

# Q2-F

**ENVIRONMENT FRIENDLY, FLEXIBLE  
HIGHLY FLAME RETARDANT HEAT SHRINKABLE TUBING  
SHRINK RATIO 2:1**

Features/Applications

Manufactured using specially developed technology with outstanding physical, chemical and electrical properties. A flexible, premium grade polyolefin tubing with excellent abrasion, chemical and solvent resistance. Widely used for strain relief, color coding, harnesses and general purpose applications in such fields as military, automotive, home appliance and electronic instrumentation.

- ▶▶ Very flexible, highly flame-retardant (except clear)
- ▶▶ Resistant to common fluids and solvents
- ▶▶ Meets UL 224 125VW-1 600V; SAE-AMS-DTL-23053/5 Class 1 & 3
- ▶▶ Material: No PBB's, PBBO's, PBBE's, Free of Cadmium & Lead



Operating temperature: -55°C to +135°C  
 Minimum Shrink Temperature: 70°C  
 Minimum fully recovery temperature: 100°C  
 Standard colors: Black, red, blue, yellow, green, white, clear(class 2)  
 RoHS Compliant

**Technical Data** ◀

Property	Test Method	Typical Data
Tensile strength	ASTM D 638	14MPa
Elongation at break	ASTM D 638	600%
Elongation after aging at 175°C for 168 hrs.	ASTM D 638	350%
Flammability	UL 224 VW-1 /SAE-AMS-DTL-23053/5	Pass
Heat shock (250°C/4 hrs.)	ASTM D 2671	No cracking
Cold bend test (-55°C/4 hrs.)	ASTM D 2671	No cracking
Dielectric strength	ASTM D 150	20KV/mm
Volume resistance	ASTM D 876	10 <sup>14</sup> Ω.cm
Copper Corrosion	UL 224	Pass
Water absorption	ASTM D 570	0.15%
Chemical resistance	SAE-AMS-DTL-23053/5	Pass
Longitudinal shrinkage	UL 224	0 ± 5%
Eccentricity	UL 224	30%

**Product Dimensions (mm/inch)** ◀

Normal Size (inch)	As Supplied(mm)		After Recovered(mm)		Standard Length (m/spool)
	Inside Diameter (mm)	Wall Thickness (nominal)	Inside Diameter (max.)	Wall Thickness (min.)	
3/64	1.6±0.2	0.20	0.60	0.40±0.08	200
1/16	1.6±0.2	0.20	0.80	0.43±0.08	200
3/32	3.1±0.2	0.25	1.20	0.51±0.08	200
1/8	3.7±0.3	0.25	1.60	0.51±0.08	200
3/16	5.2±0.3	0.25	2.40	0.51±0.08	100
1/4	6.8±0.3	0.30	3.20	0.64±0.08	100
5/16	8.8±0.3	0.30	4.00	0.64±0.08	100
3/8	10.7±0.4	0.30	4.80	0.64±0.08	100
1/2	13.7±0.4	0.30	6.40	0.64±0.08	50
5/8	16.7±0.4	0.35	8.00	0.76±0.08	50
3/4	20.5±0.4	0.40	9.50	0.76±0.08	50
1	26.5±0.4	0.45	12.70	0.89±0.12	50
1 1/4	33.5±0.7	0.45	15.90	1.02±0.15	50
1 1/2	41.0±0.8	0.50	19.10	1.02±0.15	50
2	52.0±1.0	0.50	25.40	1.14±0.16	50
3	82.0±1.0	0.55	38.10	1.27±0.20	30
4	104.0±1.0	0.55	50.80	1.40±0.23	30
5	126.0±1.0	0.55	63.50	1.52±0.23	15
6	152.0±1.0	0.55	75.00	1.52±0.23	15

Feet spool lengths are available subject to requirement. Special sizes, cut pieces are available upon request.