

# NEVSi™ LSR TC330

## Thermally Conductive Liquid Silicone Rubber

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**NEVSi LSR TC330** is a thermally conductive two-component liquid silicone rubber. The **NEVSi LSR TC330** provides an injection moldable option to produce articles which then provide a thermal path between the heat source and heat sink and or act as the heat sink itself. Potential can also be explored for the **NEVSi LSR TC330** technology to offer improved heat conduction in sensors and other thermal devices/applications.

**NEVSi LSR TC330** has been specifically developed for applications in the New Energy Vehicle application space which are seeing ever increasing electrical power, higher frequencies and miniaturization of components creating heat which can damage electronic components, electrical contacts and can cause malfunction. Silicones are in general good thermal insulators which can lead to heat build-up in critical areas. The **NEVSi LSR TC330** technology is a thermally conductive material, which helps to remove the heat generated by an electronic device to the ambient environment in order to ensure reliable operation of electronic hardware and connections.

### KEY FEATURES

- Excellent thermal conductivity
- Good processability
- Low compression set
- Excellent thermal resistance
- Excellent degradation resistance

### APPLICATIONS

- Heat transfer pads and gaskets
- Automotive underhood / e-drive train cooling parts
- Thermally conductive e-battery applications
- Automotive sensors and thermal devices/applications

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### PROPERTY DATA

| Testing Items                                                                                                                                                                                                                                                                            | Unit              | Standard         | Typical Data         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------|----------------------|
| <b>Basic Property</b>                                                                                                                                                                                                                                                                    |                   |                  |                      |
|                                                                                                                                                                                                                                                                                          |                   | PART A           | PART B               |
| Appearance                                                                                                                                                                                                                                                                               |                   | White            | White                |
| Viscosity in Pa·s $\gamma = 10 \text{ s}^{-1}$ at 20°C                                                                                                                                                                                                                                   | DIN 53018         | 180              | 180                  |
| <b>Typical Properties of Vulcanization</b><br><i>(Mix ratio of components A:B=1:1, Press cured for 10 minutes @ 175°C; Post Bake 4hours @200°C)<br/>The pot life of the mixture of the two components (closed vessel) at 20°C is three days, increased temperatures reduce pot life.</i> |                   |                  |                      |
| Specific Gravity                                                                                                                                                                                                                                                                         | g/cm <sup>3</sup> | DIN 53 479 A     | 2.3                  |
| Shore A Hardness                                                                                                                                                                                                                                                                         | Durometer         | DIN 53 505       | 33                   |
| Tensile Strength                                                                                                                                                                                                                                                                         | MPa               | DIN 53 504 S2    | 1.6                  |
| Elongation @ Break                                                                                                                                                                                                                                                                       | %                 | DIN 53 504 S2    | 170                  |
| Tear Strength                                                                                                                                                                                                                                                                            | N/mm              | ASTM D 624-B     | 4                    |
| Compression Set*                                                                                                                                                                                                                                                                         | %                 | ISO 815          | 10                   |
| Thermal Conductivity**                                                                                                                                                                                                                                                                   | W/m·k             |                  | 1.1                  |
| <b>Curing Rate Profile</b><br><i>(Mix ratio of components A:B=1:1; 10 minutes @ 130°C)</i>                                                                                                                                                                                               |                   |                  |                      |
| T10                                                                                                                                                                                                                                                                                      | Alpha Rheometer   | sec              | 29                   |
| T90                                                                                                                                                                                                                                                                                      |                   |                  | 113                  |
| <b>Typical Electrical Properties of Vulcanization</b><br><i>(Mix ratio of components A:B=1:1; Press cure: 10 minutes @ 150°C; Post cure 4 hours @ 200°C)</i>                                                                                                                             |                   |                  |                      |
| Volume Resistivity                                                                                                                                                                                                                                                                       | $\Omega$ ·cm      | IEC 60093-1980   | $2.5 \times 10^{14}$ |
| Dielectric Breakdown Voltage                                                                                                                                                                                                                                                             | KV/mm             | IEC 60243-1:1998 | 26                   |
| Dielectric Constant                                                                                                                                                                                                                                                                      | 50 HZ             | IEC 60250-1969   | 3.7                  |
| Dissipation Factor                                                                                                                                                                                                                                                                       | 50 HZ             | IEC 60250-1969   | 0.016                |

\* 22 hours @ 180°C

\*\* In-house test method

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*Typical property data values should not be used as specifications. Assistance and specifications are available by contacting Momentive Performance Materials Commercial Office.*

### HANDLING AND SAFETY

- Wear eye protection and protective gloves when handling this product.
- Cure only where appropriate ventilation systems exist.

### STORAGE

- Store in a cool and dry place out of direct sunlight.
- Keep out of the reach of children.

### PACKAGE

Both 40kg pail kits and 400kg drum kits are available.

NEVSiI LSR TC330  
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### FOR INDUSTRIAL USE ONLY

It is the responsibility of the user to determine the suitability of any Momentive Silicones product for any intended application. NEVER USE ANY Momentive SILICONES PRODUCT FOR IMPLANTATION OR INJECTION INTO THE HUMAN BODY. Specifications are available by contacting Momentive Performance Materials. Typical property data values should not be used as specifications. In as much as Momentive Performance Materials, Inc. has no control over the use to which others may put the material, it does not guarantee that the same results as those described herein will be obtained. Each user of the material should make his own tests to determine the suitability of the material for his own particular use. Statements concerning possible or suggested uses of the materials described herein are not to be construed as constituting a license under any Momentive Performance Materials patent covering use or as recommendations for use of such materials in the infringement of any patent. Material Safety Data Sheets are available upon request from Momentive Performance Materials. The contents of this catalog are subject to change without notice. No part of this data may be reproduced without the prior approval of Momentive Performance Materials.

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