

Sumitube® W3NH

Dual Wall Polyolefin, 3:1
Operating Temperature: -40 up to 105°C

Surface: Matt
 Marking: None



ASTM
 BS 6853
 BSS 7239 Boeing Specification Support Standard
 Japanese Standard for railway vehicle material
 LUL: London Underground Limited Eng. Stand. E 1042. A6
 SAE-AMS-DTL-23053
 EN45545-2
 IEC 60684-3-216

Dimensions

BEFORE SHRINKAGE		AFTER SHRINKAGE		DELIVERY UNITS *	
Inner diameter (EID) min.		Inner diameter (RID) max.	Wall thickness (RWT) min-max	Unit quantity	Box quantity
[type]	[mm]	[mm]	[mm]	[m]	[m]
3/1	3,20	1,00	nom. 0,95	60	600
4,5/1,5	4,80	1,50	nom. 1,10	60	300
6/2	6,40	2,00	nom. 1,20	60	300
9/3	9,50	3,00	nom. 1,30	30	150
12/4	12,7	4,00	nom. 1,40	30	150
19/6	19,1	6,00	nom. 1,80	18	90
24/8	24,0	8,00	nom. 2,50	18	90
40/13	40,0	13,0	nom. 2,50	6	12
50/19	50,0	19,0	nom. 4,00	1,2	9,60
75/25	75,0	25,0	nom. 3,00	1,2	7,2
120/45	120,0	45,0	nom. 4,00	1,2	14,4

* Standard Verpackung: Schnittlängen von 1200mm. LC of sizes 50/19, 75/25 and 120/40 = -15% ± 10%. These sizes are available up on request only.

Colours & Technical drawing

STANDARD COLOURS	
black	

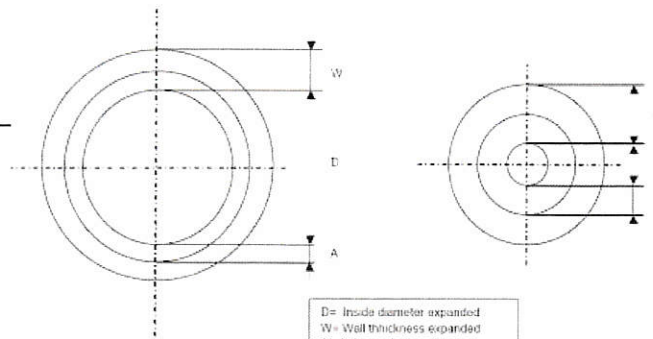
SPECIAL COLOURS	
upon request	

TECHNICAL DRAWING

Tube Front

Expanded (as supplied)

Recovered (after shrinkage)



D= Inside diameter expanded
 W= Wall thickness expanded
 A= Adhesive before shrinkage
 d= Inside diameter after shrinkage
 w= Wall thickness after shrinkage
 a= Adhesive after shrinkage

SUMITOMO ELECTRIC Schrumpf-Produkte GmbH

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Sheet
 2 of 2

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SUMITOMO-G-03082017 SFP spec

PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	REQUIREMENT	TYPICAL VALUE
Longitudinal Change	SAE-AMS-DTL-23053	-15%, 3%	Pass
Tensile Strength	ASTM D 638	Min. 10,4 MPa	Pass
Elongation at Break	ASTM D 638	Min. 200%	Pass
Secant Modulus	ASTM D 882	Max. 173 MPa	Pass

THERMAL PROPERTIES

PROPERTY	TEST METHOD	REQUIREMENT	TYPICAL VALUE
Operating Temperature	Life-Curve	-40 up to 105°C	-40 up to 105°C
Min. Shrink Temperature	Shrink curve	full recovery	120°C
Shrinking starts at	Shrink curve		65°
Low temperature flexibility (-40°C x 4h)	SAE-AMS-DTL-23053	no cracking	Pass
Heat Shock (225°C x 4h)	SAE-AMS-DTL-23053	no crack, flowing or dripping	Pass
Copper mirror corrosion (175°C x 16h)	SAE-AMS-DTL-23053	no corrosion	Pass
Tensile strength after ageing (136°C x 168h)	ASTM D 638	Min. 7,3 MPa	Pass
Elongation after ageing (136°C x 168h)	ASTM D638	MIN. 100%	Pass

CHEMICAL PROPERTIES

PROPERTY	TEST METHOD	REQUIREMENT	TYPICAL VALUE
Halogen Content	NFX-70-100. BS 6853	Zero	Zero
Flammability	Japanese Railway	flame retardant	Pass
Water Absorption	ASTM D 570	Max. 1,0%	Pass
Flame spread Index	ASTM E162	Max. 25	Pass
Flammability-Oxygen Index	BS EN ISO 4589-2 / BS 6853	Min. 34	≥ 37
Flammability Temperature Index	BS 6853 / LUL E1042	Min. 300°C / Min. 350°C	> 350°C, Pass
Smoke density	EN 45545-2	Max. 150	< 150: R22/HL3
Oxygen-Index	EN 45545-2	Min. 32	≥ 37: R22/HL3
Toxic Fume Emission	EN 45545-2	Max. 0,75	< 0,75: R22/HL3
Toxic gas Generation	BSS 7239	ppm limit (6 gases)	Pass

ELECTRICAL PROPERTIES

PROPERTY	TEST METHOD	REQUIREMENT	TYPICAL VALUE
Voltage Rating		600V	Pass
Volume Resistivity	ASTM D 876	Min. $10^{12} \Omega \cdot \text{cm}$	$> 10^{13} \Omega \cdot \text{cm}$
Dielectric Strength	ASTM D 876	Min. 19,7 kV/mm	Pass

OTHER PROPERTIES

PROPERTY	TEST METHOD	REQUIREMENT	TYPICAL VALUE
Fluid Resistance (after immersion 23°C x 24h)	IEC 60684-3-216	Min. 4 MPa (Tensile Strength)	$\geq 6 \text{ MPa}$
Fluid Resistance (after immersion 23°C x 24h)	IEC 60684-3-216	Min. 100% (Elongation)	$\geq 200\%$
Fungus resistance	ISO 846	TS 7 MPa / E 200%	Pass

Tests: Outer jacket only (Tubing without inner layer)