

## 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



## ARA - TEXFLEX TRIO L

### Typical uses

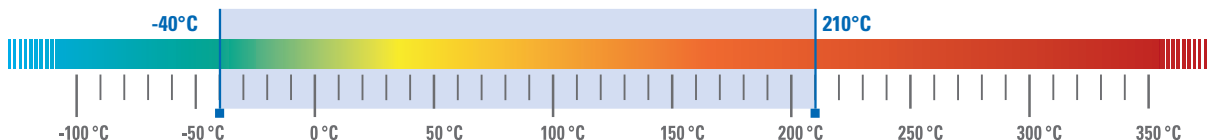
- Automotive industry
- Crash protection
- E-mobility / hybrid
- Cable manufacture

### Key properties

- Institute-tested against marten bite
- Long-term heat resistance of -40°C to +210°C
- Short-term heat resistance up to +235°C
- Abrasion class G, standard LV 312-3
- Good resistance to fuels and lubricants as well as water, salt spray and cleaning agents for temporary exposure
- High cut resistance
- High bending and tensile strength
- High impact protection
- Triple-coat, thermally insulated
- Physiologically harmless
- Colour: orange or black
- Nominal diameter 10.0 mm to 18.0 mm



### Application temperature



### Tests / References



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**When it comes  
to competence**

INDUSTRIES AND APPLICATIONS



**ARA - TEXFLEX TRIO L**

**Product description**

ARA - TEXFLEX TRIO L is a three-coat protective sleeve. ARA - TEXFLEX TRIO L is suitable for bundling cables or mechanical and thermal protection especially for e-mobility. The basic sleeve gets covered by a special process with a thermally and mechanically highly resistant aramid fibre. The fixation is a high temperature resistant silicone. In extreme situations a thermal load capacity is possible up to 235°C (short-term). It is possible that the colour (orange) will change at temperatures above 210°C. ARA - TEXFLEX TRIO L shows excellent resistance to fuels and lubricants. Due to its good stability and buckling resistance it is most convenient for long cable sets. Its combination of aramid and outstanding mechanical properties and textile glass with very good thermal properties produces an ideal combination for a protection sleeve, also considering the cost aspect.

**Application properties**

Property	Standard	Test requirements	Result
Flame resistance	ISO 3795 FMVSS302 SAE J2192	Flame height 38 mm Flame exposure 15s	Fire classification A
Hot water jet test	DIN 40050-9		Requirements achieved
Absorbency	DIN EN ISO 9073-6	Immersion depth 30 mm immersion time 15 min	Requirements achieved
Shrinkage	ISO 6722-1	Temperature 205°C	Requirement achieved

**Ageing**

Property	Standard	Test requirements	Result
Hydrolysis test	LV 312-3	1500h at 85°C 85% relative humidity Winding test at RT	Requirements achieved
Short-term ageing 240h / 235°C	LV 312-3 ISO 6722-1	Winding test under standard conditions	Requirements achieved
Long-term ageing 3000h / 210°C	LV 312-3 ISO 6722-1	Winding test under standard conditions	Requirements achieved
Ozone test	DIN 53509-1	Method B	Requirements achieved
Temperature and humidity cycling	ISO 6722-1	-40°C to + 175°C Humidity: 80-100% Cycles: 40	Requirements achieved

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**ARA - TEXFLEX TRIO L**

**Mechanical / physical properties**

Property	Standard	Test requirements	Result
Abrasion resistance	LV 312-3	Temperature 23°C frequency: 8 Hz power: 7 N	Classification G
Pressure resistance in the heat	LV 312-3	Temp. 180°C - 290°C	Requirements achieved
Increased mech. requirements	LV 312-3	Drop tower test	Classification E
Notching resistance	LV 112	10 mm/min	Classification E
Impact resistance	ISO 6722	4h at -40°C	Requirement achieved
Tensile strength / elongation at break	LV 312-3	Tensile speed: 100 mm/min	>2300 N

**Compatibilities**

Medium	Standard	Test requirements	Result
Ad Blue	LV 312-3	Storage at 180°C Rewetting or removal after 240h, 480h, 720h and 1000h	Requirements achieved
Automatic transmission oil	LV 312-3	Storage at 180°C Rewetting or removal after 240h, 480h, 720h and 1000h	Requirements achieved
Battery acid	LV 312-3	Storage at 180°C Rewetting or removal after 240h, 480h, 720h and 1000h	Requirements achieved
Biodiesel	LV 312-3	Storage at 180°C Rewetting or removal after 240h, 480h, 720h and 1000h	Requirements achieved
Break fluid	LV 312-3	Storage at 180°C Rewetting or removal after 240h, 480h, 720h and 1000h	Requirements achieved
Diesel	LV 312-3	Storage at 180°C Rewetting or removal after 240h, 480h, 720h and 1000h	Requirements achieved
Odor test	VDA 270 (B3)	At 60°C and 80°C	Noticeable, but not distracting = grade 3,0
Intensive cleaner	LV 312-3	Storage at 180°C Rewetting or removal after 240h, 480h, 720h and 1000h	Requirements achieved
Cold cleaning agent	LV 312-3	Storage at 180°C Rewetting or removal after 240h, 480h, 720h and 1000h	Requirements achieved
Fuel FAM-B	LV 312-3	Storage at 180°C Rewetting or removal after 240h, 480h, 720h and 1000h	Requirements achieved

(Continued on the next page)

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**ARA - TEXFLEX TRIO L****Compatibilities**

Medium	Standard	Test requirements	Result
Penetrating oil	LV 312-3	Storage at 180°C Rewetting or removal after 240h, 480h, 720h and 1000h	Requirements achieved
Radiator antifreeze	LV 312-3	Storage at 180°C Rewetting or removal after 240h, 480h, 720h and 1000h	Requirements achieved
Steering gear fluid	LV 312-3	Storage at 180°C Rewetting or removal after 240h, 480h, 720h and 1000h	Requirements achieved
Multigrade engine oil	LV 312-3	Storage at 180°C Rewetting or removal after 240h, 480h, 720h and 1000h	Requirements achieved
Engine compartment sealing	LV 312-3	Storage at 180°C Rewetting or removal after 240h, 480h, 720h and 1000h	Requirements achieved
Grease	LV 312-3	Storage at 180°C Rewetting or removal after 240h, 480h, 720h and 1000h	Requirements achieved
Road saltsolution	LV 312-3	Storage at 180°C Rewetting or removal after 240h, 480h, 720h and 1000h	Requirements achieved
Water-Glycol-mixture	LV 312-3	Storage at 180°C Rewetting or removal after 240h, 480h, 720h and 1000h	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, non-hazardous to water

When in using and disposing of the ARA – TEXFLEX TRIO L protective sleeve there are no environmentally relevant by-products expected

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## ARA - TEXFLEX TRIO L

### BIW-Standard dimensions

#### ARA - TEXFLEX TRIO L (Code: ATT)

On demand individual colours and dimensions available at any time

ID [mm]	Tol. ID [mm]	Wd [mm]	Tol. Wd [mm]	Ring [m]
10.0	±0.5	2.0	±0.3	50
11.0	±0.5	2.5	±0.3	50
12.0	±0.5	2.5	±0.3	50
13.0	±0.5	2.5	±0.3	50
14.0	±0.5	2.5	±0.3	25
15.0	±0.5	2.5	±0.3	25
16.0	±0.5	2.5	±0.3	25
17.0	±0.5	2.5	±0.3	25
18.0	±0.5	3.0	±0.3	25