

PRODUCT DESCRIPTION

LOCTITE® Product Dri-Seal® 5061 is a pre-applied, non-curing, non-toxic aqueous based thread sealant with good high temperature and solvent resistance. The coating is dry-to-the-touch and ready for immediate use.

TYPICAL APPLICATIONS

Sealing threaded components such as pipe couplings and fittings, with either parallel or tapered threads, against gases, aqueous and non-aqueous fluids up to a temperature of 150°C. Particularly suitable in situations where threaded assemblies are required to be ready for immediate use in a high volume production environment where it may not be convenient to use a liquid sealant. 5061 can be used to seal effectively on a wide variety of substrates including metals and plastics. The sealing of flat faces can also be achieved with this product.

PROPERTIES OF DRY MATERIAL

All properties described below refer to the dry pre-applied coating on parts as seen by end users.

Pre-applied (Dry film) coating

| | Typical Value |
|---------------|--------------------------------------|
| Chemical Type | Polyacrylate Aqueous Emulsion Base |
| Appearance | Soft dry light blue pre-applied film |

PERFORMANCE OF PRE-APPLIED MATERIAL

Approval tests according to EN 751 Part 2.

| Section | Description | Result |
|---------|--|----------|
| 4.4.2 | Leak test @ 4.4 bar for 10 mins | No Leaks |
| 4.4.3 | 45° joint twist test | No Leaks |
| 4.4.4 | Resistance to gas condensate | No Leaks |
| 4.4.5 | Temp. variation 100°C → RT & -10°C | No Leaks |
| 4.4.6 | Vibration resistance 20k Rev. @ 700rpm | No Leaks |
| 4.4.7 | Resistance to hot water (130°C for 72 hrs) | No Leaks |
| 4.4.8 | Resistance to leak detector | Passed |
| 4.4.9 | Hardening & ease of disassembly test | Passed |

Pressure Tests on Nut & Bolt Assemblies

Sealing ability of 5061 on nut and bolt assemblies was tested under pressure at room temperature and after solvent ageing. The pressure rig allows testing of 5 assemblies simultaneously in accordance to MIL-S-46163A.

Burst pressure at room temperature

Pressure increased gradually to 16 bar and then held constant for 1 minute.

Test Procedure: MIL-S-46163A Pressure rig (modified)

Test Specimens: M10 Nuts & Bolts

| Substrates | Pressure (Bar) | Quantity Tested | Result |
|------------------------------------|----------------|-----------------|----------|
| Black Oxide Bolt Mild Steel Nut | 16 | 15 | No Leaks |
| Zn Dichromate | 16 | 15 | No Leaks |
| Zn Phosphate | 16 | 15 | No Leaks |
| Stainless Steel | 16 | 15 | No Leaks |

Torque Tension Ratio - K Value (Lubricity)

The torque tension ratio is a measure of the relationship between the torque input in an assembly and the resulting tension generated in the fastener. It is dependant on the substrates and geometry of the test pieces. The values obtained in any one test are specific and relate only to the conditions at the time of testing. It is therefore a comparative rather than an absolute measure of lubricity.

Test Specimens: M10 Nuts & Bolts

Applied Torque: 40 Nm

| Substrates | K Values | |
|--------------------------------------|-------------|-------------|
| | As Received | 5061 |
| Black Oxide Bolts Mild Steel Nuts | 0.22 - 0.38 | 0.16 - 0.28 |
| Zn Dichromate | 0.22 - 0.34 | 0.17 - 0.25 |
| Stainless Steel | 0.30 - 0.46 | 0.23 - 0.39 |

TYPICAL ENVIRONMENTAL RESISTANCE

Test Procedure: MIL-S-46163A Pressure rig (modified)

Substrates: M10 Black Oxide Bolts & Mild Steel Nuts

Chemical/Solvent Resistance

Aged under conditions indicated and tested at 22°C

| Solvent | Temp | Press. | 100 hr | 500 hr | 1000hr |
|-----------|-------|--------|----------|----------|----------|
| Water | 90°C | 4 bar | No Leaks | No Leaks | No Leaks |
| Motor Oil | 150°C | 4 bar | No Leaks | No Leaks | No Leaks |

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 oxidising materials.

For safe handling information on this product, consult the Material Safety Data Sheet, (MSDS).

Approvals

This product has been tested to and passes EN 751 Part 2 which is the basis for the DVGW approval. Copies of the approval certificates can be obtained through your local Technical Service Centre.

Directions for use

The product is a one component system consisting of an aqueous based liquid emulsion applied to fittings and fasteners and then dried. This can take place at an intermediate converter company or be done by the end user. Guidelines on recommended processing and drying conditions are available to converter companies through the local Technical Service Centre. The dry coated fitting/fastener is ready for immediate use and can be assembled to its mating threaded component at any time within its on-part shelf life period. For best performance the mating surface should be clean and free of grease. Product is normally pre-applied to the threaded component in sufficient quantity to fill all engaged threads by agreement between the converter and the end user. This product performs best in thin bond gaps, (0.05mm). Very large thread sizes may create large gaps which will affect sealing performance and function should be verified.

Storage

Coated fasteners shall be ideally stored in a cool, dry location at a temperature between 8°C - 21°C (46°F - 70°F). The on-part shelf-life period of a coated component is 24 months based upon date of application of coating. For further specific shelf-life information, contact your local Technical Service Centre.

Data Ranges

The data contained herein may be reported as a typical value and/or range (based on the mean value ± 2 standard deviations). Values are based on actual test data and are verified on a periodic basis.

Note

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, Loctite Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Loctite Corporation's products. Loctite Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits. The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a licence under any Loctite Corporation patents which may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more patents or patent applications.