# JINYOU® UFG Gasket Material

## Material Composition and Application

JINYOU®'s UFG (Ultimate Flange Gasket) material is capable of a wide service range in applications found throughout process industries. The patented UFG multilayer manufacturing method provides reliable sealability due to the low stress and exceptional dimension stability characteristics the material possesses. This form of gasketing material is processed by expanding 100% pure polytetrafluoroethylene (PTFE) into a highly fibrillated, bi-directional, soft, compressible gasket for longer life and trouble free sealing. Its form-in-place versatility is perfect for flange surfaces that are worn, warped or scored. The distinct compressibility of the UFG gasket enables it to effectively fill flange imperfections for a tight, leak-free seal. Unlike conventional PTFE materials which are prone to cold flow, UFG has good creep resistance and bolt torque retention properties.

The UFG material has excellent chemical resistance with a pH range of 0 to 14, making it suitable for most medium. The temperature service parameters range from -450°F (-268°C) to 500°F maximum/600°F spike (260°C/315°C) and pressure ranges from full vacuum to 3,000 psi (206 bar). These exceptional values are achieved without the need of filler materials like silica, barium sulfate or hollow glass spheres. The Ultimate Flange Gasket material is ideal for both high load metal flanged applications and low load applications such as glass-lined steel, glass and FRP (fiberglass reinforced plastic) piping and vessels. It does not support bacterial growth or cause product contamination and is FDA 21 CFR 177.1550 compliant.

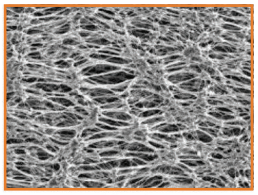
UFG has an unlimited shelf-life and is unaffected by normal environmental conditions.

Besides its standalone capabilities as an effective seal in highly corrosive applications, it is also one of the most widely used composites for the primary sealing element in semi-metallic gaskets such as spiral-wound, corrugated and camprofile.

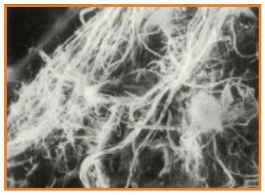
The UFG solution reduces concerns of process safety and production downtime caused by the use of an incorrect gasket material.

### UFG Advantages

- *High adaptability, suitable for flanges with corrosion and with uneven sealing surface*
- *Ideal for use with more fragile piping systems*
- *Easy to install and remove, anti-sticking for effortless flange surface cleaning*
- *No embrittlement of the gasket in storage or in service*
- *FDA, RoHS & REACH compliant*
- *Impermeable*
- *Chemically inert*
- *High temperature and pressure*
- *Seals at low stress loads*
- *Superior creep resistance*
- *Serialized for traceability*



ePTFE Fibrilated Structure



Chrysotile Asbestos Fiber

UFG's patented biaxial expansion process of polytetrafluorethylene produces a highly fibrillated structure making it impermeable to liquid and gases. This technology has resulted in achieving uncanny structural characteristics to the common chrysotile asbestos fiber which had dominated the gasket industry for over a century. Unlike chrysotile fiber gasketing, UFG is a safe and non-toxic material and does not require the use of elastomers which deteriorate when exposed to chemicals and elevated temperatures. UFG has been independently tested by TUV NORD and found to be RoHS and REACH Compliant.

*MEETS US FDA 21 CFR 177.1550*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| Physical Properties | |
|---|---|
| Temperature Minimum | -450°F *(-268°C)* |
| Temperature Maximum/Spike | 500°F/600°F *(260°C/315°C)* |
| Pressure | Full Vacuum to 3000 psi *(206.8 bar)* |
| pH | 0-14 *(Except molten Alkali Metals and Elemental Fluorine)* |
| Compressibility (ASTM F36) | 55-62% |
| Recovery (ASTM F36) | 12% |
| Creep Relaxation (ASTM F38) | 32% @ 212°F<br>16% @ 73°F |
| Sealability (ASTM F37B) | |
| ASTM Fuel A | 0.00 ml/hr |
| Nitrogen | 0.02 ml/hr |
| Gas Permeability (DIN 3535) | 0.00 cc/min |
| Ignition Loss (ASTM F495) | 30% |
| Density | 0.85 g/cm³ |

All information and recommendations given in this brochure are correct to the best of our knowledge. Since conditions of use are beyond our control, the information provided only serves as a guideline. Users must satisfy themselves that products are suitable for the intended process and uses. We reserve the right to change product design and properties without notice.

| Model Number | Thickness | Width x Length | | |
|---|---|---|---|---|
| | | 1500mm x 1500mm<br>59″ x 59″ | 1500mm x 3000mm<br>59″ x 118″ | 1500mm x 4500mm<br>59″ x 177″ |
| 0.50mm | 0.20″ | JUF-G05-S | JUF-G05-S2 | JUF-G05-S3 |
| 0.80mm | 1/32″ | JUF-G08-S | JUF-G08-S2 | JUF-G08-S3 |
| 1.00mm | 0.39″ | JUF-G10-S | JUF-G10-S2 | JUF-G10-S3 |
| 1.50mm | 0.59″ | JUF-G15-S | JUF-G15-S2 | JUF-G15-S3 |
| 1.60mm | 1/16″ | JUF-G16-S | JUF-G16-S2 | JUF-G16-S3 |
| 2.00mm | 0.079″ | JUF-G20-S | JUF-G20-S2 | JUF-G20-S3 |
| 2.38mm | 3/32″ | JUF-G23-S | JUF-G23-S2 | JUF-G23-S3 |
| 2.50mm | 0.098″ | JUF-G25-S | JUF-G25-S2 | JUF-G25-S3 |
| 3.00mm | 0.118″ | JUF-G30-S | JUF-G30-S2 | JUF-G30-S3 |
| 3.20mm | 1/8″ | JUF-G32-S | JUF-G32-S2 | JUF-G32-S3 |
| 4.00mm | 0.157″ | JUF-G40-S | JUF-G40-S2 | JUF-G40-S3 |
| 4.75mm | 3/16″ | JUF-G47-S | JUF-G47-S2 | JUF-G47-S3 |
| 5.00mm | 0.197″ | JUF-G50-S | JUF-G50-S2 | JUF-G50-S3 |
| 6.00mm | 0.236″ | JUF-G60-S | JUF-G60-S2 | JUF-G60-S3 |
| 6.40mm | 1/4″ | JUF-G64-S | JUF-G64-S2 | JUF-G64-S3 |

JINYOU® has established itself as a leader in the PTFE/ePTFE technology industry. The company was formed in 2004 and became publicly listed on the Shanghai Stock Exchange in 2014. With more than 35 patents, the JINYOU® product line can be found in the sealing, filtration, medical, electric and apparel industries in the forms of gasketing, woven fibers, membranes and dental floss.

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