

Product Type

Reactive, Expandable, Pumpable, Adhesive/Sealant for Hot Application. Basis: Rubber

Substrate Type

Oily sheet metal

Application

TEROSON RB 3211-2F-01 (known as TEROSTAT 3211-2F-01) is applied on oily sheet metal to bridge tolerances, e.g. as anti-flutter in the body shop. TEROSON RB 3211-2F-01 (known as TEROSTAT 3211-2F-01) is used where pre-gelling or pre-curing in ovens or induction equipment is not possible or not wanted to reach wash-off resistance, and where high elasticity is required over a wide temperature range

Product Technology

TEROSON RB 3211-2F-01 (known as TEROSTAT 3211-2F-01) is a solvent free, reactive adhesive/sealant that is highly viscous at room temperature, but softens at higher temperatures. It is applied at ca. 35°C up to 60°C maximum depending on the application equipment and the required output. TEROSON RB 3211-2F-01 (known as TEROSTAT 3211-2F-01) chemically cross-links at temperatures above 140°C. The cured material shows a foamy structure, is highly flexible and little dependent of changes in temperature.

TEROSON RB 3211-2F-01 (known as TEROSTAT 3211-2F-01) also adheres well to oily steel sheets. The material exhibits excellent sag resistance and is wash off resistant without pre-gelling or pre-curing against aqueous cleaning and pre-treating agents used on the production line of the automotive industry. Due to its good compatibility with electrocoat paints, the adhesive/sealant offers a safe corrosion protection even at borderlines. TEROSON RB 3211-2F-01 (known as TEROSTAT 3211-2F-01) can be painted

Typical Properties

Property	Typical Results
As Delivered	
Color	Black
Odor	None
Density	1.48 ± 0.05
Solids	>99%
Penetration ASTM-D5-needle, 50g total weight, 5s, 20°C	220 – 280 ¹ / ₁₀ mm
Sag Resistance (3mm bead) At 23°C At 200°C	No sag No sag
Application Temperature	35°C – 60°C max
In Service	
Adhesion Strength Layer thickness	4 N/mm minimum 2 mm

Property	Typical Results
Volume change: 30 min @ 180°C	75% minimum
In service temperature range	-40°C to 90°C
Minimum Baking Temperature & Time	160C/20 minutes
Temperature resistance Short exposure (up to 1.5 hour)	205°C

Operating Summary

- It is recommended that testing is completed on substrates to be used to validate this material prior to use.
- Heated application equipment is required as the material is best used between 35°C and 60°C.
- To absorb the maximum amount of oil on oily sheet steel application, temperature should not fall below 43°C.
- Continuous temperatures in the equipment higher than 60°C (for longer than 10 minutes) will lead to an undesired pre-expansion before applications).
- Deviations from cure cycle may result in deviations from the shear strength which may interfere with material performance.

General Information

- Shutdown - For extended shutdown periods, greater than 8 hours, it is recommended that pressure be removed from the system to reduce possibility of caking in lines.
- Material Purge - Regular purge and cleaning of the application system is recommended, please contact your sales representative for material requirements and instructions.
- As with all materials, it is recommended that to ensure consistent material, this product is used in a First In - First Out stock rotation system.

Equipment

- Piston-, gear-, or rotary pumps are suitable for the application of TEROSON RB 3211-2F-01 (known as TEROSTAT 3211-2F-01) in pails and drums. Pump, as well as follower plate, hose and application nozzle must be heatable. Due to the heated follower plate, TEROSON RB 3211-2F-01 (known as TEROSTAT 3211-2F-01) softens at the surface and is thus pumpable.
- Equipment with divided heating circuits and independent control has proven advantageous, with the lowest temperature at the follower plate and the highest temperature at the application nozzle. The processing temperatures lie between 35 - 60°C with the optimum range depending on the desired output and other individual requirements.
- The heated application pistol can be used either manually, on a fixed basis, or attached to an automatic application system (robot, CNC). The applicator nozzle may be round, triangular or rectangular, according to individual requirements.
- For smaller production as well as preliminary tests TEROSON RB 3211-2F-01 (known as TEROSTAT 3211-2F-01) can also be delivered in 310ml cartridges. These aluminum cartridges can be heated up in a convection oven for about 30 - 45 minutes and finally be applied with the normal Hand or Air Pressure Pistols. **(Use protective gloves!)** Even more convenient is the

- application with adjustable heated air pressure pistols.
- If required, we will provide you with the necessary information on suitable application equipment.

Metal Surface Preparation

- This material has been developed to adhere to a wide variety of material surfaces. While no pre-cleaning of the substrate is required, removal of excess lubricants is desired and clean substrate is preferred.
- Cleaning of the substrate can be through chemical and/or mechanical methods.
- For best performance, substrate should be free of contamination before material is applied.

Product Removal

- Fresh, uncured material can be removed with the aid of solvent such as Mineral Spirits, Xylene or Toluene. Large amounts of material can be removed using towels or rags and then cleaned with solvent.
- Cured material can only be removed mechanically

Health and Safety

- **For safe handling information on this product, consult the Material Safety Data Sheet (MSDS).**
- Prior to application it is necessary to read the Safety Data Sheet for information about precautionary measures and safety recommendations.
- For chemicals exempt from compulsory labeling, the relevant precautions should always be observed.

Product Control Test Method

- No specific test methods are recommended to be used by customer.
- Additional information on product testing is available upon request.

Storage Requirements

- Store product in the unopened container in a dry location
- **Keep away from heat and direct sunlight.**
- **Store between 10°C and 30°C (50°F and 86°F)**
- **Shelf life of product is 180 days.**
- **Material is not frost sensitive.**
- Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

Waste Disposal

- Refer to MSDS for further information

Order Information

- Bulk IDH Number **768615**
- Please call for available packaging

Creation Date 20 November 2001

Revision Date 22 May 2013 **Revision Number** 5

REVISION HISTORY

02.28.08 New TBP format
05.18.09 Removed reference to sealer strips
05.22.13 Updated storage conditions and temperatures.
Updated name due to rebranding. Updated SG value.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{mm} / 25.4 = \text{inches}$
 $\mu\text{m} / 25.4 = \text{mil}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{N/mm}^2 \times 145 = \text{psi}$
 $\text{MPa} \times 145 = \text{psi}$

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