

BIW Isolierstoffe GmbH

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Certified management system by:

- IATF16949
- ISO9001
- ISO13485
- ISO14001
- ISO50001
- IIP (Investors in People)



TECHNICAL DATASHEET

INDUSTRIES AND APPLICATIONS



ISOFLEX

Typical uses

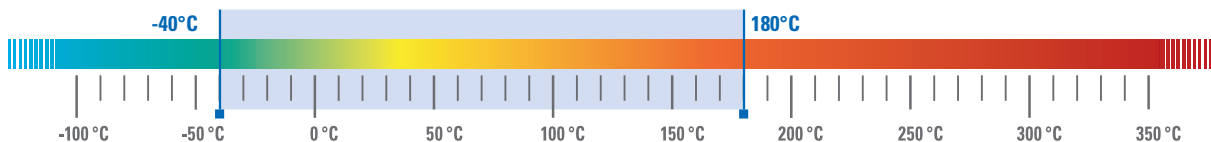
- Automotive industry
- E-mobility / hybrid
- Electrical insulation
- Cable manufacture
- Line protection

Key properties

- Long-term heat resistance of -40°C to +180°C
- Short-term heat resistance up to +205°C
- Self-extinguishing (UL)
- Good resistance to water, water-glycol mixture, salt spray, as well as to fuels and lubricants during temporary exposure.
- Good elongation and compressibility
- Very flexible
- Physiologically harmless
- Excellent value for money through efficient knitting process
- Wide colour range
- Nominal diameter 3.0 mm to 35.0 mm



Application temperature



Tests / References



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Product description

The ISOFLEX protective sleeve is a combination of a textile glass fabric and an innovative silicone coating. The silicone coating has the characteristics of resistance to high loads in processing and use. The high performance knitting process in combination with the special silicone coating convinces with quality. The special design and efficient manufacturing processes ensure an equal internal and external surface, a very good compressibility where there is special roundness and good tensibility. These characteristics make the process of cable assembly simple and effective. ISOFLEX is highly resistant to high temperatures and aggressive media. If it is necessary, ISOFLEX is also available in a huge range of colours and special setting in a self-extinguishing version (UL 1441 VW-1 or UL 94-V0).

Application properties

Property	Standard	Test requirements	Result
Electrical strength	DIN EN 60684	Testing at room temperature	> 2,50kV
Flame resistance	LV 312-3	Flame exposure 15s	Fire classification B
Sound damping	LV 312-3		Classification C
Hot water jet test	LV 312-3	Spraying 2 min. Pressure 100bar	Requirements achieved
Heat stability	VW 751 51	24h at 180°C	Requirements achieved
Low temperature flexibility	VW 751 51	4h at -40°C	Requirements achieved
Shrinkage	LV 312-3	15 min at 250°C	No shrinkage

Ageing

Property	Standard	Test requirements	Result
Hydrolysis test	LV 312-3	1500h at 85°C Winding test	Requirements achieved
Short-term ageing 240h / 205°C	LV 312-3 ISO 6722-1	Winding test	Requirements achieved
Long-term ageing 3000h / 180°C	LV 312-3 ISO 6722-1	Winding test	Requirements achieved
Temperature and humidity cycling	LV 312-3	Temperature -40°C to +175°C cycles: 40	Requirements achieved

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Mechanical / physical properties

Property	Standard	Test requirements	Result
Abrasion resistance	LV 312-3 ISO 6722-1	23°C according to DIN 50014, 7N	Classification A
Pressure resistance in the heat	LV 312-3	250°C 4h, weight 400g and 520g	Requirements achieved
Impact resistance	LV 312-3		Requirements achieved
Tensile strength / elongation at break	LV 312-3	Tensile testing machine	Tensile strength 27MPa elongation at break 5.8%

Compatibilities

Medium	Standard	Test requirements	Result
Ad Blue	LV 312-3	Storage 240h, 480h, 720h and 1000h, 180°C, Winding test	Requirements achieved
Biodiesel	LV 312-3	Storage 240h, 480h, 720h and 1000h, 180°C, Winding test	Requirements achieved
Break fluid	LV 312-3	Storage 240h, 480h, 720h and 1000h, 180°C, Winding test	Requirements achieved
Diesel	LV 312-3	Storage 240h, 480h, 720h and 1000h, 180°C, Winding test	Requirements achieved
Intensive cleaner	LV 312-3	Storage 240h, 480h, 720h and 1000h, 180°C, Winding test	Requirements achieved
Cold cleaning agent	LV 312-3	Storage 240h, 480h, 720h and 1000h, 180°C, Winding test	Requirements achieved
Fuel FAM-B	LV 312-3	Storage 240h, 480h, 720h and 1000h, 180°C, Winding test	Requirements achieved
Penetrating oil	LV 312-3	Storage 240h, 480h, 720h and 1000h, 180°C, Winding test	Requirements achieved
Radiator antifreeze	LV 312-3	Storage 240h, 480h, 720h and 1000h, 180°C, Winding test	Requirements achieved
Steering gear fluid	LV 312-3	Storage 240h, 480h, 720h and 1000h, 180°C, Winding test	Requirements achieved

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Compatibilities

Medium	Standard	Test requirements	Result
Multigrade engine oil	LV 312-3	Storage 240h, 480h, 720h and 1000h, 180°C, Winding test	Requirements achieved
Engine compartment sealing	LV 312-3	Storage 240h, 480h, 720h and 1000h, 180°C, Winding test	Requirements achieved
Grease	LV 312-3	Storage 240h, 480h, 720h and 1000h, 180°C, Winding test	Requirements achieved
Road saltsolution	LV 312-3	Storage 240h, 480h, 720h and 1000h, 180°C, Winding test	Requirements achieved
Water-Glycol-mixture	LV 312-3	Storage 240h, 480h, 720h and 1000h, 180°C, Winding test	Requirements achieved

Ecology, Environment & Safety

Ingredients compliant with VDA requirements

IMDS listed

RoHS, GADSL compliant

Non-asbestos, textile glass fibres non-carcinogenic, non hazardous to the environment, not hazardous to water

When using and disposing of the ISOFLEX protective sleeve there are no environmentally relevant by-products expected

BIW-Standard dimensions

ISOFLEX (Code: GGH)

On demand individual colours and dimensions available at any time

ID [mm]	Tol. ID [mm]	Wd [mm]	Tol. Wd [mm]	Ring [m]
3.0	±0.5	0.5	±0.2	200
4.0	±0.5	0.7	±0.2	200
5.0	±0.5	0.7	±0.2	200
6.0	±0.5	0.7	±0.2	200
7.0	±0.5	0.8	±0.2	100
8.0	±0.5	0.8	±0.2	100

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**ISOFLEX****BIW-Standard dimensions****ISOFLEX (Code: GGH)**

On demand individual colours and dimensions available at any time

ID [mm]	Tol. ID [mm]	Wd [mm]	Tol. Wd [mm]	Ring [m]
9.0	±0.5	0.8	±0.2	100
10.0	±0.5	0.8	±0.2	100
11.0	±0.5	0.8	±0.2	100
12.0	±0.5	0.8	±0.2	100
13.0	±0.5	0.8	±0.2	100
14.0	±0.5	0.8	±0.2	100
15.0	±0.5	0.8	±0.3	100
16.0	±0.7	0.8	±0.3	100
17.0	±0.7	0.8	±0.3	100
18.0	±0.7	0.8	±0.3	100
19.0	±0.7	0.8	±0.3	50
20.0	±0.7	0.8	±0.3	50
21.0	±0.7	1.0	±0.3	50
22.0	±0.7	1.0	±0.3	50
23.0	±0.7	1.0	±0.3	50
24.0	±0.7	1.0	±0.3	50
25.0	±0.7	1.0	±0.3	50
26.0	±0.8	1.2	±0.3	50
27.0	±0.8	1.2	±0.3	50
28.0	±0.8	1.2	±0.3	50
29.0	±0.8	1.2	±0.3	50
30.0	±0.8	1.2	±0.3	50
31.0	±0.8	1.2	±0.3	50
32.0	±0.8	1.2	±0.3	50
33.0	±0.8	1.2	±0.3	50

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ISOFLEX

BIW-Standard dimensions

ISOFLEX (Code: GGH)

On demand individual colours and dimensions available at any time

ID [mm]	Tol. ID [mm]	Wd [mm]	Tol. Wd [mm]	Ring [m]
34.0	±0.8	1.2	±0.3	50
35.0	±0.8	1.6	±0.4	50