



# ADVANCED SOLUTIONS



Advanced Solutions are products that provide the greatest benefit for reliable safety and efficiency in critical applications.

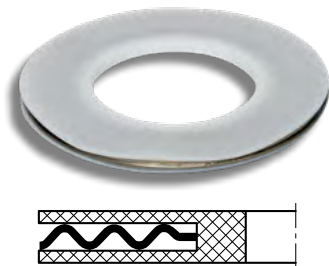
In developing these solutions, we take an approach that integrates customer requirements, exceptional quality, and application-driven innovation.

# PHARMA & FOOD

Cleanliness and compliance are essential for stable production processes and high product quality in the pharma and food industries. Therefore, gaskets must meet exceptional requirements, to ensure product purity, leak tightness and resistance against aggressive media at temperatures that can sometimes be extreme. Our gaskets from the Advanced Solutions portfolio are tailored to precisely these needs. They are suitable for use in steel flanges as well as stress-sensitive connections, show extremely low leakage rates and low surface pressures, meet GMP specifications, are FDA and EC1935/2004 conform and thus compliant with the highest product purity standards. Quick delivery times for this in-stock product range allow us to supply you on demand.

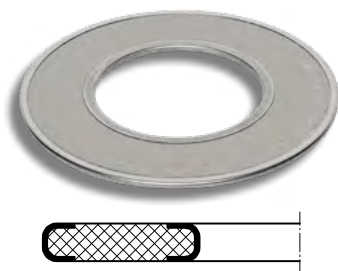
## SOLUTIONS FOR STEEL FLANGES

### PTFE envelope gasket [TFM™ 1600] // Profile ED01 // Material code: WS 7110/1.4571 [PW-I]



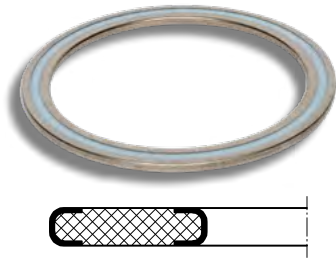
This envelope gasket with internal diffusion barrier combines the outstanding material properties of PTFE with the excellent leakage rate of the corrugated stainless steel ring. Leak-tightness is achieved even at a low surface pressure since the diffusion barrier is injected first. The benefit of this is the extremely low leakage rates at high operating parameters of  $-268^{\circ}\text{C}$  to  $250^{\circ}\text{C}$  [up to  $300^{\circ}\text{C}$  for brief periods] and max. 80 bar.

### SIGRAFLEX® MF gasket // Profile: FD30 // Material code: WS 3870



High-performance gasket made of three-component material. A real alternative to filled PTFE flat gaskets. The gasket carrier with perforated metal insert is covered on both sides with a thin stainless steel foil and additionally coated with PTFE. Thanks to this combination, the gasket achieves extremely good tightness values even at low surface pressures. The inner and outer eyelets surround the graphite and prevent product contamination. Frequent retightening of the flange connection, as is usually the case with filled PTFE gaskets, is no longer needed. The gasket is designed and approved for the demanding requirements in the pharma and food industries. Operational parameters range from  $-200^{\circ}\text{C}$  to  $200^{\circ}\text{C}$  and max. 160 bar.

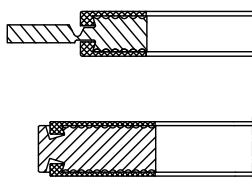
**TFM™ 1600 gasket // Profile: FD30 // Material code: WS 7110**



PTFE gasket made of modified, cold flow-reduced Dyneon™ TFM™ 1600 without fillers, with inner and outer eyelets. The double eyelet surrounds the TFM™ and prevents the material from settling or flowing in the tongue and groove area. The application limits range from -200°C to 200°C and max. 40 bar.

**Kammprofile gasket with PTFE layer [TFM™ 1600] // Profile: KD19, KD09**

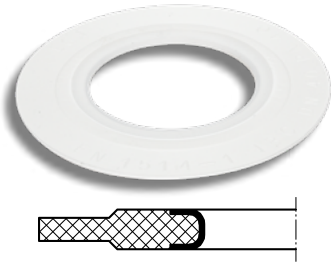
**Design: low dead space, adhesive-free/clipped on, with and without centring ring**



This Kammprofile gasket is an alternative to the well-known Tri-Clamp systems. The steel flanges feature a recess on both sides. This serves to optimally center the gasket. The inner diameter of the gasket corresponds to the clear width of the pipe, leaving no dead space. The layer is clipped. It is connected to the carrier mechanically, without adhesive. This also fulfils the demanding requirements of FDA or EC1935/2004 [EU10/2011]. The clipped-on layer allows multiple use of the base body. The design with centring ring [KD19] is not dead space free, but achieves a dead space reduction of more than 50%. Depending on the system and design, the operating parameters are max. 150°C continuous operating temperature and max. 100 bar.

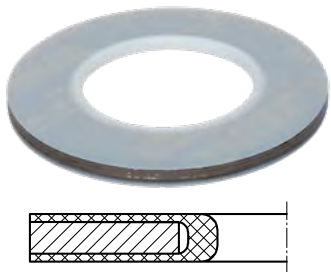
## SOLUTIONS FOR STRESS-SENSITIVE FLANGES

### UNIFLUOR® ePTFE flat gasket // Profile: FD11 // Material code: WS 7745



Optimized flat gasket made of multi-directionally stretched ePTFE with inner eyelet [TFM™ 1600]. The outer area is pre-compressed. Ideal for stress-sensitive flange systems such as plastic, glass or GRP flanges. Application parameters range from -268°C to 230°C [up to 315°C for brief periods] and max. 40 bar.

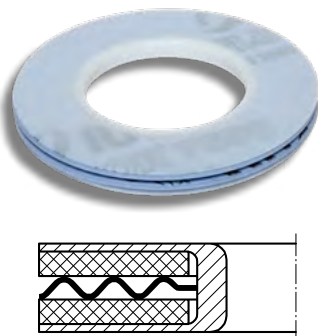
### PTFE envelope gasket [TFM™ 1600] // Profile: ED10 Material code: WS 7110/3822 | WS 7110/3825 | WS 7110/7550



This envelope gasket combines the excellent material properties of PTFE with the adaptability of a non-metallic gasket. Particularly suitable for use in enamel flanges. Insert available in aramid fiber, graphite [SIGRAFLEX® EMAIL] or PTFE [UNIFLUOR®]. The demanding requirements of FDA and EC1935/2004 [EU10/2011] are reliably fulfilled, especially in combination with UNIFLUOR®.

Application parameters WS 7110/3822 from -50°C to 150°C [up to 200°C for brief periods] and max. 40 bar, WS 7110/3825 from -200°C to 200°C [up to 230°C for brief periods] and max. 40 bar, WS 7110/7550 from -200°C to 150°C [up to 230°C for brief periods] and max. 40 bar.

### PTFE envelope gasket [TFM™ 1600] // Profile: ED30 Material code: WS 7110/1.4571/3822 | WS 7110/1.4571/3825 | WS 7110/1.4571/7550



This envelope gasket combines the excellent material properties of PTFE with the adaptability of a non-metallic gasket. The corrugated ring insert improves the balancing capacity and the surface pressure during assembly and increases the blow-out resistance. Particularly suitable for use in enamel flanges. Non-metallic insert available in aramid fiber, graphite [SIGRAFLEX® EMAIL] or PTFE [UNIFLUOR®]. Corrugated ring made of 1.4571. The demanding requirements of FDA and EC1935/2004 [EU10/2011] are reliably fulfilled, especially in combination with UNIFLUOR®.

Application parameters WS 7110/1.4571/3822 from -50°C to 150°C [up to 200°C for brief periods] and max. 40 bar, WS 7110/1.4571/3825 from -200°C to 200°C [up to 230°C for brief periods] and max. 40 bar, WS 7110/1.4571/7550 from -200°C to 150°C [up to 230°C for brief periods] and max. 40 bar.

## **ELECTROSTATIC DISCHARGE**

Explosive atmospheres can occur in many industrial areas. Especially, however, where flammable liquids or fine granular combustible bulk materials are used. Proper grounding techniques are essential to prevent electrostatic charging. Regulations and recommendations for the avoidance of dangerous electrostatic potentials and for safe discharge can be found in DIN EN IEC 60079 and the Technical Regulations for Hazardous Substances: TRGS 727. However, grounding in pipelines can be impaired by insulating components such as gaskets and seals or lubricants. Our envelope gaskets for electrostatic discharge are designed for safe grounding of high-energy electrostatic potentials. They minimize the risk of ignition hazards caused by uncontrolled discharges.