



## PRINTASHRINK SPF (FLAT)

**Printashrink SPF (FLAT)** is a flattened 2:1 ratio, MIL-SPEC and UL approved heatshrink polyolefin with a working temperature of 135°C. It has excellent printability qualities and is ideal for identification in aerospace, military and defence applications. It is fire retardant and available in several colours and sizes up to 50.8mm ID and can be cut and printed as required.

This continuous 2:1 heatshrink polyolefin tube is supplied flat making it compatible with most printers. It is a UL/CSA approved sleeve which meets MIL-SPEC requirements. It has a 135°C working temperature and excellent electrical, chemical and physical properties. It is available on bulk and smaller reels to suit any print set up and is used in aerospace, military and defence, as well as other professional applications. We offer our full range of printing and cutting services on this high quality sleeve making it perfect for identification, branding and marking requirements.

## TECHNICAL DATA

- **SHRINK RATIO**  
2:1
- **SHRINK TEMPERATURE**  
+85°C
- **OPERATING TEMPERATURE**  
-40°C – +135°C
- **FLAME RETARDANT:**  
Yes
- **COLOURS**  
Yellow, White, Other colours available upon request
- **SIZES**  
2.4mm – 50.8mm
- **PACKING**  
Reels, mini-reels, mini-packs, cut to length, kits, cut sleeves
- **PRINT**  
Yes, full range of text and logos
- **APPROVALS**  
SAE-AMS-DTL-23053/5 class 1&3, SAE AS81531:1531:1998 4.6.2, MIL-STD-202F 215U, UL224 125° 600V VW-1, CSA certified, RoHS compliant
- **APPLICATIONS/ INDUSTRIES**  
compliant General, Commercial, Electrical, Electronics, Industrial, Mechanical, Automotive, Military-defence

Properties	Typical Values	Test Methods
<b>GENERAL</b>		
Operating Temperature	-40°C – + 135°C	
Minimum shrink temperature	85°C	
Shrink Ratio	2:1	
<b>PHYSICAL</b>		
Tensile Strength	≥ 14MPa	ASTM D 638
Ultimate elongation	≥ 400%	ASTM D 638
Specific gravity	1.34g/cm <sup>3</sup>	ASTM D 792
Longitudinal change	0% – -2%	SAE-AMS-DTL-23053
Secant Modulus	65MPa	ASTM D 882
<b> THERMAL</b>		
Flammability	VW-1 pass	UL224
Heat shock (4hrs)	No dripping, cracking or flowing	SAE-AMS-DTL-23053
Low temperature flexibility (4hrs @ -55°C)	No cracking	SAE-AMS-DTL-23053

<b>ELECTRICAL</b>		
Dielectric strength	≥ 37 kV/mm	UL 224
Volume resistivity	3.1 x 10 <sup>12</sup> Ω cm	ASTM D 876
Voltage rating	600V	UL 224
Dielectric Voltage	withstands 2.5kV for 60s	UL 224
<b>CHEMICAL</b>		
Copper corrosion	Pass	SAE-AMS-DTL-23053
Copper stability	Pass	SAE-AMS-DTL-23053
Fluid resistance	Gasoline, hydraulic fluid, lubricating oil, tensile 25-14MPa	SAE-AMS-DTL-23053
Fungus resistance	Pass, no growth	ASTM G 21

Size (mm)	Supplied diameter (mm)	Shrunk diameter (mm)	Nominal wall thickness (mm)
2.4	2.4	1.2	0.57
3.2	3.2	1.6	0.61
4.8	4.8	2.4	0.67
6.4	6.4	3.2	0.71
9.5	9.5	4.8	0.77
12.7	12.7	6.4	0.80
19.1	19.1	9.5	0.84
25.4	25.4	12.7	0.86
38.1	38.1	19.0	0.89
50.8	50.8	25.4	0.90

Printasleeve Ltd is as diligent as possible in compiling and updating the above information. It reflects averages derived from product sample testing, is subject to normal manufacturing and testing tolerances and may be changed without notice. Furthermore aesthetic and textural style differences can result in local variation. For specific or further information concerning our products, their specifications and their utilisation please contact us.