



Thread Sealant 4291

Technical Data Sheet

December 2007

Supersedes Technical Data Sheet dated June 2000

General Description



3M™ Thread Sealant 4291 is a water-based product designed to be pre-applied to threaded fasteners. It has excellent resistance to automotive fluids and can withstand high temperatures and pressures. Typical applications are threaded fasteners for the engine compartment.

Physical Properties

Bulk adhesive	4291
Color	White
% solid	59%
Flash point	None
Density	9.25 lbs/gallon (1110 kg/m ³)
Viscosity	400-1200 cps
Form	Flowable liquid

¹Brookfield viscometer, RVF #4 spindle at 20 rpm.

Storage and Handling

Bulk Adhesive	4291
Container sizes	18.9 liter (5 gallon) pails
Shelf life	Six months from the date of receipt by the customer Shelf life can be extended by re-mixing the adhesive regularly so that capsules do not coagulate on the bottom of the pails. Adhesive stored longer than six months from the date of receipt should be checked for performance prior to application on fasteners.
Storage Conditions	Store pails at 15°-27°C (60°- 80°F) PROTECT FROM FREEZING ; storage below 0°C (32°F) for extended periods will freeze the adhesive and make it totally unusable. Storage above 49°C (120°F) will shorten the shelf life of the adhesive. Inventory should be rotated on a FIFO (first-in, first-out) basis.
Coated Fasteners	
Shelf life	One year from date of adhesive application Shelf life can be as long as four years, depending on the storage conditions. Fasteners which are more than one year from the date of adhesive application should be checked for performance prior to use.
Storage conditions	Store coated fasteners at 4°-38°C (40°- 100°F).

Technical Data Sheet

3M™ Thread Sealant 4291

Page 2

Performance Properties	Chemical Resistance¹	4291
	toluene (room temperature)	No leaks
	gasoline (room temperature)	No leaks
	motor oil (300°F/149°C)	No leaks
	transmission fluid (300°F/149°C)	No leaks
	anti-freeze (266°F/130°C)	No leaks
	brake fluid (300°F/149°C)	No leaks
	diesel fuel #2 (room temperature)	No leaks
	hot water (200°F/93°C)	No leaks
	Fluid Tightness²	
gasoline (room temperature)	150 psi / no leaks	
motor oil (300°F/149°C)	150 psi / no leaks	
transmission fluid (300°F/149°C)	150 psi / no leaks	
anti-freeze (266°F/130°C)	150 psi / no leaks	
hot water (200°F/93°C)	150 psi / no leaks	
High Pressure Resistance³		
1200+ psi (84+ kg/cm ²)	No leaks	

Note: These properties are representative of the product's performance and are supported by laboratory test data. However, the values reported are not intended to be used for specification purposes.

Features, Advantages and Benefits	Features	Advantages	Benefits
	Synthetic polymer chemistry	Extended shelf life (12 months on coated fasteners) Excellent resistance to automotive fluids, high temperatures (up to 300°F / 149°C) and pressures (up to 150 psi / 10.5 kg/cm ²) Can be used on both pipe and straight threads	Robust sealing performance
	Water-based	No VOCs	
	Flow coatable formula	Allows controlled application to fasteners; viscosity can be adjusted to achieve target coating weights	Broad handling, dispensing and drying windows for the applicators

Technical Data Sheet

3M™ Thread Sealant 4291

Page 3

Health and Safety

Health and Safety Information: Read all Health Hazard, Precautionary, and First Aid statements found in the Material Safety Data Sheet (MSDS) and/or product label prior to handling or use. Visit www.3M.com/msds to obtain an MSDS.

**Performance tests are run using standard test procedures. The values presented are typical values not to be used for specification purposes.

3M is a Trademark of 3M Company

Product Use: All statements, technical information and recommendations herein are based on tests 3M believes are reliable. 3M does not warrant or guarantee the accuracy or completeness of this information. User is responsible for determining whether this 3M product is fit for a particular purpose and suitable for user's method of application. Because there are many factors that can affect the use and performance of this product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate this product to determine whether it is fit for a particular purpose, is suitable for the user's method of application, and meets the user's performance specifications and expectations.

Warranty and Limited Remedy: 3M warrants that all products will upon delivery conform to 3M's published, written specifications. 3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. If this product is defective, your exclusive remedy shall be, at 3M's option, replacement or repair of the 3M product or refund of the purchase price of the 3M product.

Limitation of Liability: Except where prohibited by law, 3M will not be liable for any loss or damage arising from this 3M product, whether direct, indirect, special, incidental or consequential.

3M

Automotive Division

3M Center, Building 223-1S-02
St. Paul, MN 55144-1000
www.3M.com/autosolutions

Printed in U.S.A.
© 3M 2007
75-3470-8855-3



ISO/TS 16949:2002
File No. 00932