DOW CORNING® Firestop 3-6548
Silicone RTV Foam

FEATURES
• A fire rating of up to 4 hours can be achieved
• Approved by Lloyds Register
• Prevents smoke and gas penetration through the seal
• Forms to complex, irregular shapes
• Blank penetrations can be filled for future cable installations
• Long life service
• Resistant to ozone, ultra-violet radiation and temperature extremes

Two-part silicone rubber foam

APPLICATIONS
• For sealing of fire rated penetrations containing pipes, cable or ductwork.

TYPICAL PROPERTIES
Specification writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales representative prior to writing specifications on this product.

<table>
<thead>
<tr>
<th>Property</th>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>As supplied</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical form</td>
<td></td>
<td>Flowable liquid</td>
</tr>
<tr>
<td>Color and consistency</td>
<td></td>
<td>Dark gray elastomeric foam</td>
</tr>
<tr>
<td>Snap time</td>
<td>minutes</td>
<td>1.5</td>
</tr>
<tr>
<td>Density</td>
<td>kg/m³</td>
<td>300</td>
</tr>
<tr>
<td>Cell structure, closed cell</td>
<td>%</td>
<td>&gt;50</td>
</tr>
<tr>
<td>Tensile strength</td>
<td>MPa</td>
<td>0.23</td>
</tr>
<tr>
<td>Compression deflection</td>
<td>MPa</td>
<td>0.07</td>
</tr>
<tr>
<td>40% compression</td>
<td>MPa</td>
<td>0.15</td>
</tr>
<tr>
<td>60% compression</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermal conductivity</td>
<td>W/(m.K)</td>
<td>7.5x10⁻³</td>
</tr>
<tr>
<td>K factor, 270kg/m³ foam</td>
<td>W/(m.K)</td>
<td>7.8x10⁻³</td>
</tr>
<tr>
<td>Linear coefficient of thermal expansion (-25°C to 150°C/-13°F to 302°F)</td>
<td>1/°C</td>
<td>3.2x10⁻⁴</td>
</tr>
<tr>
<td></td>
<td>1/°F</td>
<td>1.8x10⁻⁴</td>
</tr>
<tr>
<td></td>
<td>1/°C</td>
<td>9.26x10⁻⁴</td>
</tr>
<tr>
<td></td>
<td>1/°F</td>
<td>5.1x10⁻⁴</td>
</tr>
<tr>
<td>Volume coefficient of thermal expansion (-25°C to 150°C/-13°F to 302°F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limiting oxygen index</td>
<td>% oxygen</td>
<td>35</td>
</tr>
<tr>
<td>Dielectric strength</td>
<td>kV/mm</td>
<td>6.6</td>
</tr>
<tr>
<td>Dielectric constant at 100Hz</td>
<td></td>
<td>1.95</td>
</tr>
<tr>
<td>Dissipation factor at 100Hz</td>
<td></td>
<td>0.00505</td>
</tr>
<tr>
<td>Volume resistivity</td>
<td>ohm.cm</td>
<td>2.24x10¹⁵</td>
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</tbody>
</table>

DESCRIPTION
DOW CORNING Firestop 3-6548 Silicone RTV Foam is a two-part silicone room temperature vulcanizing (RTV) foam that has been specially formulated to have fire resistant properties coupled with good flexibility under the most demanding conditions. It has been made to withstand high temperatures and to confine such hazards as smoke, fire and gases.

DOW CORNING Firestop 3-6548 Silicone RTV Foam can also be used to seal buildings against damaging contaminants such as dirt, dust and water.
TECHNICAL SPECIFICATIONS AND STANDARDS

DOW CORNING Firestop 3-6548 Silicone RTV Foam has been tested according to the following standards:
- BS 476 Part 22, 3 hour fire rating (SGS Test report FT/10492.1/MWA/94)
- BS 476 Part 22, 4 hour fire rating (Yarsley Test Report J82973/2).
- IMO-A517 (XIII) H0, H60, H120 ratings (Lloyds Register Certificate Numbers SVG/F93/468 and SVG/F93/469).
- IMO-A517 (XIII) A0, A15, A60 ratings (Lloyds Register Certificate Number SVG/F93/470).
- 148kN/m² Blast resistance (BRE Test Report Number TCR 53/91).

FIRE RATINGS

Fire test data is available showing that DOW CORNING Firestop 3-6548 Silicone RTV Foam can achieve up to a 4 hour fire rating at specified joint and penetration configurations. Fire rating Table 1 shows the UK Test Reports held by DOW CORNING Firestop 3-6548 Silicone RTV Foam.

SUBSTRATE PREPARATION

Cleaning

Ensure that all materials are compatible with DOW CORNING Firestop 3-6548 Silicone RTV Foam. Ensure that all surfaces are clean, dry, sound and free from frost. Clean all joints of release agents, water repellents, laitance, dust, dirt, old sealants and other contaminants which could impair adhesion. Surfaces should be cleaned and degreased by wiping with a suitable solvent such as DOW CORNING® Silicon Cleaner or DOW CORNING® R40 Reiniger, on an oil- and lint-free cloth.

For further advice on cleaning specific substrates, please contact Dow Corning’s Technical Services Department.

Note: When using any cleaning solvent, always provide adequate ventilation. Avoid heat, sparks and open flames. Observe and follow all precautions listed on solvent container label or Product Safety Data Sheet.

It is recommended that DOW CORNING Firestop 3-6548 Silicone RTV Foam is not applied to surfaces that are below 5°C (41°F) as it is impossible to guarantee a dry, frost free surface at these temperatures. Optimum temperature for application of the foam is 13°C (55°F) to 27°C (81°F).

Adhesion

DOW CORNING Firestop 3-6548 Silicone RTV Foam seals by compression rather than adhesion. However, if adhesion is required in a particular application, primers can be used. In these instances contact Dow Corning’s Technical Services Department for further advice.

Damming method

Damming materials are required to contain the liquid foam while it expands and cures. These may be formed from combustible or non-combustible materials. Combustible damming materials should be removed as soon as the foam is completely cured. Non-combustible damming materials may be used as an integral part of the fire seal, but materials used in this way must be as specified in the relevant fire test report.

Damming procedures

a) For the purpose of damming a penetration where the damming material is an integral part of the fire seal, aluminum silicate board, or other suitably approved material, can be used.

b) The damming material should be cut so as to form a tight fit in the opening and around the penetration items. Any gaps should be plugged with, for example, ceramic fiber, to ensure that the foam is contained within the seal cavity.

c) The damming material may be cut into two or more pieces to ensure ease of application and, if necessary, easy removal.

d) In a wall or bulkhead situation, damming materials are required on both sides of the opening. In a floor or deck seal, damming material may only be required at the lower face of the seal.

e) It is important to note that DOW CORNING Firestop 3-6548 Silicone RTV Foam exerts considerable pressure as it cures and expands. It may therefore be necessary to use additional supports to prevent deformation and damage of the damming material.

QUALITY CONTROL

The following four point check should be performed at the start of each day’s work, and on changing to new drums of foam.

Four step quality control requirements for checking DOW CORNING Firestop 3-6548 Silicone RTV Foam and dispensing equipment.

1. Snap time minutes 1-3
2. Free foam density kg/m³ 220-320
3. Color Chart Pass comparison
4. Cell structure Pass chart comparison

Dow Corning’s approved applicators have quality control systems that follow these recommendations.

TYPICAL FOAM INSTALLATION

Legend

1. DOW CORNING Firestop 3-6548 Silicone RTV Foam
2. Fire rated wall
3. Fire rated damming boards
4. Penetrating items

CLEAN-UP

Excess foam should be cleaned off tools and non-porous surfaces whilst in an uncured state using a suitable solvent.
REPAIR PROCEDURES
Repair and modifications can easily be performed by using DOW CORNING Firestop 3-6548 Silicone RTV Foam or any suitable fire stopping material. If necessary, the foam can be cut with a sharp knife to enable modification of the seal.

PROTECTION OF PENETRATION SEAL
If the damming material is to be resistant to water, contact Dow Corning for a recommendation of an appropriate water resistant material. SYLGARD® 170 Silicone Elastomer may be used to give additional protection against mechanical abrasion. If protection against oil or solvents is required, DOW CORNING® 730 Solvent Resistant Sealant may be used.

TECHNICAL SERVICES
Consult Dow Corning's Technical Services departments for further advice on specific applications: Dow Corning S.A. Construction Technical Service Parc Industriel B-7180 Senneffe - Belgium Tel : INT + 32 (0)64 88 80 00 Fax : INT + 32 (0)64 88 84 01
Dow Corning Ltd. Meriden Business Park Copse Drive, Allesley, Coventry, CV5 9RG - United Kingdom Tel : INT + 44 (0)1676 52 80 00 Fax : INT + 44 (0)1676 52 81 00

HANDLING PRECAUTIONS
Due to the evolution of hydrogen gas during foaming and curing, appropriate caution should be exercised. DOW CORNING Firestop 3-6548 Silicone RTV Foam must be mixed and applied away from sparks or open flame. Special forced-air ventilation should be provided if areas of installation have less than 110 liters of free air space per 1kg or liquid mixture being foamed.

PRODUCT SAFETY
INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE FROM YOUR LOCAL DOW CORNING SALES REPRESENTATIVE.

USABLE LIFE AND STORAGE
When stored at or below 32°C (90°F) in the original unopened containers, DOW CORNING Firestop 3-6548 Silicone RTV Foam has a usable life of 24 months from the date of production for the 40kg and 900lb packaging sizes and 12 months for the 310ml and 600ml cartridges.

Optimum temperature for application of the foam is 13°C (55°F) to 27°C (81°F) and if possible the foam should be stored at this temperature. On storage, some settling of the contents may occur and the individual components will need to be thoroughly stirred so that an even consistency is obtained before use.

Note: A separate stirring device should be used for each component to avoid cross-contamination.

PACKAGING
DOW CORNING Firestop 3-6548 Silicone RTV Foam is available in 310ml and 600ml easy to use cartridges for smaller applications, 40kg and 900lb kits for larger applications, in black and gray.

LIMITATIONS
Inhibition of cure
Certain materials, chemicals, curing agents and plasticisers can inhibit the cure of DOW CORNING Firestop 3-6548 Silicone RTV Foam. Most notable of those are:
- organo-tin and other organo-metallic compounds;
- silicone rubber containing organo-tin catalyst;
- sulfur, polysulfides, polysulfones and other sulfur-containing materials;
- amines, urethanes and amine-containing materials;
- unsaturated hydrocarbon plasticisers, moisture.
If in doubt, run a small-scale compatibility test.

The presence of liquid or uncured product at the interface between the questionable substrate and the cured DOW CORNING Firestop 3-6548 Silicone RTV Foam, would normally indicate incompatibility and inhibition of cure.

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

HEALTH AND ENVIRONMENTAL INFORMATION
To support customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Health, Environment and Regulatory Affairs specialists available in each area.

For further information, please consult your local Dow Corning representative.

WARRANTY INFORMATION - PLEASE READ CAREFULLY
The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that Dow Corning's products are safe, effective, and fully satisfactory for the intended end use. Dow Corning's sole warranty is that the product will meet the Dow Corning sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. Dow Corning specifically disclaims any other express or implied warranty of fitness for a particular purpose or merchantability. Unless Dow Corning provides you with a specific, duly signed endorsement of...
fitness for use, Dow Corning
disclaims liability for any incidental
or consequential damages.
Suggestions of use shall not be taken
as inducements to infringe any patent.

Table 1: Fire rating

<table>
<thead>
<tr>
<th>Test report</th>
<th>Test standard</th>
<th>Penetrating items</th>
<th>Fire rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>YARSLEY</td>
<td>J82973/2</td>
<td>None</td>
<td>4 hours</td>
</tr>
<tr>
<td>BRE</td>
<td>TCR 53/91</td>
<td>Multiple steel pipes</td>
<td>see below</td>
</tr>
<tr>
<td>LPC</td>
<td>04410/SW/MB</td>
<td>Multiple steel pipes</td>
<td>2 hours</td>
</tr>
<tr>
<td></td>
<td>TE 91471</td>
<td></td>
<td>following blast test</td>
</tr>
<tr>
<td>WFRC</td>
<td>WARRES 59652</td>
<td>Multiple steel pipes</td>
<td>2 hours</td>
</tr>
<tr>
<td>WFRC</td>
<td>WARRES 596523</td>
<td>Single steel pipe</td>
<td>2 hours</td>
</tr>
<tr>
<td>LLOYDS</td>
<td>SVC/F93/468</td>
<td>Steel pipes</td>
<td>H0, H60, H120</td>
</tr>
<tr>
<td>LLOYDS</td>
<td>SVC/F93/469</td>
<td>Cable trays</td>
<td>A0, A15, A60</td>
</tr>
<tr>
<td>LLOYDS</td>
<td>SVC/F93/470</td>
<td>Steel pipes</td>
<td>A0, A15, A60</td>
</tr>
<tr>
<td>SGS</td>
<td>FT/10492.1/MAN/94</td>
<td>100mm Ø, steel pipe, cable tray</td>
<td>3 hours</td>
</tr>
</tbody>
</table>

Note: To achieve the correct fire rating the penetration seal must be correctly designed. Full details of the penetration tested to the above standards are included in the individual reports and attention should be paid to the requirements for insulation materials on the penetrating items.

In addition, a large amount of information is available from Dow Corning Corporation, including fire testing to Underwriters Laboratories (UL) standards.

For further information regarding the fire performance of DOW CORNING Firestop 3-6548 Silicone RTV Foam, including the design of penetration seals, please contact Dow Corning’s Technical Services Department.