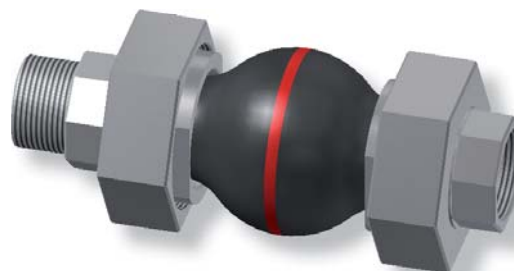


## WILLBRANDT Rubber Expansion Joint Type 46

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

Type 46 is a low-corrugated rubber expansion joint. Its low corrugation helps to achieve very low flow resistance. It is also characterised by its considerable axial movement absorption and variety of rubber qualities, which means that a suitable rubber compound is available for every application (see material descriptions).

Type 46 is used in building technology, plant engineering, water management, engine construction and in solar and wind plant engineering, where it is specifically used to absorb expansion and vibration and to insulate noise.



<b>Bellow design</b>	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.	<b>Vacuum resistance</b>	Can be used for full vacuums without additional measures.
<b>Screw connection</b>	Galvanized steel with female or male threads according to DIN EN 10226. Other standards and materials are possible.	<b>Accessories</b>	- Flame-resistant protective covers - Dust and splash protection covers
		<b>Approvals/Conformity</b>	Similar to DIN 4809 / TÜV approved, approved for drinking water, FDA and EG 1935/2004 confirm

### Specifications for DN 20 - DN 50

Bellow		Bellow design			Permissible operating data								Surface resistance Ro		
Colour code	Colour marking	Core (inner)	Reinforcement	Cover (outer)	°C		°C		°C		°C		Core	Cover	
					bar	bar	bar	bar	bar	bar	bar	bar	Ohm x cm	Ohm x cm	
red Sp		EPDM	PEEK	EPDM	-40	10	70	16	100	10	130	8	150	4 x 10 <sup>3</sup>	4 x 10 <sup>3</sup>
red		IIR	Polyamide	EPDM	-40	10	50	16	70	12	100	10	120	7 x 10 <sup>6</sup>	1 x 10 <sup>3</sup>
red EPDM		EPDM	Polyamide	EPDM	-30	10	50	16	70	12	90	10	100	-	-
yellow		NBR	Polyamide	CR	-20	10	50	16	70	12	90	10	100	2 x 10 <sup>2</sup>	1 x 10 <sup>3</sup>
white		NBR	Polyamide	CR	-20	10	50	16	70	12	90	10	100	7 x 10 <sup>9</sup>	1 x 10 <sup>3</sup>
green		CSM	Polyamide	CSM	-20	10	50	16	70	12	100	10	110	7 x 10 <sup>9</sup>	7 x 10 <sup>9</sup>
black EPDM		IIR	Polyamide	EPDM	-40	10	50	10	70	8	90	6	120	7 x 10 <sup>6</sup>	1 x 10 <sup>3</sup>
black CR	-	CR	Polyamide	CR	-25	10	50	16	70	12	90	10	100	7 x 10 <sup>9</sup>	5 x 10 <sup>10</sup>
yellow LT		NBR LT	Polyamide	CR	-40	10	50	16	70	12	90	10	100	1 x 10 <sup>4</sup>	1 x 10 <sup>3</sup>
yellow St		NBR	Steel cord	CR	-20	10	60	16	70	12	90	10	100	2 x 10 <sup>2</sup>	5 x 10 <sup>10</sup>
yellow HNBR		HNBR	Steel cord	CR	-35	10	60	16	70	12	100	10	120	1,5 x 10 <sup>5</sup>	5 x 10 <sup>10</sup>

### Important information

For aggressive media, please see the resistance table (can be requested separately).  
 Please note the appropriate fixed point constructions and plain bearings in your piping system!  
 For more information please refer to our installation instructions.  
 The bellow must be installed torsion-free and should not be painted or insulated.  
 Please refer to the installation instructions.  
 ++++ We will be happy to send you further information on the individual types and designs. ++++

# WILLBRANDT Rubber Expansion Joint Type 46

## 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 conductive surface. Not suitable for media with additives containing oil.

### Type 46 red

For drinking water, hot water, sea water, cooling water with chemical additives for treating water, saline solutions, weak acids and weak alkali solutions. Electrically dissipative inner surface and electrically conductive outer surface. Not suitable for oil products or cooling water with additives containing oil.

### Type 46 red EPDM

Like Type 46 red, but not for drinking water, shipbuilding and offshore applications. Temperature range max. 90 °C at 10 bar.

### 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.

### Type 46 white

For foodstuffs containing oil and fat rubber in food-grade. Electrically insulating inner surface and electrically conductive outer surface. Not suitable for drinking water.

### Type 46 green

For chemicals, aggressive chemical wastewater and compressor air containing oil. Electrically insulating.

### Type 46 black EPDM

For drinking water, sea water, cooling water, weak acids and alkali solutions, technical alcohols, esters and ketones. Electrically dissipative inner surface and electrically conductive outer surface. Max. pressure 10 bar.

### Type 46 black CR

For hot and cold water, wastewater, swimming pool water, salt water, wastewater, cooling water with anti-corrosive products containing oil, oil mixtures and compressed air containing oil. Electrically insulating.

### Type 46 yellow LT

Like Type 46 yellow. Also for liquid gas. Electrically dissipative.

### Type 46 lilac

For flue gas desulphurisation systems and bio-diesel. Good resistance to benzene, xylene, toluene, fuels with an aromatic content of more than 50 %, aromatic/chlorinated hydrocarbons and mineral acids. Electrically insulating inner surface, electrically conductive outer surface.

### Type 46 yellow St

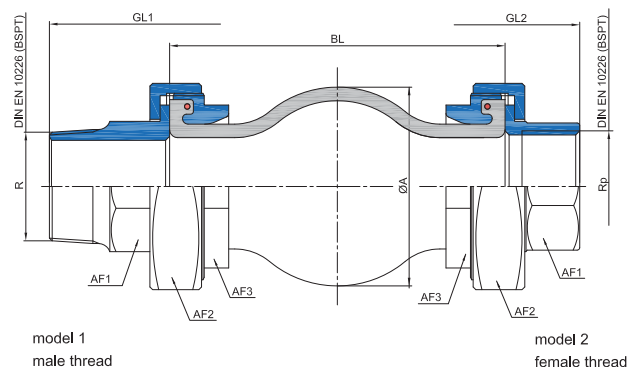
Like Type 46 yellow with additional flame-resistance for up to 30 minutes at 800 °C. Electrically conductive inner surface, electrically insulating outer surface.

### Type 46 yellow HNBR

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

### Note!

Detailed material descriptions on pages 5 - 7.



## Dimensions - polyamide reinforcement

DN	Length BL mm	Bellows		R / RP Inches	Total length		Wrench size			Movement absorption				Weight	
		ØA mm	WF* mm <sup>2</sup>		GL1 mm	GL2 mm	AF1 mm	AF2 mm	AF3 mm	axial + mm	axial - mm	lateral + mm	angular ± ∠°	Design 1 kg	Design 2 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

\* WF = effective area

Note: Reduced expansion for steel cord reinforcement (Type 46 yellow ST and yellow HNBR). Weighs slightly more.