

Silicone Rubber Translucent

Silicone Translucent is a silicone sheet material used for the manufacturing of silicone flexible sleeves, and silicone cut gaskets.

Advantages

- Superior flexibility
- Excellent shape memory properties
- good fatigue resistance, flex resistance, and elongation
- Excellent compression set properties
- Translucent
- Superior chemical resistance
- CIP cleaning resistant
- Great aging resistance
- High Temperature resistance
- Great low temperature resistance.
- Smooth surface
- No material degradation
- Food contact compliant
FDA 21 CFR 177.2600
EC 1935/2004
BFR XV part B 11
- Excellent resistance to:
Ozone, Oxidation, ultraviolet light, corona discharge, cosmic radiation, ionizing radiation, and weathering in general.



Filcoflex offers a wide range of silicone flexible sleeves and silicone cut gaskets in translucent silicone. Silicone flexible sleeves, and Silicone cut gaskets can be made in various thicknesses.

Filcoflex custom makes silicone flexible sleeves in round, rectangular and many other shapes to customer specifications.

Silicone cut gaskets can be cut from sheet using cutting machines, water jet cutting, or by punching.

Silicone rubber is a semi-organic synthetic made from sand and alkyl or aryl halides. While silicone rubber looks and feels like organic rubber, it has a completely different type of structure than other elastomers. Silicone rubber consists of a chain of silicon and oxygen atoms rather than carbon and hydrogen atoms as found in other types of rubber. This structure gives silicone rubber a very flexible but weak chain. Silicone's structure also provides a material that has very small change in dynamic characteristics over a wide range of temperature.

Filcoflex B.V.

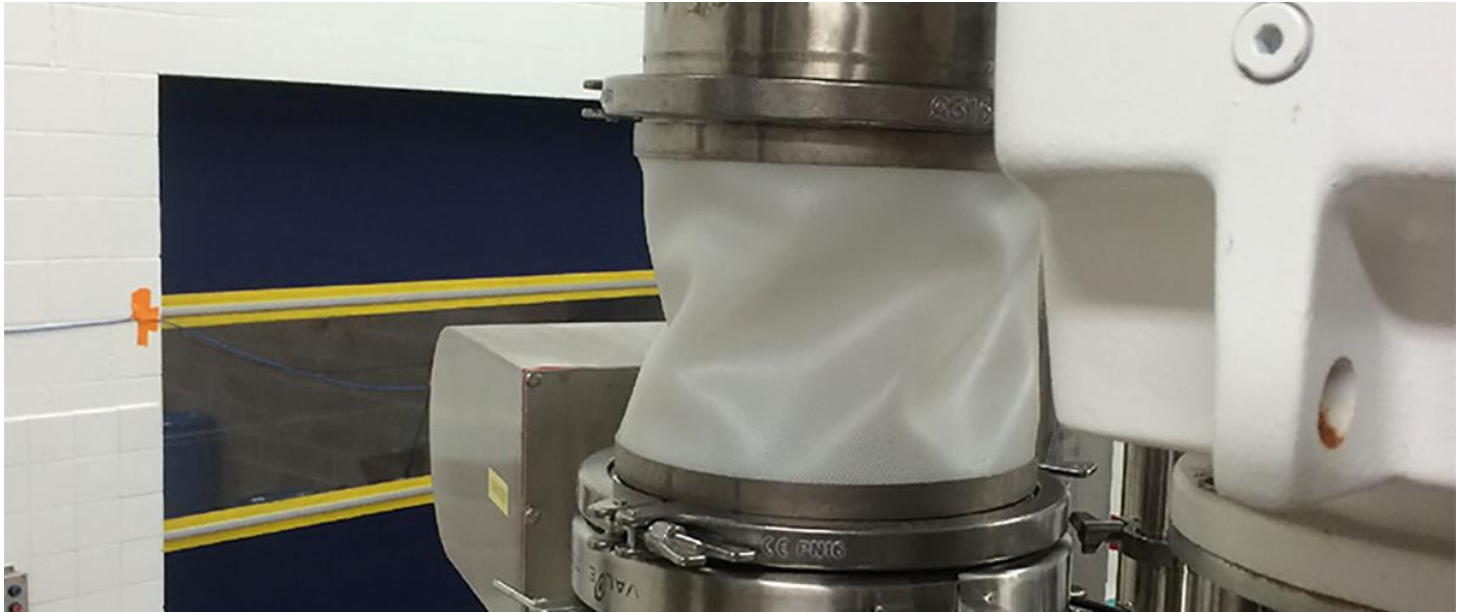
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Applications

Food and beverage, outdoor applications, Stationary, Vibratory, Gyrotory, Sifters, Screeners, Feeders, Spray driers, Fluid Bed, Static Cool Bed, Bin dischargers, Hoppers, Conveyors, Packing equipment, Storage silos, Screw conveyors, Valves, butterfly valves, Rotary valves, Tanks, Silo's, any sort of product handling equipment, Air ducting, Fans, Inflatable seals, Covers, Outside protection sleeves, Bellows, Load cell (high volume, weight and capacity), Harmonica's, Telescopic applications.

Automotive, domestic and commercial catering, construction, electronics, energy, heating, and ventilation, industrial, lighting, marine.



General Properties

| | | |
|--------------------------------------|--|-----------------------------|
| Name : | Silicone Translucent | |
| Description : | SIL1 / SIL 2 / SIL 3 | |
| Color* : | Translucent / White | |
| Surface : | smooth on both sides | |
| Surface Roughness : | - | |
| Wall Thickness : | 1,00 mm / 0.0393 Inch | (+/-10%) |
| | 2,00 mm / 0.0787 Inch | (+/-10%) |
| | 3,00 mm / 0.1181 Inch | (+/-10%) |
| Hardness : | 60° Shore A | (+/-5%) |
| Tensile Strength : | 10.0 MPa | (BS ISO 37) |
| | 1450 PSI | |
| Maximum Elongation : | 400% | (BS ISO 37) |
| Tear Strength : | 22.0 N/mm | (ASTM D624 die B) |
| | 125.0 lb./in. | |
| Compression Set : | 13% 24 hours @ 150 °C | (DIN/ISO 815 type B) |
| Compression Set : | 10% 22 hours @ 300 °F | (ASTM D395 method B type 2) |
| Weight : | 2.388 Kg/m ² / 0.13372 lbs./in ² | |
| Operating Temperature : | -60 °C to 230°C | |
| | -76 °F to +446 °F | |
| Max. Surge Temp : | +250 °C / +482 °F | |
| Brittle Point : | -80 °C / -112 °F | (ASTM D764) |
| Low Temperature Flexibility : | Very Good | |
| Air Permeability : | 0 | |
| Limiting Oxygen Index : | 24.0% | (BS 2782 Part 1) |
| Thermal Conductivity : | 0.24 W.m ⁻¹ . K ⁻¹ | (VDE 0304) |
| Radiation Resistance : | >10 ⁵ Grays (10 ⁷ Rads) typical | |
| Dielectric Strength : | 23 kV.mm ⁻¹ | (VDE 0303) |
| Dielectric Constant : | 2.9 | (VDE 0303) |
| Dissipation Factor: | 3x10 ⁻⁴ | (VDE 0303) |
| Volume Resistivity : | 3x10 ¹⁵ Ω.cm | (VDE 0303) |
| Type of Material : | Sheet on roll 1000x15000mm** | |

* other colors are available upon request.

** Custom roll widths available 1500x15000, 1800x15000

Advantages

Silicone has a broad temperature range and is generally odorless / non-toxic.

Silicone offers excellent resistance to high temperatures, ozone, oxygen, UV light, moisture, and fungus.

Silicone also has excellent vibration damping and maintains its dielectric strength.

Silicone has low compression set and offers good fatigue resistance, flex resistance, and elongation.

Silicone offers excellent resistance to Corona discharge, Cosmic radiation, Ionizing radiation, and weathering in general.

Silicone has an excellent resistance to CIP cleaning and Cleaning Chemicals.

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Limitations

Standard Silicone sheet materials have a poor tear resistance.

(Filcoflex offers a special silicone sheet material quality called PKSR that has a knitted polyester mesh to improve tear strength by 200%.)

Silicone has poor resistance to most concentrated solvents, concentrated acids, concentrated alkaline, oils, fuels, hydrocarbons, and steam.

Silicone may become porous to high concentration fatty substance such as coffee oil at higher temperature applications (above 70° C/158° F).

Chemical Resistance

For a detailed chemical resistance, we advise you to please see our chemical compatibility chart.

Pressure Resistance for Flexible Connectors

0,34 Bar / 5.0 PSI For temperatures up to 90 °C / 195°F

Please see "Operating Pressure Guide" for further information.

we recommend using the shortest possible connector for applications where increased pressure and/or high temperature is expected. Please contact us for more information.

Weighing Applications

High volume weight and capacity weighing, and dosing applications please see "weighing and dosing guide" for further information.

ATEX explosion safety

Silicone translucent sheet is very restricted in how it can be used as a silicone flexible sleeve in explosion hazardous environments.

Silicone translucent sheet has not yet been assessed in how it can be used in an ATEX environment.

Alternative material in ATEX environments:

Filcoflex offers a special silicone sheet material called PKSR for the manufacturing of silicone flexible sleeves, a silicone sheet with a polyester mesh ply reinforcement to improve the tear strength for short pressure bursts and tensioning of vibratory equipment.

PKSR has been tested extensively for its electrostatic properties and an elaborate assessment provide a lot of information about the restrictions of use in explosion hazardous environments containing explosive dust and air mixtures.

PKSR provides the benefits of a silicone sheet material and the improved tear strength combined with a elaborate knowledge how to apply it with in the restrictions of an ATEX environment.

Please contact us for more information.

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Food Contact Compliancy

Silicone Translucent Sheet complies with the following regulations for repetitive contact with foods: *

- **United States**
 - FDA 21 CFR 177.2600
- **European Community**
 - (EC) 1935/2004**
 - (EC) 2023-2006
 - (EC) 1907/2006 (REACH)
- **BFR XV**
 - Empfehlung and color bleed test according to BFR Empfehlung part B11



* Some restrictions may apply, a copy of all certifications can be downloaded, or will be sent to you upon request.
We will be happy to advise further if you have any questions.

** please check our food contact compliancy declarations and migration testing reports for further information.

Flammability Requirements

Silicone Translucent Sheet meet the flammability requirements of FAR 25/JAR 25/CS Appendix F, Part 1, (a)(1)(iv) and (a)(1)(v) horizontal flammability tests.
Automotive Standard PART 571FMVSS302

Production Methods used

Joining / Bonding:

- Joining / Bonding
 - Glued/Bonded.
802612 – Kit_Siliconen lijm E43 N RTV-1
(Specifications available upon request)

Cutting:

- Stainless Steel knives
- Water Jet cutting

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