

TYPE EXAMINATION CERTIFICATE

This is to certify:**That the Gaskets and Sealings**

with type designation(s)

Flat Gasket UNIFLON 50, Flat Gasket UNIFLON 51, Flat Gasket UNIFLON 53

Issued to

**Flexitallic Limited
West Yorkshire, United Kingdom**

is found to comply with

ASTM F152**ASTM F36****Application :**

| Type: | Temperature range: | Max. working press.: | Design: | Sizes: |
|-------------------------------|--------------------|---------------------------|---------------------|--------|
| Flat Gasket UNIFLON 50 | | see manufacturer's | instructions | |
| Flat Gasket UNIFLON 51 | | see manufacturer's | instructions | |
| Flat Gasket UNIFLON 53 | | see manufacturer's | instructions | |

Issued at **Hamburg** on **2017-04-28**for **DNV GL**This Certificate is valid until **2022-04-27**.DNV GL local station: **Manchester**Approval Engineer: **Guido Friederich**

Olaf Drews
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Examination Certificate and not to the approval of equipment/systems installed.



Product description

The flat gasket material Novus UNIFLON 50 / 51 / 53 is a special performance biaxially orientated PTFE sheet material suitable for standard flanges and for low bolt loaded irregular flanges. It is suitable for sealing all chemicals across the whole pH range with the exception of molten alkali metals.

UNIFLON 50

| Technical data | | Unit |
|-----------------------------|-------------|-------------------|
| Thickness range | 0,75 to 3,0 | mm |
| Colour | Blue | |
| Tensile Strength (ASTM 152) | 11 | (MPa) |
| Compression (ASTM F 36) | 40 | (%) |
| Recovery (ASTM F36) | 30 | (%) |
| Density: | 1,4 | g/cm ³ |
| Residual stress at 175°C | 25 | MPa |
| Creep relaxation (ASTM F36) | 35 | % |
| Liquid leakage (ASTM F 37) | 0,23 | ml/h |

UNIFLON 51

| Technical data | | Unit |
|-----------------------------|-----------|-------------------|
| Thickness range | 0,75 to 3 | mm |
| Colour | Pink | |
| Tensile Strength (ASTM 152) | 15 | (MPa) |
| Compression (ASTM F 36) | 7 | (%) |
| Recovery (ASTM F36) | 40 | (%) |
| Density: | 2,2 | kg/m ³ |
| Residual stress at 175°C | 32 | MPa |
| Creep relaxation (ASTM F36) | 23 | % |
| Liquid leakage (ASTM F 37) | 0,21 | ml/h |

UNIFLON 53

| Technical data | | Unit |
|-----------------------------|-----------|-------------------|
| Thickness range | 0,75 to 3 | mm |
| Colour | White | |
| Tensile Strength (ASTM 152) | 14 | (MPa) |
| Compression (ASTM F 36) | 5 | (%) |
| Recovery (ASTM F36) | 40 | (%) |
| Density: | 3,0 | kg/m ³ |
| Residual stress at 175°C | 30 | MPa |
| Creep relaxation (ASTM F36) | 21 | % |
| Liquid leakage (ASTM F 37) | 0,22 | ml/h |

Application/Limitation

The above listed fiber joint gasket sheet types may be used under consideration of the mechanical and technical characteristics as well as physical and chemical properties for the following applications:

- Ship's piping systems, pressurized items and machinery.
- Maximum allowable working pressure and temperature according to the specification of the manufacturer.

Application/Limitation - Continuation

- The selection of the gaskets for the corresponding application and appropriate installation has to be in accordance with the instructions of the manufacturer.

Limitations and exclusions:

- Pipe lines for LNG and flammable gas systems, cryogenic fluids, cargo lines on chemical and gas tankers carrying flammable and/or noxious media, propylene oxide and mixtures of ethylene and propylene oxide.
- Steam lines

Type Examination documentation

Test Report BAM, ref.no. II-2438/2003, test report 609-03902
Product specifications
ISO 9001 : 2008; BS EN ISO 14001 : 2008; ISO 18001 : 2007

Marking of product

The flat gasket material Novus UNIFLON 50 / 51 / 53 shall be clearly marked with the following minimum signs:

- Manufacturer's name / label
- Gasket sheet material non asbestos
- Product number

Certificate Retention Survey

A condition for retention of the Type Approval Certificate in its validity period is that periodical assessments are successfully carried out.

The objective of the periodical assessment is to verify that the conditions for the type approval have not been altered. The main scope of the periodical assessment will normally include:

- Verification of the TA applicant's production and quality system w.r.t ensuring continued consistent production of the type approved products at the TA applicant's own premises and at other companies that are given the responsibility for manufacturing of the products.
- Review of the TA documentation and that this is still used as a basis for the production
- Review of possible changes to the design, the material and the performance of the product
- Verification of the product marking

End of Certificate