# Standard Gaskets

The standard food process gasket in Europe is DIN11851 in several elastomeric materials.

| | |
|---|---|
| EPDM | Ethylene Propylene Diene Monomer |
| FKM | (Viton®) Fluoroelastomer |
| Silicone | Silicone Rubber |
| BUNA | Acrylonitrile Butadiene Rubber |
| HNBR | Hydrognated Nitrile Butadiene Rubber |

**High performance plastics are:**

| | |
|---|---|
| PTFE | PolyTetraFluoroEthylene |
| TFM | Modified PolyTetraFluoroEthylene |
| Tuf-Steel® | Blend of non pigmented PTFE and 316L powder |
| Tuf-Flex® | Bonded PTFE with EPDM substrate |
| Food-Flex® | Bonded PTFE with Nitrile substrate (Tri-Clamp only) |
| Tri-Bond® | Bonded PTFE with FKM substrate (DIN32676 & ISO1127 only) |
| Steam-Flon® | Blend of non pigmented PTFE and 316L powder DIN & ISO |

## Typical Gasket Guidelines

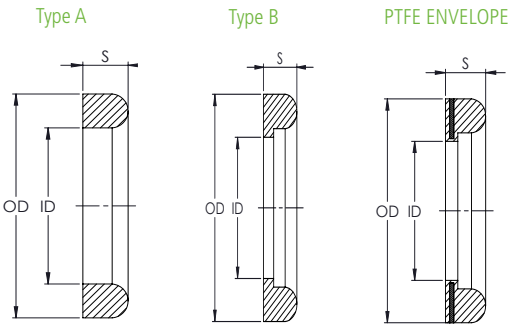
| | 1=Excellent | 2=Good | 3=Acceptable | 4=Marginal | 5=Poor | X=do not use | | | |
|---|---|---|---|---|---|---|---|---|---|
| Gasket type | Continuous Steam | Intermittent Steam | Pure Water Ambient | Pure Water Hot | Process Fluids Ambient | Process Fluids Hot | Process Fluids Variable ΔT | Temperature Range* | Torque Value in Nm* |
| Tuf-Flex® | 1 | 1 | 1 | 1 | 1 | 1 | 1 | -20°C to 150°C | 2 Nm |
| Tri-Bond® | 1 | 1 | 1 | 1 | 1 | 1 | 1 | -30°C to 175°C | 2 Nm |
| Tuf-Steel® | 1 | 1 | 1 | 1 | 1 | 1 | 1 | -212°C to 288°C | 4 Nm |
| Steam-Flon® | 1 | 1 | 1 | 1 | 1 | 1 | 1 | -212°C to 288°C | 4 Nm |
| PTFE Solid | 1 | 1 | 1 | 1 | 1 | 1 | 3 | -74°C to 260°C | 3 Nm |
| PTFE Envelope (FKM) | 2 | 1 | 1 | 1 | 1 | 1 | 3 | -30°C to 170°C | 3 Nm |
| Silicone Platinum cured | 2 | 2 | 2 | 2 | 2 | 2 | 1 | -40°C to 230°C | 1,5 Nm |
| FKM Fluoroelastomer | 2 | 2 | 2 | 2 | 2 | 2 | 2 | -30°C to 205°C | 1,5 Nm |
| EPDM Peroxide cured | 3 | 3 | 3 | 3 | 3 | 3 | 3 | -20°C to 150°C | 1,5 Nm |
| NBR (Nitrile) | 5 | 5 | 3 | 3 | 3 | 4 | 3 | -20°C to 110°C | 1,5 Nm |
| HNBR (hydrog-nated Nitrile) | 2 | 2 | 3 | 2 | 2 | 2 | 1 | -40°C to 165°C | 1,5 Nm |

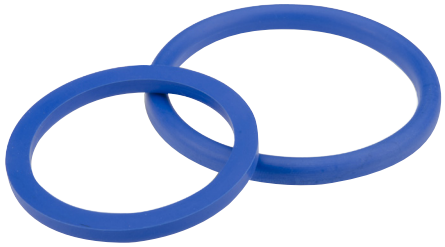
# DIN11851 series

| DIN11851 | Type A | Type B | PTFE ENVELOPE |
|---|---|---|---|
| | OD X ID X S | | |
| DN10 | 12 x 20 x 4,5 | 10,5 x 20 x 5 | 10,5 x 20 x 5 |
| DN15 | 18 x 26 x 4,5 | 16,5 x 26 x 5 | 16,5 x 26 x 5 |
| DN20 | 23 x 33 x 4,5 | 20,5 x 33 x 5 | 20,5 x 33 x 5 |
| DN25/1" | 30 x 40 x 5 | 26,5 x 40 x 6 | 26,5 x 40 x 6 |
| DN32/1.25" | 36 x 46 x 5 | 32,5 x 46 x 6 | 32,5 x 46 x 6 |
| DN40/1.5" | 42 x 52 x 5 | 38,5 x 52 x 6 | 38,5 x 52 x 6 |
| DN50/2" | 54 x 64 x 5 | 50,5 x 64 x 6 | 50,5 x 64 x 6 |
| DN65/2.5" | 71 x 81 x 5 | 66,5 x 81 x 6 | 66,5 x 81 x 6 |
| DN75/3" | 78 x 88 x 5 | | |
| DN80 | 85 x 95 x 5 | 81,5 x 95 x 6 | 81,5 x 95 x 6 |
| DN90 | 94 x 104 x 5 | | |
| DN100/4" | 104 x 114 x 6 | 100,5 x 114 x 6 | 100,5 x 114 x 6 |
| DN125 | 130 x 142 x 7 | 125 x 142 x 7 | 125 x 142 x 7 |
| DN150 | 155 x 167 x 7 | 150,5 x 167 x 7 | 150,5 x 167 x 7 |

The "Milchrohrverschraubung" or Milk threaded fitting DIN11851 is still a popular fitting in the food industry. There are two types available as indicated in above table. Type B is the most sanitary version because the inside lip closes the gap between the two metal parts. Recently we have introduced the PTFE envelope gasket with lip
(Type B), this envelope gasket seals better than its solid version because of its rubber (FKM) insert.

See page 8 for in-line filter solutions for DIN11851.



# Screens

With our experience in the pharmaceutical industry we learned that there is a need for in-line coarse screen (filter) products for the food industry as well. Our screens are not used the same way as filters, although it can be considered a filter. These screens are most of the time a single layer stainless steel wire filter, with a rectangular opening. Retention vary from 11 mm down to 10 µm, ranging from thick wire to thin stainless filter cloth.

Most of the time we use screens as a safety measure. Either to protect a pump in a startup phase or to take out the last potential particles in a filling station.

We designed screens for DIN11851
Available materials: EPDM and Steam-Flon®
EPDM meets:
FDA CFR 177.2600
Is TSE/BSE free
Meets EC1935/2004 for Water and Acid only

Removable screen for DIN11851
Steam-Flon® meets:
FDA CFR 177.1550
Is TSE/BSE free
Meets EC 1935/2004

## Common Mesh Sizes

| Mesh | Wire Ø | Opening | Open area | Material |
|---|---|---|---|---|
| (warp) | (mm) | (mm) | (%) | |
| 10 | 0,60 | 1,95 | 58 | AISI 316 |
| 20 | 0,34 | 0,95 | 54 | AISI 316 |
| 40 | 0,22 | 0,42 | 43 | AISI 316 |
| 60 | 0,19 | 0,23 | 30 | AISI 316 |
| 80 | 0,17 | 0,15 | 22 | AISI 316 |
| 100 | 0,11 | 0,14 | 31 | AISI 316 |

DIN11851 screen

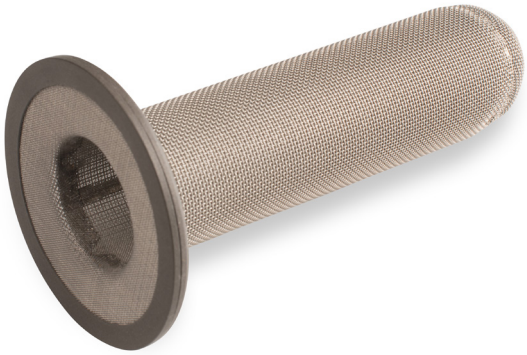
DIN11864 screen

# Steam-Flon®

Steam-Flon® is an alternative for white virgin PTFE. It is a mix of white PTFE with 316 stainless steel powder as a filler. This 316 stainless filler enhances the compound to become more stable and outperforms standard PTFE. With hardly no dimensional change under pressure it maintains a seal even under high temperature exposure, no leaks. The ability to hold its shape during service is something we utilize for our Removable gasket.

Removable gaskets can be used for screens, sock screens and orifice plates. The gasket is a two part unit that can be pressed together with a screen or plate in between. It can be taken apart, cleaned and reused.

DIN11851 DN65 Sock screen 200 mesh



DIN11851 DN50 Orifice plate

Steam-Flonismeets:
FDA CFR 177,1550
Is TSE/BSE free
Meets EC 1935/2004

# Orifice plates DIN11851

Innovative Orifice plates are used to modify flow patterns in critical systems. Orifice plates can advance your system´s performance, adjusting flow rates, balance backflow and equalize back pressure during SIP or CIP (Steaming In Place SIP or Cleaning in Place CIP) procedures.
Currently available in HNBR.

Meets: FDA CFR 177.2600
3.1B certificate for metal parts
Is TSE/BSE free

HNBR elastomer

Available materials: EPDM and Steam-Flon® + HNBR

EPDM meets:
FDA CFR 177.2600
Is TSE/BSE free
Meets EC1935/2004 for Water and Acid only

Steam-Flon® meets:
FDA CFR 177.1550
Is TSE/BSE free
Meets EC 1935/2004

Self draining Orifice plate in DIN11851 DN50
With eccentric Ø4,0mm hole

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