

## 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



# ISOTEX 210

## Typical uses

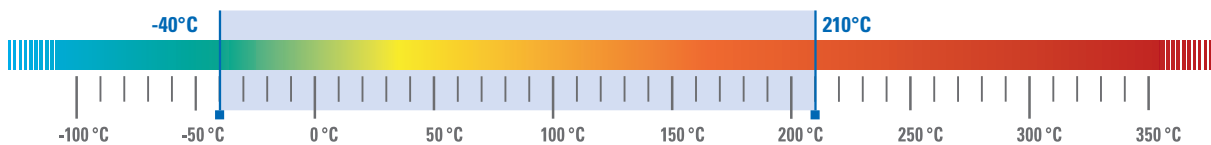
- Automotive industry
- E-mobility / hybrid
- Electrical insulation
- Cable manufacture
- Line protection

## Key properties

- Long-term heat resistance of -40°C to +210°C
- Short-term heat resistance up to +235°C
- Self-extinguishing (UL)
- Good resistance to water, water-glycol mixture, salt spray, as well as to fuels and lubricants during temporary exposure
- High tensile strength good buckling and bending resistance
- Very flexible, good elongation and compressibility, good cut resistance
- Physiologically harmless
- Equal surface because of silicone coating for an easy cable assembly
- Huge colour range
- Nominal diameter 0.5 mm to 60.0 mm



## Application temperature



## Tests / References



- IATF16949
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INDUSTRIES AND APPLICATIONS



**ISOTEX 210**

**Product description**

The ISOTEX 210 protective sleeve is a combination of a high resilient textile glass fabric and a silicone coating. The special design ensures an equal surface with a special roundness for an easy process of cable assembly. ISOTEX 210 is highly resistant to high temperatures and aggressive media. ISOTEX 210 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
Flame resistance	LV 312-3 FMVSS 302	Flame exposure 15s	Fire classification B / self-extinguishing
Sound damping	LV 312-3		Classification C
Hot water jet test	LV 312-3	Spraying 2 min. pressure 100bar	No cracks or damage
Insulation volume resistance	LV 312-3	Temperature 23°C relative humidity 50% 500 V DC, 60s	Requirements achieved
Shrinkage	LV 312-3	15 min. at 225°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 / 235°C	LV 312-3 ISO 6722-1	winding test	Requirements achieved
Long-term ageing 3000h / 210°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

**Mechanical / physical properties**

Property	Standard	Test requirements	Result
Abrasion resistance	LV 312-3	Tests with standard conditions	Classification A
Pressure resistance in the heat	LV 312-3	250°C for 4h, weight 400g, 520g	Requirements achieved
Impact resistance	LV 312-3		Requirements achieved
Tensile strength / elongation at break	LV 312-3	Tensile testing machine	Tensile strength 78MPa, elongation at break 6.4%

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**When it comes to competence**

INDUSTRIES AND APPLICATIONS



**ISOTEX 210**

**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
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

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## ISOTEX 210

## 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, non-hazardous to water

When using and disposing the ISOTEX 210 protective sleeve there are no environmentally relevant by-products expected.

## BIW-Standard dimensions

### ISOTEX 210 (Code: GS)

On demand individual colours and dimensions available at any time

ID [mm]	Tol. ID [mm]	Wd [mm]	Tol. Wd [mm]	Ring [m]
0.5	±0.2	0.6	±0.2	200
1.0	±0.2	0.6	±0.2	200
2.0	±0.2	0.6	±0.2	200
3.0	±0.2	0.6	±0.3	200
4.0	±0.3	0.6	±0.3	200
5.0	±0.3	0.6	±0.3	200
6.0	±0.3	0.6	±0.3	100
7.0	±0.3	0.6	±0.3	100
8.0	±0.3	0.6	±0.3	100
9.0	±0.3	0.7	±0.3	100
10.0	±0.4	0.7	±0.3	100
11.0	±0.4	0.7	±0.3	100
12.0	±0.4	0.7	±0.3	100
13.0	±0.4	0.7	±0.3	100
14.0	±0.4	0.7	±0.4	100
15.0	±0.5	0.8	±0.4	50
16.0	±0.5	0.8	±0.4	50
17.0	±0.5	0.8	±0.4	50
18.0	±0.5	0.8	±0.4	50
19.0	±0.5	0.9	±0.4	50

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## ISOTEX 210

## BIW-Standard dimensions

### ISOTEX 210 (Code: GS)

On demand individual colours and dimensions available at any time

ID [mm]	Tol. ID [mm]	Wd [mm]	Tol. Wd [mm]	Ring [m]
20.0	±0.7	0.9	±0.5	50
21.0	±0.7	0.9	±0.5	50
22.0	±0.7	0.9	±0.5	50
23.0	±0.7	0.9	±0.5	25
24.0	±0.7	0.9	±0.5	25
25.0	±0.8	1.2	±0.5	25
26.0	±0.8	1.2	±0.5	25
27.0	±0.8	1.2	±0.5	25
28.0	±0.8	1.2	±0.5	25
29.0	±0.8	1.2	±0.5	25
30.0	±1.0	1.5	±0.7	25
31.0	±1.0	1.5	±0.7	25
32.0	±1.0	1.5	±0.7	25
33.0	±1.0	1.5	±0.7	25
60.0	±2.5	1.5	±0.7	5