

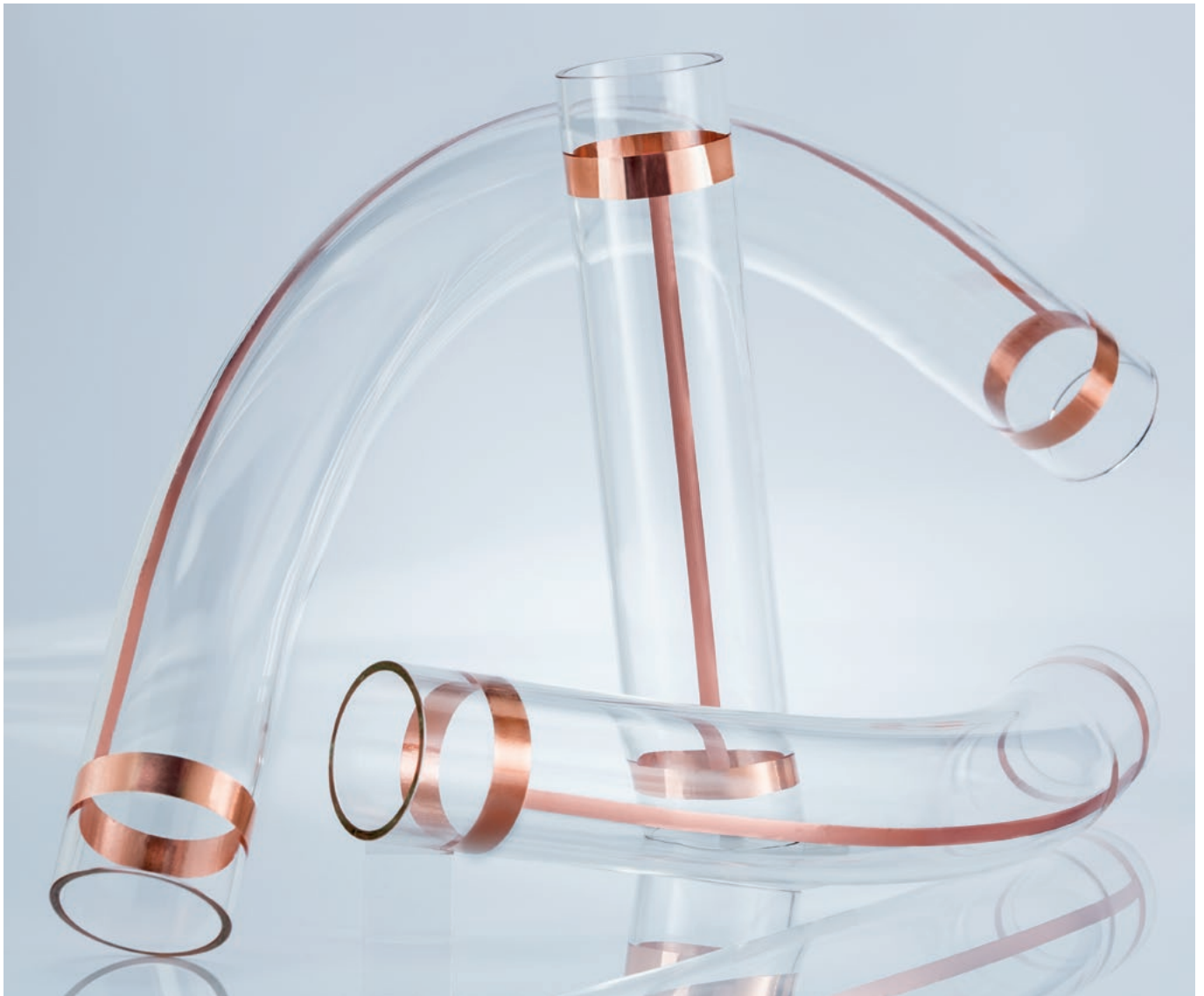
# Glass Bends made from DURAN®

The durable and clean alternative for pneumatic conveying systems

SCHOTT offers high precision glass bends made from optimum quality DURAN® in a wide range of diameters with various bend angles. For reliable protection against electrostatic discharge, it is necessary to provide all tubing with copper conductive tape. Resistance-free flow is ensured by accurately matching the inner diameter of the glass bends to existing

conveying systems. The transparency of the glass ensures simple monitoring of the material flowing through. With its food grade properties glass is perfectly suited for the food industry.

High quality borosilicate glass is distinguished by its durability and its favorable price/benefit ratio.





### Technical Data of DURAN® Glass Tubing Bends

Glass type	Borosilicate Glass 3.3
Outside diameter	1.5" up to 4.3"
Lengths	20" up to 51"
Bending angle	45° and 90° (other angles upon request)
Center line radius	3.5" up to 24"

Geometric combinations and other request have to be checked in each case.

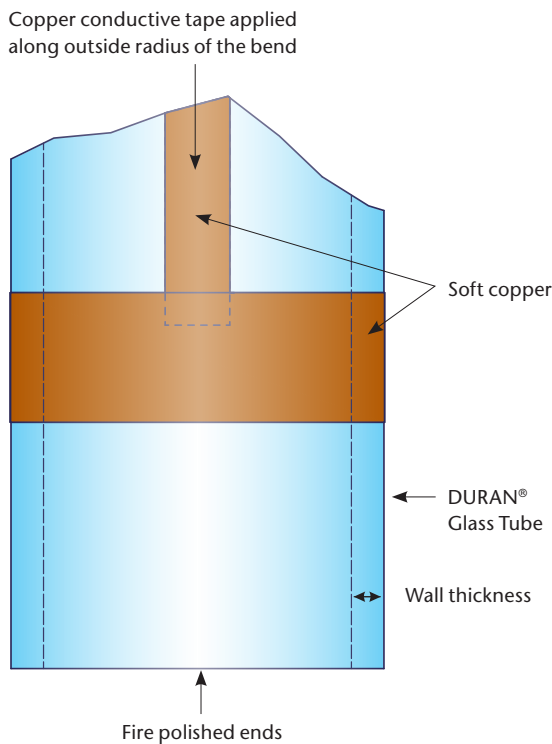
Physical Data	
Coefficient of mean linear thermal expansion $\alpha$ (20°C; 300°C) (DIN ISO 7991)	3.3 $10^{-6}K^{-1}$
Transformation temperature $T_g$ (DIN ISO 7884-8)	525 °C
Density $\rho$ at 25°C	2.23 g·cm <sup>-3</sup>
Modulus of elasticity E (Youngs modulus)	63·10 <sup>3</sup> N·mm <sup>-2</sup>
Thermal conductivity $\lambda_w$ at 90°C	1.2 W·m <sup>-1</sup> ·K <sup>-1</sup>
Log of electric volume resistivity ( $\Omega$ -cm) at 250°C	8.0
at 300°C	6.5
Chemical Resistance	
Hydrolytic resistance (ISO 719)	Class HGB 1
Acid resistance (DIN 12116)	Class S 1
Alkali resistance (ISO 695)	Class A 2

### Technical Data Copper Conductive Tape (extract from manufacturer's data sheet)

Radial direction:	20 mm width
Axial direction:	10 mm width

Material Properties	
Backing Material	soft - copper
Colour	copper
Substrate thickness in mm	0,050 ± 10%
Total thickness in mm	0,080 ± 10%
Adhesive Properties	
Type of adhesive	acrylic, electrically conductive
Adhesive strength in N/cm (180° peel from steel)	≥ 2
Thermal Properties	
Temperature performance (max.) in °C	130
Short term temperature performance in °C (ca. 1 h)	180
Flammability according to IEC 60454-2	flame retardant
Electrical Properties	
Ohmic resistance (testing area two times 1 cm <sup>2</sup> )	≤ 1 $\Omega$

**General Hints:** Electrical properties will generally stay intact up to 80°C, however, they depend on the application / type of assembly. Customer specific tests are strongly recommended.  
DURAN® is a registered trade mark of the DWK Life Sciences GmbH.



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