



High-Strength and Heat-Resistant Thread Coating

precote 80

precote 80-3, precote 80-8

Description

precote 80, precote 80-3 and precote 80-8 are varnish-like, solvent-free coating systems based on microencapsulated acrylates for sealing and locking of threaded parts. The dried film is tack-free and non-sticky. Its characteristics as a locking and sealing element become effective only when the capsules are ruptured by shear and pressure stress and the adhesive is allowed to cure.

Application

All versions of precote 80 are high strength thread locking coatings with a locking effect even at high temperatures. They can be used on all types of external and internal threads.

- precote 80: for threads > M6 and pitches > 1mm
- precote 80-3: accelerated curing for threads > M6
Yellow UV marker visible under UV light
- precote 80-8: for threads ≤ M6 or pitches ≤ 1mm to max. M10x1
White UV marker visible under UV light

The physical data and chemical resistance of precote 80-3 and precote 80-8 match with the data of the standard version precote 80 after complete curing.

The coating can be used in all kind of assembly procedures, particularly for serial production.

Areas of application are electronics, two wheel and automotive industry, household appliances, office machines, computer industry, electric motors, e-mobility, etc.

Properties

- precote 80 and precote 80-8 exceed the required values of DIN 267-27 after 6 hours curing at RT. Fast curing precote 80-3 exceeds these values after 30 minutes
- Constant assembly properties
- Temperature range up to +170°C (+340°F) (DIN 267-27), resp. +200°C (+390°F) (GMW 14657)
- Good chemical and temperature resistance
- Forms a dry and tack free film
- Captive part of the thread
- No post-curing even after repeated temperature exposure
- Thread friction must be considered on assembly
- Prevents corrosion in the threaded connection

Technical data

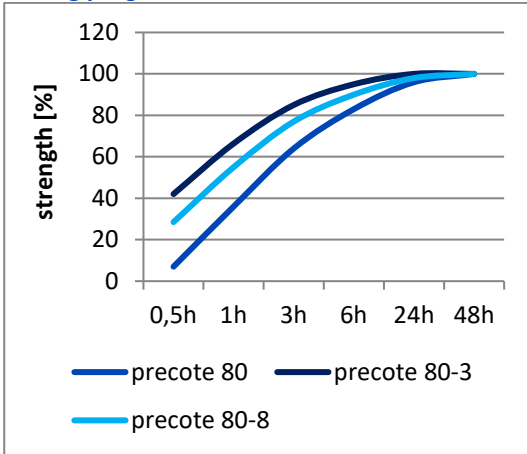
| Chemical Type | Acrylate | | | | | | | | | | | | | | | | | | |
|---|--|------------------|--|------------|-------|----------------------|------|------------------|------|------------------|-------|-------------------------|-------|----------------------------|-------|------------------|-------|------------------|------|
| Color ¹ | red | | | | | | | | | | | | | | | | | | |
| Thread friction μ_{Thread}^2 | > 0,25 | | | | | | | | | | | | | | | | | | |
| Curing time ³ at RT to final strength | ca. 24h | | | | | | | | | | | | | | | | | | |
| Curing time ³ at RT to exceed the values according to DIN 267-27 | precote 80: 6h precote 80-8: 6h precote 80-3: 0,5h | | | | | | | | | | | | | | | | | | |
| Prevailing-in torque PIT on assembly ³ | < 3 Nm | | | | | | | | | | | | | | | | | | |
| Strength without preload BAT ³ | > 20 Nm | | | | | | | | | | | | | | | | | | |
| Prevailing-out torque POT ³ | < 55 Nm | | | | | | | | | | | | | | | | | | |
| Temperature range according to DIN 267-27 | -60°C to +170°C -75°F to +340°F | | | | | | | | | | | | | | | | | | |
| Temperature range according to GMW 14657 | -60°C to +200°C -75°F to +390°F | | | | | | | | | | | | | | | | | | |
| Chemical resistance tested according to all current automotive standards and DIN 267-27, storage time 1000h | <table border="1"> <thead> <tr> <th colspan="2">Test temperature</th> </tr> </thead> <tbody> <tr> <td>Engine oil</td> <td>150°C</td> </tr> <tr> <td>Super-grade gasoline</td> <td>23°C</td> </tr> <tr> <td>DOT4 brake fluid</td> <td>90°C</td> </tr> <tr> <td>Anti-freeze 100%</td> <td>120°C</td> </tr> <tr> <td>Anti-freeze/Water 50:50</td> <td>120°C</td> </tr> <tr> <td>Automatic transmission oil</td> <td>150°C</td> </tr> <tr> <td>Transmission oil</td> <td>120°C</td> </tr> <tr> <td>Polyurea AdBlue®</td> <td>23°C</td> </tr> </tbody> </table> | Test temperature | | Engine oil | 150°C | Super-grade gasoline | 23°C | DOT4 brake fluid | 90°C | Anti-freeze 100% | 120°C | Anti-freeze/Water 50:50 | 120°C | Automatic transmission oil | 150°C | Transmission oil | 120°C | Polyurea AdBlue® | 23°C |
| Test temperature | | | | | | | | | | | | | | | | | | | |
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| Automatic transmission oil | 150°C | | | | | | | | | | | | | | | | | | |
| Transmission oil | 120°C | | | | | | | | | | | | | | | | | | |
| Polyurea AdBlue® | 23°C | | | | | | | | | | | | | | | | | | |

¹ This product information is also valid for special colors. The specified color is not a primary product feature. The color may vary slightly due to the manufacturing process and the formulation. This does not affect the quality of the product.

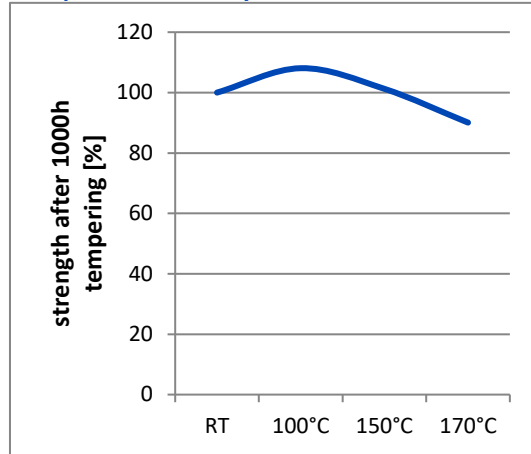
² Test according to DIN EN ISO 16047. All values apply to screws M10 ISO 4017-8.8 plain finish and nuts M10 ISO 4032-10 plain finish. All other surfaces could deliver different values.

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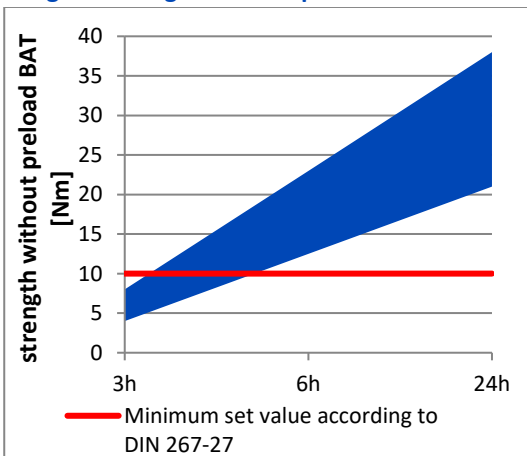
Curing progress



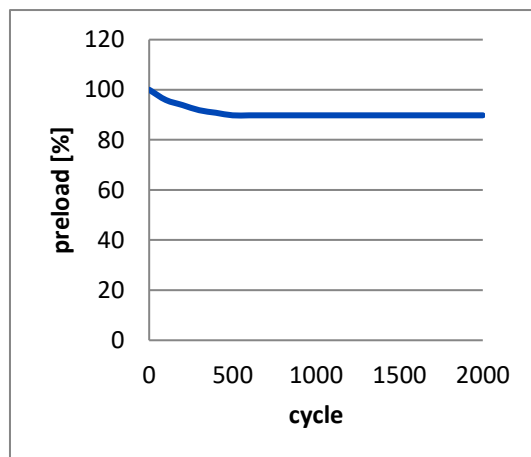
Temperature stability after 1000h



Range of strength without preload BAT¹



Vibration test according to Junkers DIN 65151 and ISO 16130



¹ Test according to DIN 267-27. All values apply to screws M10 ISO 4017-8.8 plain finish and nuts M10 ISO 4032-10 plain finish. All other surfaces could deliver different values.

All versions of precote 80 meet and exceed technical specifications of following companies

Aisin, Audi, Autoliv, BASF, Bendix, BMW, Bosch, Bridgestone/Firestone, Brose, Chrysler, Continental, Cummins, DAF, Daimler, Dana, Delphi, Denso, Faurecia, Fiat, Ford, Geely, General Motors, Getrag, Hitachi, Honda, Hyundai, Kia, Hyundai Mobis, Johnson Controls, KWC, Lear, Magna, Magneti Marelli, Mahle, MAN, Michelin, Opel, Panasonic (Matsushita Electric), Porsche, PSA, Renault, Rover, Saab Scania, Schaeffler, Siemens, Stihl, Tesla, Toyota, TRW Automotive, Valeo, Volvo, VW, ZF Friedrichshafen and many more.

Storage

Shelf-life of coated parts 4 years at max.30°C and max. 65% relative humidity.
Please note the omniTECHNIK packaging information.

August 2019

Note: As we do not know the specimen, dimensions, materials, combinations, surface conditions etc. of the threads in question, it is absolutely essential to run quality tests prior to general use to make sure about the required performance under field conditions. Our guarantee is confined to supplying precote in proper quality. In view of the fact that processing of precote by the coating partner and the application of precote coated parts are beyond our control we cannot guarantee for the quality of parts coated with precote and assemblies made thereof. We accept liability for the fitness of our

products for particular purposes and liability for particular qualities of our products only in the event that we have accepted such liability in writing in the individual case. In any event any justified warranty claims shall be limited to the delivery of replacement goods which are free from defect or, in the event that such subsequent improvement fails, to reimbursement of the purchase price. Any and all further claims, in particular but without limitation any liability for consequential damage, shall be excluded.