

## 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 cured           | Injection molding plus post curing 30 min at 200°C |
| Density                | DIN 53 479 A     | g/cm <sup>3</sup> | 1.23               | 1.23                                               |
| Hardness               | DIN 53 505       | Shore 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 B | N/mm              | 20                 | n.a.                                               |
| Comp. Set 22h at 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**

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### **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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| +704 805 6946           | Direct Number        | Direct number                                         | Toll free           |
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|                         |                      | <b>*All Middle Eastern countries, Africa, India,</b>  | <b>Korea</b>        |
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