



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 Right Angle/In-line Bushing Boot	Supplier Code	
Specification	All Specifications	Customer Code	

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

Drafted/Date	Verified/Date
Wei Wei/June 1, 2020	Hu Jun/June 1, 2020

Customer Approval

Customer Approval /Date		
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1. Scope

This approval specifies technical requirement, package, storage and specification of heat shrink right angle/in-line bushing boot

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

3. Technical requirements

3.1 Product properties

Heat shrink right angle/in-line bushing boots are made of cross-linked polyolefin, inner coated with hot-melt adhesive at the ends. It is used to protect cable against flashover or surges induced in switchgear and transformer.

Standard color: Red.

3.2 Appearance

The surface of the heat shrink right angle/in-line bushing boots 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: $\leq 30\%$.

3.4 Physical and chemical properties: See Table 1.

3.5 Product specification: See Table 2.

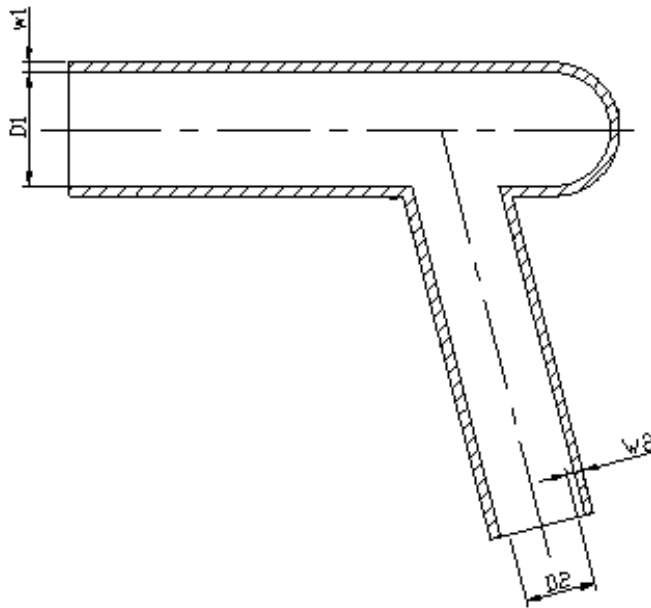
4. Package, Transportation and Storage

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

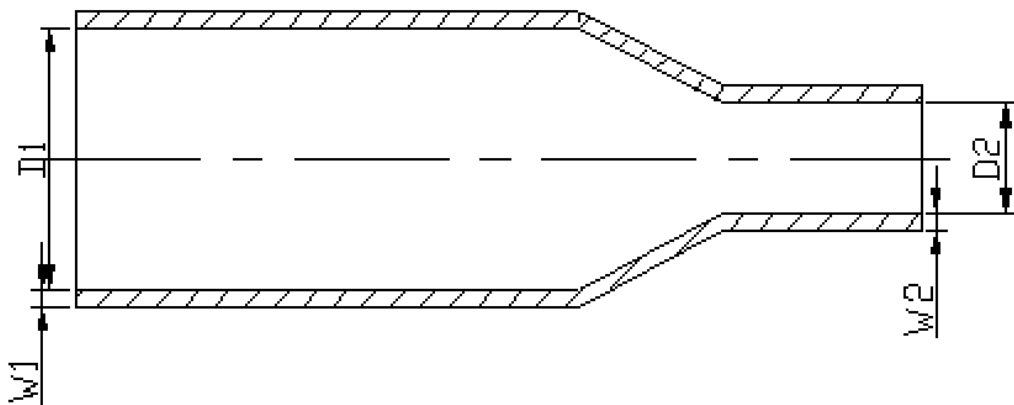
4.2 These products are non-hazardous. Keep in clean, cool, dry, well-ventilated storage area. During transportation and storage, pay attention to rain and sun and keep away from sources of ignition.

Table 1. Technical Data

Property	Test Method	Standard Value
Tensile Strength	ASTM-D-638	$\geq 10\text{MPa}$
Elongation at Break	ASTM-D-638	$\geq 300\%$
Tensile Strength Variation After Heat Aging (130°C × 168h)	ASTM-D-5510	$\leq \pm 20\%$
Elongation at Break Variation After Heat Aging (130°C × 168h)	ASTM-D-5510	$\leq \pm 20\%$
Volume Resistivity	IEC 60093	$\geq 1 \times 10^{14} \Omega \cdot \text{cm}$
Dielectric Strength	IEC 60243	$\geq 25\text{kV/mm}$



Right Range Boot



In-line Boot

Table 2. Product Specification

Spec.	As Supplied/mm		After Recovered/mm			
	D1 Min	D2 Min	D1 Max	D2 Max	W1 (±10%)	W2 (±10%)
Right Angle Bushing Boots						
R1	80	35	36	19	5.6	5.0
R2	80	50	36	19	5.6	5.0
R3	80	50	36	28	5.6	5.0
R4	95	70	36	28	5.6	5.0
R5	145	70	72	34	5.6	5.0
In-line Bushing Boots						
S1	80	34	32	19	3.6	3.6
S2	80	58	32	19	3.6	3.6
S3	140	90	68	34	3.6	3.6

Shenzhen Woer Heat-shrinkable Material Co., Ltd.
Power Division
June 1, 2020