemicals inhibit the cure system in this type of anaerobic.

Trials are recommended to establish whether cleaning of the parts is necessary.

KRYLEX® KP6497 Activator may be required on plated parts.

### NOTES

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