



CONTINUOUS FLAT TUBING (CFT)

The continuous flat, heat shrink tubing (CFT), for wire and cable identification, is wound on 100' or 200' reels. This tubing is manufactured from cross-linked polyolefin, a flame retardant material, is resistant to common fluids, lubricants, and solvents. Once printed on, the wire marker sleeves are ready for installation without any additional treatment.

A reel holder is available to easily guide the spooled flat tubing through the printer. The continuous flat tubing is produced in 2:1 and 3:1 shrink ratios, in various diameter sizes, and is available in white and yellow.

FEATURES

- Exceed the minimum mark permanence requirements for SAE AS81531 (formerly MIL-M-81531)
- Conform to UL224, as well as AMS-DTL 23053/5, Class 1 & 3 for material and functional requirements
- Will tolerate exposure to temperatures as high as 275°F/135°C
- Available in 2:1 and 3:1 shrink ratio
- Most sizes available in white and yellow
- Easy to use spools in 100' & 200' lengths



COMPATIBILITY

- Compatible with the AWMS-225c thermal transfer printer.
- Included cutter cuts markers to custom lengths

Software

- Seagull Scientific's BarTender® software recommended for printing CFT
- Contact Impact, Inc. to purchase

CONTINUOUS FLAT TUBING (CFT)

Technical Data

IMPACT® B2

AMS-DTL-23053/5, Cl. 1 & 3

UL & CSA

FLEXIBLE POLYOLEFIN 2 : 1 Shrink

MILITARY SPECIFICATION and UL / CSA

TYPICAL FEATURES

- 1) IMPACT B2 is a very flexible, flame-retarded, radiation-crosslinked heat shrinkable polyolefin tubing which meets all of the material and functional requirements of Military Specification AMS-DTL- 23053/5, Class 1 and Class 3.
- 2) Shrink temperature is 90°C.
- 3) Operating temperature range is -55°C to +135°C and up to 200°C for short time durations.
- 4) B2 is recommended for use in general purpose applications such as wire marking, color coding, and electrical insulation of light wire harness assemblies. For higher expansion ratio versions see B2(3X), B2(4X), and B2(4XC) data sheets.

STANDARD SIZES

SIZE	INSIDE DIAMETER AS SUPPLIED (MIN)		INSIDE DIAMETER AFTER RECOVERY (MAX)		WALL THICKNESS AFTER RECOVERY (NOM)	
	INCH	(MM)	INCH	(MM)	INCH	(MM)
3/64	.046	1.2	.023	0.6	.016	0.40
1/16	.063	1.6	.031	0.8	.017	0.43
3/32	.093	2.4	.046	1.2	.020	0.51
1/8	.125	3.2	.062	1.6	.020	0.51
3/16	.187	4.8	.093	2.4	.020	0.51
1/4	.250	6.4	.125	3.2	.025	0.64
3/8	.375	9.5	.187	4.8	.025	0.64
1/2	.500	12.7	.250	6.4	.025	0.64
5/8*	.625	15.9	.313	7.9	.027	0.69
3/4	.750	19.1	.375	9.5	.030	0.76
1	1.000	25.4	.500	12.7	.035	0.89
1 1/4*	1.250	31.8	.625	15.9	.038	0.97
1 1/2	1.500	38.1	.750	19.1	.040	1.02
2	2.000	50.8	1.000	25.4	.045	1.14
3	3.000	76.2	1.500	38.1	.050	1.27
4	4.000	101.6	2.000	50.8	.055	1.40

Standard Colors: Black, White, Red, Yellow, Blue, Green, Violet, Gray, Orange (Other colors subject to factory approval and quote)

Standard Package: Spooled (S) or 4 foot lengths (4')

How to Order: (Type of material) (Size) (Color) (Packaging)

Example: B2 1/4 Black 4'

* non - MIL spec sizes

CONTINUOUS FLAT TUBING (CFT)

Technical Data

B2 SPECIFICATION VALUES

PROPERTY (UNITS)	TEST METHOD	REQUIREMENT
Physical: Tensile strength (psi) Elongation (%) Specific gravity Low temperature flex (-55° C) Heat shock (250° C, 4 hrs.) Heat resistance (175° C, 168 hrs.) Elongation (%) Secant modulus (psi) Longitudinal change (%)	ASTM D638 ASTM D638 ASTM D792 AMS-DTL-23053 AMS-DTL-23053 ASTM D638 ASTM D882 AMS-DTL-23053	1500 min. 200 min. 1.35 max. no cracking no cracking 100 min. 2.5 X 10 ⁴ max. ±5
Electrical: Dielectric strength (volts/mil) Volume resistivity (ohm-cm)	ASTM D876 ASTM D876	500 min. 1.0 X 10 ¹⁴ min.
Chemical: Corrosion (175° C, 16 hrs.) Water absorption (%) Fluid resistance (23° C, 24 hrs.) Tensile strength (psi) Flammability Shrink temperature, nominal	AMS-DTL-23053 ASTM D570 AMS-DTL-23053 UL 224 VW-1	no corrosion 0.5 max. 1000 min. pass 90° C

Specification references: AMS-DTL-23053/5, Class 1 and Class 3.
 UL 224 125° C, 600 V, VW-1 File E48762 YDPU2
 CSA C22.2 No. 198.1-98

CONTINUOUS FLAT TUBING (CFT)

Technical Data

IMPACT® B2 (3X)

UL/CSA

**FLEXIBLE POLYOLEFIN THIN WALL
3 : 1 Shrink Ratio**

UL/ CSA RECOGNIZED 125° C 600V (VW-1)

TYPICAL FEATURES

- 1) IMPACT® B2(3X) is a very flexible, flame-retarded, heat-shrinkable polyolefin tubing. B2(3X) is overexpanded to have a recovery ratio of 3 to 1, as opposed to the normal 2 to 1 recovery. B2(3X) is recognized by UL under Subject 224 as 125 C 600V with a VW-1 rating.
- 2) IMPACT® B2(3X) meets the material and functional properties of AMS-DTL-23053/5, Classes 1 & 3, with exception to dimensions.
- 3) B2(3X) has a low recovery temperature of 90°C.
- 4) B2(3X) has an operating temperature range of 55°C to +135°C with up to 200°C for short duration.
- 5) B2(3X) is recommended for use in general purpose applications for protection of components in light wire harness assemblies. It can be used where oversized sub-components prevent the use of a standard heat shrinkable tubing. It can also provide the user with better economies, as one size tubing can often replace 2 standard 2:1 expanded tubing sizes, thereby reducing inventories.

STANDARD SIZES

NOMINAL SIZE (MM)	INSIDE DIAMETER AS SUPPLIED (MIN)		INSIDE DIAMETER AFTER RECOVERY (MAX)		WALL THICKNESS AFTER RECOVERY (NOM)	
	INCH	(MM)	INCH	(MM)	INCH	(MM)
	1.5/0.5	.060	1.5	.020	0.5	.020
3/1	.120	3.0	.040	1.0	.024	.60
6/2	.240	6.0	.080	2.0	.028	.70
9/3	.360	9.0	.120	3.0	.031	.80
12/4	.480	12.0	.160	4.0	.033	.85
18/6	.720	18.0	.240	6.0	.039	1.0
24/8	.945	24.0	.315	8.0	.048	1.2
40/13	1.575	40.0	.515	13.0	.050	1.25
50/17	2.000	50.0	.670	17.0	.059	1.50
75/25	3.000	75.0	1.000	25.0	.065	1.65

CONTINUOUS FLAT TUBING (CFT)

Technical Data

B2 (3X) SPECIFICATION VALUES

PROPERTY (UNITS)	TEST METHOD	REQUIREMENT
Physical: Tensile strength (psi) Elongation (%) Specific gravity Low temperature flex (-55 ⁰ C) Heat shock Heat resistance (175 ⁰ C, 168 hrs.) Elongation (%) Secant modulus (psi) Longitudinal change (%)	ASTM D638 ASTM D638 ASTM D792 AMS-DTL-23053 AMS-DTL-23053 ASTM D638 ASTM D882 AMS-DTL-23053	1500 min. 200 min. 1.35 max. no cracking no cracking 100 min. 2.5 x 10 ⁴ max. +5, -15
Electrical: Dielectric strength (volts/mil) Volume resistivity (ohm-cm)	ASTM D876 ASTM D876	500 min. 1.0 X 10 ¹⁴ min.
Chemical: Corrosion Water absorption (%) Fluid resistance (23 ⁰ C, 24 hrs.) Tensile strength (psi) Flammability Shrink temperature, nominal	AMS-DTL-23053 ASTM D 570 AMS-DTL-23053 UL 224 VW-1	no corrosion 0.5 max. 1000 min. pass 90 ⁰ C

Specification reference: UL 224 125⁰C, 600V, VW-1
 File E48762 YDPU2, Cat. No. B2(3X) or 826 suffix (3X)
 CSA C22.2 No. 198.1-98



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