# SPROTECT



**Technical data sheet** 

### FRZH & FRZH-3X heat shrinkable tubing



The tubing is manufactured for excellent wear-resistant performance, highlights of physical, chemical and electrical performance as well. The tubing suits widely for usage of insulation of beam, joints in the field of military,

aerospace, precision instruments purposes as well as other area beams and connecting pieces of insulation.

Dim	ensions	s 2:1

Size, Inches	Size, mm	Minimum ID, as supplied	Maximum ID, recovered	Recovered wall thickness, mm
3/64	0.8	0.8	0.4	0.25±0.10
1/16	1.6	1.6	0.8	0.30±0.10
3/32	2.4	2.4	1.2	0.35±0.10
1/8	3.2	3.2	1.6	0.40±0.10
3/16	4.8	4.8	2.4	0.50±0.10
1/4	6.4	6.4	3.2	0.55±0.10
3/8	9.5	9.5	4.8	0.60±0.10
1/2	12.7	12.7	6.4	0.60±0.10
3/4	19.1	19.1	9.5	0.80±0.15
1	25.4	25.4	12.7	0.90±0.15
1 1/2	38.1	38.1	19.1	1.00±0.15
2	50.8	50.8	25.4	1.00±0.15
<b>2</b> <sup>1</sup> / <sub>4</sub>	57.15	57.15	31.0	1.30±0.15
3	76.2	76.2	38.1	1.45±0.15
4	101.2	101.2	50.8	1.45±0.15
5	127.0	127.0	63.5	1.55±0.15
6	152.4	152.4	76.2	1.55±0.15
7	177.8	177.8	88.9	1.55±0.15
8	203.2	203.2	101.6	1.55±0.15
9	228.6	228.6	114.3	1.55±0.15
10	254.0	254.0	127.0	1.55±0.15

### Specifications

2:1 and 3:1 shrink ratio Halogen free and flame retardant Good resistance to common fluids and solvents Shrink temperature 120°C (nominal, min. 90°C) Operating temperature -55°C to +135°C

SAE-AMS-DTL-23053/4 Class 1 UL 224 cert. E361238 CSA certified file 220127

### Standard colours Black

### Non standard colours

Clear, yellow, white, red, blue, pink, violet, green, brown, orange, grey, green/yellow striped and other colours on request



#### Notes:

This information and data is believed to be accurate and reliable. Although the information and recommendations set forth herein are presented in good faith and believed to be correct as of this date, Hans Følsgaard A/S makes no representations as to the completeness or accuracy thereof. We place at your disposal the technical information necessary for the correct use of our products. As conditions and methods of use are beyond our control, that the person receiving the same will make their own determination as to the suitability for their purpose.

We reserve the right to modify characteristics with the aim of improving the product and adapting it to the requirements of the market.

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## FRZH & FRZH-3X heat shrinkable tubing

### Dimensions 3:1

Size, Inches	Size, mm	Minimum ID, as supplied	Maximum ID, recovered	Recovered wall thickness, mm
1.5/0.5	1.5	1.5	0.5	0.30±0.10
3.0/1.0	3.0	3.0	1.0	0.30±0.10
4.5/1.5	4.5	4.5	1.5	0.35±0.10
6.0/2.0	6.0	6.0	2.0	0.45±0.10
9.0/3.0	9.0	9.0	3.0	0.55±0.10
12.0/4.0	12.0	12.0	4.0	0.55±0.10
15.0/5.0	15.0	15.0	5.0	0.60±0.10
18.0/6.0	18.0	18.0	6.0	0.65±0.10
24.0/8.0	24.0	24.0	8.0	0.85±0.15
30.0/10.0	30.0	30.0	10.0	0.90±0.15
39.0/13.0	39.0	39.0	13.0	1.00±0.15

#### Storage

Store in original packaging. Recommended temperature at +10°C to +25°C and 45-55% relative humidity

### Physical

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Properties	Test Method	Typical value
Tensile strength	ASTM D 2671	≥10.4MPa
Elongation at break	ASTM D 2761	≥200%
Longitudinal change	UL 224	≤±5%
Water absorption	ASTM D 570	≤0,5%
Elongation at break Longitudinal change Water absorption	ASTM D 2761 UL 224 ASTM D 570	≥200% ≤±5% ≤0,5%

### Electrical

Properties	Test Method	Typical value
Dielectric strength	IEC 243	≥15 kV/mm²
Volume resistivity	IEC 93	10 <sup>14</sup> Ω cm

### Chemical

Properties	Test method	Typical value
Chemical resistance	AMS-DTL-23053/5	Good
Copper corrosion	UL 224	No corrosion

### Thermal

Properties	Test method	Typical value
Heat shock 4 hours at 225°C	UL 224	No dripping, cracking or flowing
Heat aging 168 hours at 158°C	UL 224	Min. 100%
Flammability	UL 224	No corrosion



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