

WILLBRANDT Rubber Expansion Joint Type 46

■ mainly in stock

DN 20 (3/4") to DN 50 (2")

Type 46 is a low corrugated rubber expansion joint. Its low corrugated shape minimises flow resistance. It is also characterised by its large axial movement absorption and the wide variety of rubber qualities, so that a suitable rubber compound is available for every application (see material descriptions on the following page).

Type 46 is used in building services engineering, water management, solar and wind energy systems and in engine construction, where it is used specifically for movement and vibration absorption as well as noise damping.



| | | | |
|--------------------------|--|-----------------------------|--|
| Bellow design | Low corrugated rubber bellow with reinforcement and shaped sealing bead with core ring, self-sealing (no additional seals required). Suitable for 3-piece screw connection. | Approvals/Conformity | CE, shipbuilding approvals, TÜV tested in accordance with DIN 4809 (Detailed overview on page 5.) |
| Screw connection | Galvanized steel with female or male threads according to DIN EN 10226. Other standards and materials are possible. | Accessories | <ul style="list-style-type: none"> - Flame-resistant protective covers - Dust and splash protection covers - Earth cover / sun protection cover Further information on page 99 - 105. |
| Vacuum resistance | <ul style="list-style-type: none"> - DN 20 to DN 50 vacuum-proof, - Type 46 black EPDM: DN 20 to 40 up to -300 mbar, DN 50 only with vacuum supporting spiral for vacuum application can be used | | |

Specifications

| Bellow | | Bellow design | | | Permissible operating data | | | | | | | | Surface resistance Ro | | |
|-------------|----------------|---------------|---------------|---------------|----------------------------|----|-----|----|-----|----|-----|----|-----------------------|-------------|-------------|
| Colour code | Colour marking | Core (inner) | Reinforcement | Cover (outer) | °C | | bar | | °C | | bar | | Short-term °C | Core | Cover |
| red Sp | | EPDM | PEEK | EPDM | -40 | 10 | 70 | 16 | 100 | 10 | 130 | 8 | 150 | dissipative | dissipative |
| red | | IIR | Polyamide | EPDM | -40 | 10 | 50 | 16 | 70 | 12 | 100 | 10 | 120 | dissipative | dissipative |
| yellow | | NBR | Polyamide | CR | -20 | 10 | 50 | 16 | 70 | 12 | 90 | 10 | 100 | conductive | conductive |
| green | | CSM | Polyamide | CSM | -20 | 10 | 50 | 16 | 70 | 12 | 100 | 10 | 110 | insulating | insulating |
| black EPDM | | IIR | Polyamide | EPDM | -40 | 10 | 50 | 10 | 70 | 8 | 90 | 6 | 120 | dissipative | dissipative |
| black CR | - | CR | Polyamide | CR | -25 | 10 | 50 | 16 | 70 | 12 | 90 | 10 | 100 | insulating | insulating |
| yellow LT | | NBR LT | Polyamide | CR | -40 | 10 | 50 | 16 | 70 | 12 | 90 | 10 | 100 | dissipative | conductive |
| yellow St | | NBR | Steel cord | CR | -20 | 10 | 60 | 16 | 70 | 12 | 90 | 10 | 100 | conductive | insulating |
| yellow HNBR | | HNBR | Steel cord | CR | -35 | 10 | 60 | 16 | 70 | 12 | 100 | 10 | 120 | dissipative | insulating |

Important information

For aggressive media, please have the material resistance checked by our engineers. Please note the appropriate fixed point constructions and plain bearings in your piping system. For more information please refer to our planning instructions. The bellows must be installed free of torsion and must not be painted or insulated at media temperatures >50 °C.

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Application

Type 46 red Sp

For heating installations according to DIN 4809. For many years of operation under constant loading with hot water and heating water at 100 °C/110 °C at 10 bar/6 bar operating pressure. Electrically dissipative surface. Not suitable for media with additives containing oil.

Type 46 red

For hot water, sea water, cooling water with glycol or other chemical additives for treating water, weak acids and weak alkalis and salt solutions, technical alcohols, esters and ketones. Electrically dissipative surface. Not suitable for oil products or cooling water with additives containing oil.

Type 46 yellow

For oils, lubricants, fuels, gases, city and natural gas (not liquefied) and DIN EN fuels with an aromatic content up to 50 %. Electrically conductive surface.

Type 46 green

For chemicals, aggressive chemical waste water and compressor air containing oil. Electrically insulating surface.

Type 46 black EPDM

Like type 46 red, but for maximum 10 bar operating pressure.

Type 46 black CR

For cold and hot water, swimming pool water, salt water, waste water, cooling water with coolant (e.g. glycool up to 60 °C) and anti-corrosive products containing oil, oil mixtures and compressed air containing oil. Electrically insulating surface.

Type 46 yellow LT

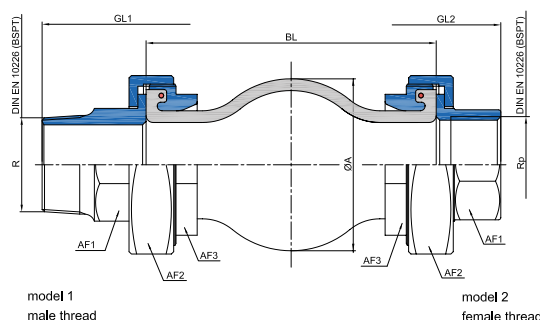
Like type 46 yellow. Also for liquid gas. Electrically dissipative inner surface, electrically insulating outer surface.

Type 46 yellow St

Like type 46 yellow with additional flame-resistance for up to 30 minutes at 800 °C. Electrically conductive inner surface, electrically insulating outer surface.

Type 46 yellow HNBR

Like type 46 yellow St, but for temperatures up to +100 °C. Electrically dissipative inner surface, electrically insulating outer surface.



Dimensions polyamide reinforcement

| DN | Length BL | Bellow | | R / RP | Total length | | Wrench size | | | Movement absorption*2 | | | | Weight | | | |
|----|--------------|--------|-----------------|--------|--------------|-----|-------------|-----|-----|-----------------------|------------|--------------|--------------|-------------|-------------|----|----|
| | | ØA | WF*1 | | GL1 | GL2 | AF1 | AF2 | AF3 | axial + | axial - | lateral ± | angular ± | Design 1 | Design 2 | | |
| | mm | mm | mm ² | Inches | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | kg | kg |
| 20 | 130 | 81 | 1700 | 3/4 | 214 | 190 | 36 | 80 | 54 | 15 | 30 | 10 | 30 | 2.3 | 2.5 | | |
| 25 | 130 | 81 | 1700 | 1 | 214 | 182 | 40 | 80 | 54 | 15 | 30 | 10 | 30 | 2.4 | 2.4 | | |
| 32 | 130 | 81 | 1700 | 1 1/4 | 240 | 190 | 48 | 80 | 54 | 15 | 30 | 10 | 30 | 2.6 | 2.1 | | |
| 40 | 130 | 86 | 1800 | 1 1/2 | 250 | 198 | 53 | 90 | 74 | 15 | 30 | 10 | 30 | 2.9 | 2.6 | | |
| 50 | 130 | 96 | 3200 | 2 | 260 | 198 | 66 | 110 | 90 | 15 | 30 | 10 | 30 | 4.4 | 3.9 | | |

*1 WF = effective area

*2 Utilisation rate of movement absorption decreases at higher temperatures (see technical appendix).

Note: Reduced expansion for steel cord reinforcement (type 46 yellow ST and yellow HNBR). Weights slightly increased.