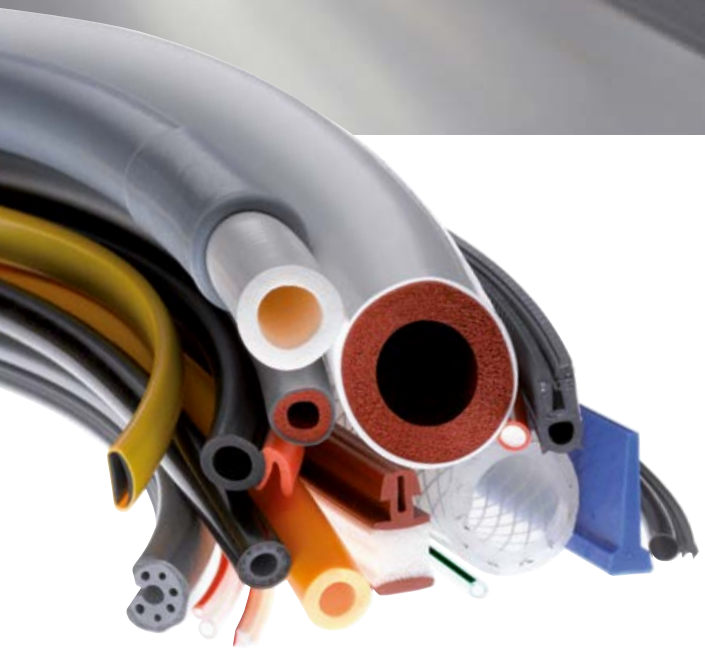
RAIL TECHNOLOGY

High quality, reliable sealing systems and self fixing edge protection profiles made from solid or foamed silicone rubber

Flexibility, Opportunities, Innovations



biw

When it comes to competence

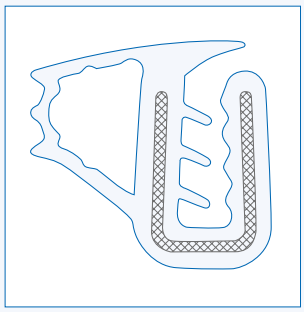
MATERIALS FOR RAIL TECHNOLOGY

The rail industry requires self-extinguishing and **low smoke/low toxic** silicone and silicone foam rubber profiles as well as seals, in part self-adhesive, for various sectors. We offer a variety of compounds and articles suitable for the high demands in fire protection in the rail vehicle industry.

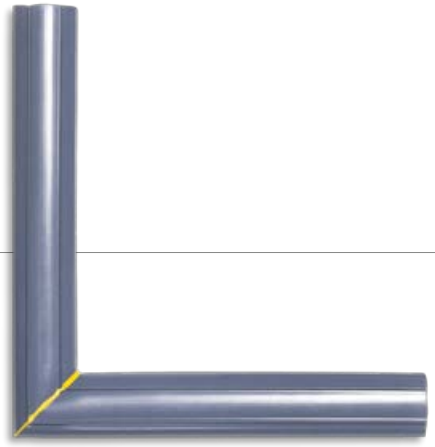
Material	BIW-Compound	Hardness *[Shore A]* DIN 53505 DIN EN ISO 868	Tensile strength *[N/mm²]* DIN 53504 ISO/DIS 37	Ultimate elongation *[%]* DIN 53504 ISO/DIS 37	Tear resistance *[N/mm]* ASTM D 624 B	Operating temperature *[°C]*	Colour	Oxygen index (LOI) ASTM 2863 *[%]*
Silicone	RC50	50	8	500	25	-60 / +200	white, grey or anthracite	30
Silicone	RC502	50	8.5	450	15	-60 / +200	grey	39
Silicone	RC60	60	3.5	300	13	-60 / +200	white, grey or anthracite	35
Silicone	RC602	60	6.5	400	20	-60 / +200	grey	41
Silicone	RC70	70	6	100	10	-60 / +200	white or grey	35
Silicone	RC702	70	10	300	20	-60 / +200	grey	39
Silicone foam	RF035	10		160		-60 / +200	anthracite	32
Silicone foam	RF055	15		160		-60 / +200	anthracite	>28

EDGE PROTECTION PROFILES

- Foot with metal insert
- Fully flexible
- Compact or partially foamed
- No additional fixation required. Attaching is sufficient
- Temperature resistance on request as a special version up to 300°C possible
- Producible from materials with fire testing according to various railway standards



Edge protection profile in cross section



APPLICATION EXAMPLES

- Door seals
- Window seals
- Hatch seals
- Conductor protection

Ignition temperature *[°C]*	NF F 16101 (Standard thickness)	BS6853; 1999, D8.3	DIN 5510-2	EN ISO 11925-2 "30sec"	E1042 London Underground Engineering Standard	DIN EN 45545-2:2013-08	Compression Deflection ASTM D 1056	UNI CEI 1170-3-LR2 Annex A
>400 (3 mm)	I2/F0 (>=2 mm)	1A (3 mm)	S4/SR2/ST2	B, C, D	fulfilled Cat-EQ/L			
>400 (3 mm)	replaced by DIN EN 45545-2:2013-08					internal R1HL2 / R22HL3 external R7HL2 / R23HL3		
>400 (3 mm)	I2/F0 (>=2 mm) anthracite auditable	1A (3 mm)	S4/SR2/ST2	B, C, D self-classification				
>400 (3 mm)	replaced by DIN EN 45545-2:2013-08					internal R1HL3 / R22HL3 external R7HL3 / R23HL3		
>400 (3 mm)	I2/F0 (>=2 mm) I1/F0 (>=6 mm) anthracite auditable	1A (3 mm)	S4/SR2/ST2	B, C, D	fulfilled Cat-EQ/L			
>400 (3 mm)	I2/F0 (>=2 mm)	replaced by DIN EN 45545-2:2013-08				internal R1HL2 / R22HL3 external R7HL2 / R23HL3		
>400 (3 mm)	I3/F1 (10 mm)	1A (3 mm)	S4/SR2/ST2	B, C, D		R22HL3 R23HL3	2D2	conform
>400 (3 mm)						R22HL3 R23HL3	2D4	

Product	Material	Dimensions *[mm]*	Operating temperature *[°C]*	Relative tensile strength following ageing 24 h at -200 °C	Burning behaviour DIN 4102	Insulating material class VDE 0530 T1	UL 1441
Glass fibre hose	E-glass	Ø (exterior) 4 – 40	+300 temporarily +500	100 %	A1	C	
Glass fibre ribbon	E-glass	width 6 – 40 thickness 0.08 – 0.2	+300 temporarily +500	100 %	A1	C	
Polytex HE	E-glass Acrylate-PU-resin	Ø (interior) 0.5 – 30 wall thickness 0.3 – 1.5	+155 temporarily +255			F	File No. E165094

As well as a good tensile strength, E-glass threads and twines manufactured into ropes, ribbons or insulation hoses also have minimal elongation. They are utilised for sealing elements in various sectors as well as for electrical insulation in generators and motors.

APPLICATION EXAMPLES

- Motors
- Generators

Headquarters

BIW INNOVATIONS FOR RAIL TECHNOLOGY

BIW is a company founded in 1971 with more than 300 employees and a turnover of more than 55 million Euros. As leading supplier of silicone rubber and textile fibre products, BIW provides a series of tested materials on a silicone and textile fibre basis for the application in the rail vehicle sector. The technology focuses on **NF F 16101, BS6853, DIN5510, EN ISO 11925-2** and **DIN EN 45545-2:2013-08**. Customer requests with respect to colour, hardness and mechanical properties can be implemented by way of in-house mixing development and processing in a broad spectrum. As well as compact silicone materials, also silicone foam with minimal density is available. Protection and insulation sleevings in combination with silicone and glass fibre are also part of the production program of BIW. In addition to the manufacture of extrudates, mouldings and cable protection systems, the large production sector also offers the option of supplying complete assembly groups. An integrated management system according to **ISO/TS16949, ISO9001, ISO13485, ISO14001, ISO50001** and **IIP (Investors in People)** is implemented at the location.

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