



深圳市沃尔核材股份有限公司
SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO.,LTD.

Product Specification

Product Name	Heat Shrink Oil-resistant Tube	Supplier Code	
Specification	All Specifications	Customer Code	

Supplier Approval (Shenzhen Woer Heat-shrinkable Material Co., Ltd.)

Drafted/Date	Verified/Date
Wei Wei/April 16, 2020	Hu Jun/ April 16, 2020

Customer Approval

Customer Approval /Date		
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1. Scope

This approval specifies technical requirement, package, storage and specification of the heat shrink oil-resistant tube.

2. Standards

ASTM-D-638 (GB/T 1040)

Standard test methods for tensile properties of plastics

IEC 60243 (GB/T 1408)

Electrical strength of insulating materials-Test methods

IEC 60093 (GB/T 1410)

Methods of test for volume resistivity and surface resistivity of solid electrical insulating materials

ASTM-D-5510 (GB/T 7141)

Plastics-Methods of heat aging

IEC 60250 (GB/T 1409)

Recommended methods for the determination of the permittivity and dielectric dissipation factor of electric insulating materials at power, audio and radio frequencies including metre wavelengths

SO 868(GB/T 2411)

Plastics and ebonite-Determination of indentation hardness by means of a durometer

3. Technical requirements

3.1 Product properties

Woer heat shrink oil-resistant tubes are made of cross-linked polyolefin. It is mainly used in PILC cable accessories, offering oil resistance, insulation and sealing protection.

Standard color: Light yellow.

3.2 Appearance

The surface of the oil-resistant tube should be smooth and clean, and free of pinholes or cracks visible to the unaided eye.

3.3 Heat shrink properties

Start to shrink at 90°C, and fully recovered at 130°C

Longitudinal shrink ratio: $\leq 10\%$.

Radial shrink ratio: $\geq 50\%$.

Wall thickness non-uniformity: $\leq 35\%$.

3.4 Physical and chemical properties: See Table 1.

3.5 Product specification: See Table 2.

4. Package, Transportation and Storage

4.1 Products can be packed according to customer's requirement.

4.2 These products are non-hazardous. Keep in clean, cool, dry, well-ventilated storage area.

During transportation and storage, pay attention to rain and sun and keep away from sources of ignition.

Table 1. Technical Data

Property	Test Method	Standard Value
Tensile Strength	ASTM-D-638	≥10MPa
Elongation at Break	ASTM-D-638	≥350%
Tensile Strength Variation After Heat Aging (130℃×168h)	ASTM-D-5510	≤±20%
Elongation at Break Variation After Heat Aging (130℃×168h)	ASTM-D-5510	≤±20%
Tensile Strength Variation After Oil Resistance (80℃ Cable Oil, 168hrs)	ASTM-D-638	≤±20%
Elongation at Break Variation After Oil Resistance (80℃ Cable Oil, 168hrs)	ASTM-D-638	≤±20%
Volume Resistivity	IEC 60093	≥1×10 ¹⁴ Ω·cm
Dielectric Strength	IEC 60243	≥20kV/mm
Dielectric Constant	IEC 60250	≤4
Hardness (Shore A)	ISO 868	≥80
Heat Shock	160℃, 4h	No Crack

Table 2. Product Specification

Spec.	As Supplied/mm		After Recovered/mm	
	Inner Diameter Min	Wall Thickness (±0.3)	Inner Diameter Max	Wall Thickness (±0.3)
30/11	30	0.7	11	1.8
35/12	35	0.7	12	2.0
40/17	40	1.0	17	2.2
30/12	30	1.7	12	3.7
35/14	35	1.7	14	3.7
40/14	40	1.5	14	3.7
40/17	40	1.7	17	3.7
45/17	45	1.5	17	3.7
50/22	50	1.7	22	3.7
85/29	85	0.9	29	2.8
100/38	100	1.1	38	3.0
120/45	120	1.1	45	3.0

Shenzhen Woer Heat-shrinkable Material Co., Ltd.
Power Division
April 16, 2020