

# The innovative PW5L generation

for equipotential bonding on enamelled pipelines  
by means of a two-hole earthing strap

In the chemicals and processing industry the occurrence of static electricity in enamelled pipelines has been a long known problem.

Pipeline systems, in which highly inflammable liquids such as e.g. ether, benzine, dioxan, toluol, xylene or corresponding media are transported, can - if there is insufficient earthing - be statically charged to such an extent that ignitable discharges occur.

As result of using a corrugated ring with earth lead strap-joint and layers of asbestos free fiber material or laminated graphite as inlayer for PTFE-enveloped gaskets a potential drop achieves. Therefore occurrence of electrifying discharges are avoided.

Earthing the gasket is usually done by means of an earth cable which is attached to the earthing strap (figure 1).

**This time and material-consuming type of earthing is avoided by using our gasket with the new two-hole earthing strap-joint (figure 2).**

**You save material:**

- Earthing cable
- Cable-connecting eyes
- Bolts
- Nuts
- Plain washers
- Spring washers
- Earthing clips (for pipe length more than 500mm)

**You save time:**

- For assembling of all the components listed above. Depending on the accessibility of the assembly location a time requirement of between 5 up to 8 minutes is assumed.

The gasket profile PW5, on which the PW5L profile is based, has been proved because of its high chemical resistance as well as on account of its excellent sealing properties at changing pressures and temperatures between -195°C up to +250°C in practice. Enamelled flanges can be just reliable connected to each other by means of the PTFE-enveloped PW5L gasket profile as also other stress-susceptible sealing surfaces. The corrugated ring, which is located in the area of the sealing surface, improves the elastic properties of this compound sealing ring.

The PTFE-enveloped gasket profile PW5L consists of an envelope, made of modified PTFE of type Hostafon® TFM 1600, 0.5 mm thick. The inner diameter has a 3 mm diffusion prevention width. A corrugated ring, made of 0.5 mm 1.4571, with middle ending flat finish on the inside in accordance with the recommendation of the working group "Gaskets in chemical Plants" of the chemical big industry, serves as an insert. The corrugated ring is equipped with the new two-hole earthing strap. Two 2 mm thick soft material gaskets serve as layers for the corrugated ring.

The profile PW5L is made with the inner and outer diameters according to DIN 2690 with a total thickness of about 6.5 mm.

Materials			PTFE 1.4571 Soft material
Surface pressure limits for 20 °C	N/mm <sup>2</sup>	$\sigma_v$	25
		$\sigma_\theta$	80
Surface pressure limits for 250 °C	N/mm <sup>2</sup>	$\sigma_v$	30
		$\sigma_\theta$	60

figure 1: old version

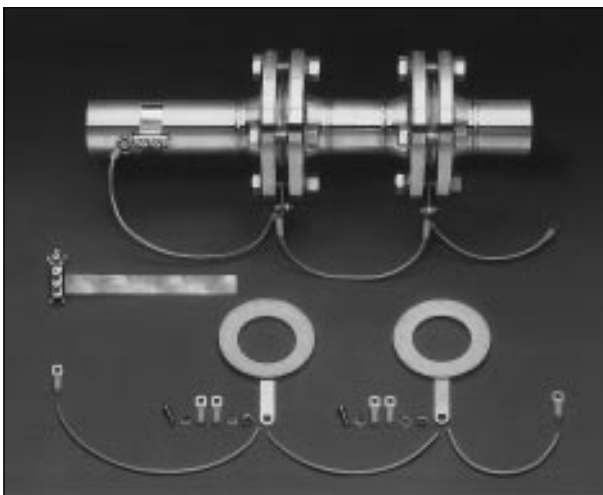


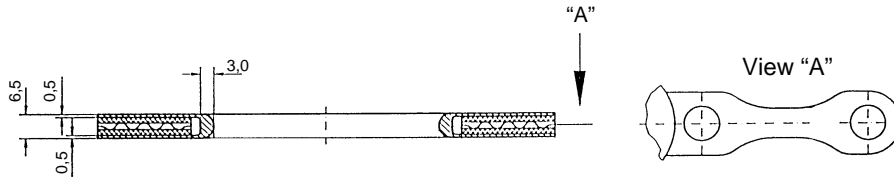
figure 2: new version



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**PTFE-enveloped gasket profile PW5L**

as described overleaf:

- Envelope: PTFE-TFM 1600 spherically turned, with diffusion prevention, according to FDA 21 CFR 177.1550
- Inserts: **asbestos free fiber material**
- Corrugated ring: Material 1.4571 with a two-hole earthing strap
- Dimension: according to DIN 2690, total thickness about 6.5 mm
- Packing unit: 10 pieces

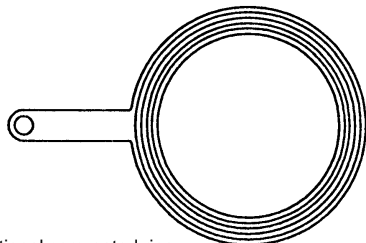
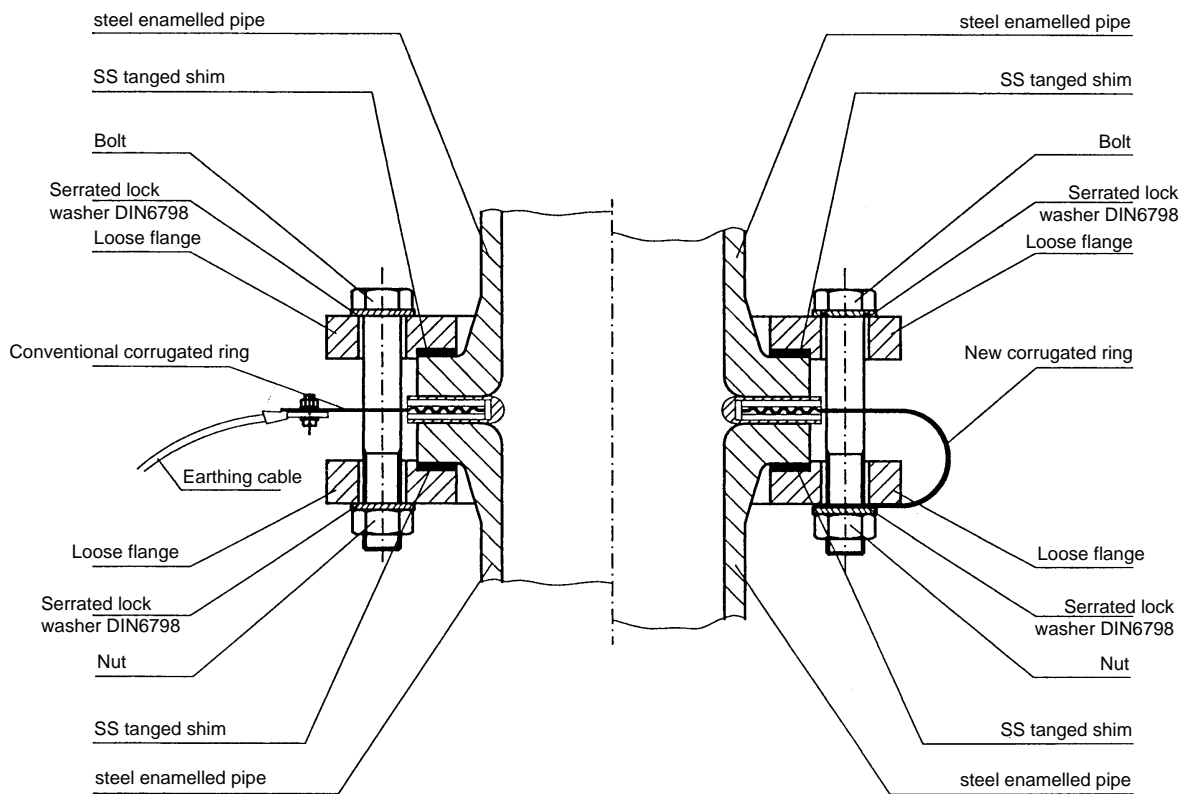
**PTFE-enveloped gasket profile PW5L**

as described overleaf:

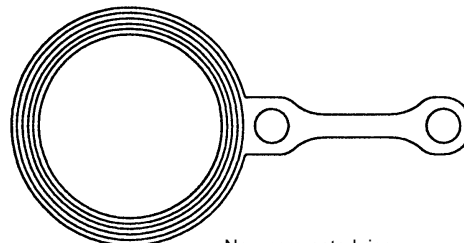
- Envelope: PTFE-TFM 1600 spherically turned, with diffusion prevention, according to FDA 21 CFR 177.1550
- Inserts: **Graphite laminate**
- Corrugated ring: Material 1.4571 with a two-hole earthing strap
- Dimension: according to DIN 2690, total thickness about 6.5 mm
- Packing unit: 10 pieces

**old version**

**new version profile PW5L**



Conventional corrugated ring



New corrugated ring

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