

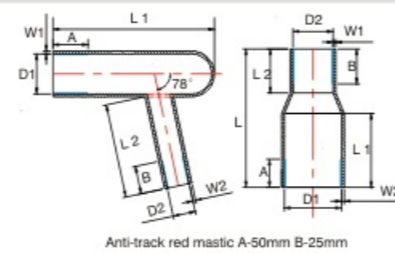
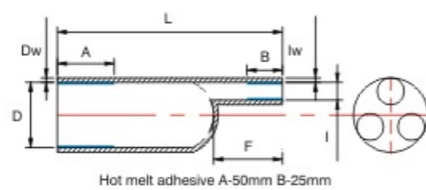
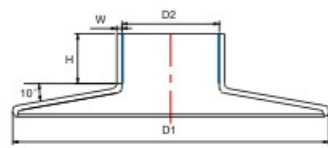
# HAS/HMB/HMR

Anti-Tracking Rain Shed  
Medium Voltage 3 Cores Cable Breakout  
Medium Voltage Right / Straight Cable Boot



## Features:

- Crosslinked polyolefin
- Non-tracking
- Red mastic applied to collars
- UV and weather resistance
- Min. full recovery temp.: 110°C



## Dimensions:

### Anti-tracking rain shed - HAS

Size (mm)	D2		D1 (Nom.)	H (Min.)	w (±10%)
	a*(Min.)	b*(±10%)			
HAS 110 35/12	35	12	95	18	3
HAS 120 48/20	48	20	120	21	3
HAS 130 60/20	60	20	120	21	3
HAS 140 60/30	60	30	140	25	3
HAS 150 75/30	75	30	140	25	3
HAS 160 100/35	100	35	140	35	3
HAS 170 120/45	120	45	200	35	3

### MV 3 cores cable breakout - HMB

Size (mm)	D		I		Recovered length ±10%		Recovered wall ±20%	
	a*(Min.)	b*(Max.)	a*(Min.)	b*(Max.)	L	F	Dw	lw
HMB 320-60/24	60	24	25	8	180	45	3.0	2.5
HMB 330-80/36	80	38	35	11	210	57	4.0	4.0
HMB 340-110/48	110	50	46	17.5	250	65	4.0	4.0
HMB 350-125/55	125	57	55	20	260	57	4.0	4.0
HMB 360-140/68	140	70	62	26	280	70	4.0	4.0

### MV right/straight cable boot - HMR

Size (mm)	As supplied (mm)				After recovered (mm)					
	D1 (Min.)	D2 (Min.)	D1 (Max.)	D2 (Max.)	L1 (Nom.)	L2 (±10%)	L (±10%)	W1 (±10%)	W2 (±10%)	
Right Angle	HMR 110(80/36-35/18)	80	35	36	18	170	125	/	4.2	3.5
	HMR 120(80/36-50/18)	80	50	36	18	170	125	/	3.8	3.5
	HMR 130(80/36-50/27)	80	50	36	27	160	140	/	3.8	3.5
	HMR 140(95/38-70/28)	95	70	38	28	160	140	/	4.2	4.8
	HMR 150(145/72-68/34)	145	68	72	34	215	140	/	4.0	4.0
Straight	HMR 160(80/35-34/20)	80	34	35	20	145	30	220	3.2	3.2
	HMR 170(80/35-58/20)	80	58	35	20	145	30	220	3.2	3.2
	HMR 180(140/65-90/33)	140	90	65	33	155	40	320	4.0	4.0

a\* = as supplied b\* = after recovery

## Technical properties:

Property	Test Method	Typical Data
<b>Anti-tracking rain shed - HAS</b>		
Tensile strength	ASTM D 2671	≥13 MPa
Ultimate elongation	ASTM D 2671	≥400%
Tensile strength after aging	ASTM D 2671/120°C, 168 hrs.	≥10.4 MPa
Ultimate elongation after aging	ASTM D 2671/120°C, 168 hrs.	≥350%
Dielectric strength	ASTM D 2671/3.75kV, 1hr.	≥15 kV/mm
Tracking resistance	ASTM D 2303	Pass
Electric constant	IEC 250	≥3.0
Volume resistance	IEC 93	≥10 <sup>14</sup> Ω.cm
Flammability (Oxygen Index)	ISO 4589	≥25
Copper corrosion	ASTM D 2671/120°C, 168 hrs.	No corrosion
Cold bend	ASTM D 2671/-40°C, 4 hrs.	No cracking
<b>MV 3 cores cable breakout - HMB</b>		
Tensile strength	ASTM D 2671	≥8 MPa
Tensile strength after thermal aging	ASTM D 2671/120°C, 168 hrs.	≥7 MPa
Ultimate elongation	ASTM D 2671	≥300%
Ultimate elongation after thermal aging	ASTM D 2671/120°C, 168 hrs.	≥200%
Dielectric strength	IEC 243	≥20 kV/mm
Volume resistance	IEC 93	≥10 <sup>13</sup> Ω.cm
Water absorption	ISO 62	≤1%
Resistance to tracking	ASTM D 2303	No tracking
<b>MV right/straight cable boot - HMR</b>		
Tensile strength	ASTM D 2671	≥12 MPa
Tensile strength after thermal aging	ASTM D 2671/120°C, 168 hrs.	≥8.5 MPa
Ultimate elongation	ASTM D 2671	≥300%
Ultimate elongation after thermal aging	ASTM D 2671/120°C, 168 hrs.	≥200%
Dielectric strength	IEC 243	≥15 kV/mm
Volume resistance	IEC 93	≥10 <sup>13</sup> Ω.cm
Tracking resistance	ASTM D 2303/3.75 kV, 1hr.	Pass
Water absorption	ISO 62	≤1%
Flammability(oxygen index)	ISO 4589	≥25
Copper corrosion	ASTM D 2671/120°C, 168 hrs.	No corrosion
Cold bend	ASTM D 2671/-40°C, 4 hrs.	No cracking

## Ordering information:

### Standard colors:

Red

### Special colors:

N/A

### Packaging:

Standard packaging in bags.