

## **FSL 7586/40**

### **FSL7586/40**

#### **Description**

FSL 7586/40 is a translucent two-component silicone rubber for use in liquid injection molding to produce high performance elastomeric parts with selflubricating properties. The lubricating effect is achieved by a fluid, which exudes from the cured rubber over an extended period of time, ranging from a few hours to one day. The material is translucent, but easily pigmentable. Due to certain fluorine content in the polymer, FSL 7586/40 is suitable for applications exposed to lubricants, automotive fuels and solvents. Compared to standard liquid silicone rubbers without fluorine content the oil and fuel resistance of FSL 7586/40 is greatly improved.

FSL 7586/40 is particularly suitable for the manufacturing of parts, where improved resistance to automotive fluids is needed like connector gaskets or parts in air-intake systems. Parts made from FSL 7586/40 can generally be used in technical applications but do not comply with regulations applicable for parts, which are intended for the pharmaceutical or food industry.

#### **Key Features and Benefits**

- Low compression set
- Self-lubricating
- Fast curing
- Improved resistance to oils and fuels
- High thermal stability
- Excellent low temperature flexibility
- UV- and ozone resistant
- Easily colourable

## Typical Physical Properties

|   |              |        | <b>FSL 7586/40</b> |             |
|---|--------------|--------|--------------------|-------------|
|   |              |        | comp A             | comp B      |
| Appearance                                      |              |        | translucent        | translucent |
| Fluid Content                                   |              | %      | 5                  | 5           |
| Viscosity, $\gamma = 10 \text{ s}^{-1}$ at 20°C | C DIN 53 018 | Pa • s | 700                | 700         |

The pot-life of the mixture of the two components (closed vessel) at 20°C is three days. Increased temperatures reduce the pot-life.

The mechanical properties were measured on test sheets (2 mm). These were produced by mixing the components A & B in 1:1 ratio and curing the resulting mixture 10 min at 175°C.

|                           |                     |                   | <b>FSL 7586/40</b> |  |
|---------------------------|---------------------|-------------------|--------------------|--|
|                           |                     |                   | as<br>cured        | Injection molding plus<br>post curing 30 min at<br>200°C |
| Density                   | DIN 53 479 A        | g/cm <sup>3</sup> | 1.23               | 1.23   |
| Hardness                  | DIN 53 505          | Shore<br>A        | 40                 | 40   |
| Tensile Strength          | DIN 53 504 S2       | N/mm <sup>2</sup> | 5.5                | 5.6  |
| Elongation at break       | DIN 53 504 S2       | %                 | 380                | 400  |
| Tear Strength             | ASTM D 624 die<br>B | N/mm              | 20                 | n.a.   |
| Comp. Set 22h at<br>175°C | ISO 815             | %                 | 17                 | 18   |

## Fluid Resistance Data

|                                     | Hardness Change<br>[Shore A] | Tensile<br>Change [%] | Elongation<br>Change [%] | Volume<br>Change [%] |
|-------------------------------------|------------------------------|-----------------------|--------------------------|----------------------|
| <b>3 d 150 °C</b>                   |                              |                       |                          |                      |
| IRM 903                             | - 6                          | - 26                  | - 21                     | + 9                  |
| Castrol "SLX<br>OW30" <sup>1)</sup> | - 3                          | - 12                  | - 11                     | - 0.1                |
| Mobil "OW30" <sup>2)</sup>          | - 2                          | - 14                  | - 11                     | + 2.2                |
| BP "C20" <sup>3)</sup>              | - 3                          | - 22                  | - 8                      | + 2.4                |
| <b>3 d 120 °C</b>                   |                              |                       |                          |                      |
| Diesel (EN<br>590)                  | - 13                         | - 47                  | - 26                     | + 21                 |
| RME – Bio<br>diesel                 | - 8                          | - 41                  | - 35                     | + 17                 |
| <b>3d 70 °C + 24h<br/>RT</b>        |                              |                       |                          |                      |
| Fuel C                              | + 5                          | + 41                  | + 25                     | - 11                 |

1) Available from Deutsche Castrol Vertriebsgesellschaft mb, Hamburg

2) Available from ExxonMobil Cooperation

3) Available from Deutsche BP AG

These typical data are only intended as a guide and should not be used in preparing specifications.

### Processing Recommendations

FSL 7586/40 is a kit-matched product. As such, work time (pot-life), cure time, and final cured properties can only be assured if the batch numbers on the A component and B component are identical and the material is mixed at a ratio of 1:1. Pumping and meter-mixing systems for FSL 7586/40 and appropriate injection moulding machines are available from a number of manufacturers, most of whom will provide a complete integrated system (exclusive of the mould itself). The self-lubrication effect is, however, affected by several factors, which are specific for each article. The diffusion process depends on:

- Ratio of volume to surface area

- Degree of cross linking
- Type and concentration of pigment added

For further information please contact Momentive performance materials.

### **Containers**

FSL 7586/40 is available in 20 kg pails.

### **Patent Status**

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

### **Product Safety, Handling and Storage**

Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at [www.momentive.com](http://www.momentive.com) or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

### **Limitations**

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

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