



HEAT SHRINK PRODUCTS

HEAT SHRINK THIN WALL TUBING

Part Number	Material	Product Type	Shrink Ratio	Operating Temp. & Voltage Rating	Min. Shrink Temp.	Full Recovery Temp.	Flame Retardant	Agency Certification	Military Standard	General Description
QBG	Polyolefin	Thin Wall	2:1	-55°C to +105°C, 600V	90°C	110°C	-	-	-	Flexible, Thin Wall Tubing for Flexible Gas Pipes mm Sizes: 23 to 76.2mm
Q1	Polyolefin	Thin Wall	2:1	-55°C to +105°C, 600V	80°C	100°C	-	-	-	Non Flame-Retardant, General Purpose, Flexible, Glossy Black or Clear mm Sizes: 1.0 to 50mm, Inch Sizes: 3/64" to 2"
Q2-CB	Polyolefin	Ultra Thin Wall	2:1	-55°C to +125°C, 300V	70°C	100°C	VW-1	242540	-	No PBB's, PBBE's, PBBO's, Low Cadmium and Lead mm Sizes: 1.0 to 10mm, Inch Sizes: 3/64" to 1/2 "
Q2-F	Polyolefin	Thin Wall	2:1	-55°C to +135°C, 600V	70°C	100°C	VW-1	E236137 242540	SAE-AMS-DTL 23053/5 Class 1 & 3	No PBB's, PBBE's, PBBO's, Very Flexible, Highly Flame-Retardant mm Sizes: 1.2 to 151mm, Inch Sizes: 3/64" to 6 "
Q2-F3X	Polyolefin	Thin Wall	3:1	-55°C to +135°C, 600V	70°C	100°C	VW-1	E236137 242540	SAE-AMS-DTL 23053/5 Class 1 & 3	No PBB's, PBBE's, PBBO's, Very Flexible, High Shrink Ratio, Highly Flame-Retardant mm Sizes: 1.5 to 39mm, Inch Sizes: 1/16" to 1 1/2"
Q2-F4X	Polyolefin	Thin Wall	4:1	-55°C to +135°C, 600V	70°C	100°C	VW-1	E236137 242540	SAE-AMS-DTL 23053/5 Class 1 & 3	No PBB's, PBBE's, PBBO's, Very Flexible, High Shrink Ratio, Highly Flame-Retardant mm Sizes: 19.1 to 115mm, Inch Sizes: 3/4" to 4 1/2"
Q2-F2X(YG) Q2-F3X(YG)	Polyolefin	Thin Wall	2:1, 3:1	-55°C to +135°C, 600V	70°C	100°C	VW-1	E236137 242540	SAE-AMS-DTL 23053/5 Class 1 & 3	Yellow-Green Striped, Flexible, Flame-Retardant Tubing 2:1 - mm Sizes: 1.2 to 101.6mm, Inch Sizes: 3/64" to 4", 3:1 - 1.6 to 39mm, Inch Sizes: 1/16" to 1 1/2"
Q2-HF	Polyolefin	Thin Wall	2:1	-55°C to +105°C, 600V	70°C	100°C	-	242540	SAE-AMS-DTL 23053/5	Halogen Free Polyolefin Tubing, Low Smoke mm Sizes: 1.0 to 150mm
Q2-LS	Polyolefin	Thin Wall	2:1	-45°C to +125°C, 600V	65°C	95°C	MVSS 302	242540	-	Very Flexible, Low Shrink Temperature, Halogen Free Polyolefin Tubing mm Sizes: 1.6 to 50.8mm, Inch Sizes: 1/16" to 2 "
Q2-R	Polyolefin	Semi-Rigid Thin Wall	2:1	-45°C to +135°C, 600V	90°C	130°C	Self-extinguish in 30 seconds	E236137 242540	SAE-AMS-DTL 23053/5 Class 1 & 3	Semi-Rigid Flame-Retardant Tubing, Resistant to Common Chemicals and Solvents mm Sizes: 1.2 to 25.4mm, Inch Sizes: 3/64" to 1"
Q2-Z	Polyolefin	Thin Wall	2:1	-55°C to +125°C, 600V	70°C	100°C	VW-1	E236137 242540	-	Environment Friendly, Flexible, Flame-Retardant mm Sizes: 1.0 to 150mm, Inch Sizes: 3/64" to 6 "
Q2-3X	Polyolefin	Thin Wall	3:1	-55°C to +125°C, 600V	70°C	100°C	VW-1	E236137 242540	-	Flexible, High Shrink Ratio, Highly Flame-Retardant mm Sizes: 1.5 to 39mm, Inch Sizes: 1/16" to 1 1/2"
Q2-XT Q2-XT(HF)	Polyolefin	Thin Wall	Non-Shrink	-55°C to +125°C, 600V	80°C	80°C	VW-1	-	-	No PBB's, PBBE's, PBBO's, Non-Shrink, Irradiated Flexible, Flame-Retardant, (HF) Version is Halogen Free Size: AWG 18 to 1/2"
Q-150K	Modified PVDF	Flexible Thin Wall	2:1	-55°C to +150°C, 600V	135°C	150°C	VW-1	E245010	SAE-AMS-DTL 23053/18	Black, Flexible, High Temperature, Chemical Resistant, Polyvinylidene Fluoride(PVDF) Kynar® mm Sizes: 1.2 to 38.1mm, Inch Sizes: 3/64" to 1 1/2 "
Q-175K	PVDF	Semi-Rigid Thin Wall	2:1	-55°C to +175°C, 600V	175°C	-	VW-1	E245010	SAE-AMS-DTL 23053/8	Clear, High Temperature, Chemical Resistant, Polyvinylidene Fluoride(PVDF) Kynar® mm Sizes: 1.2 to 25.4mm, Inch Sizes: 3/64" to 1"
Q-200E Q-200E(TW)	Modified Fluorelastomer Viton®	Very Flexible Thin Wall	2:1	-55°C to +200°C, 600V	150°C	175°C	VW-1	E245010	SAE-AMS-DTL 23053/13	Flexible, Elastic, High Temperature, Solvent Resistant, Viton® Q-200E - mm Sizes: 3.2 to 50.8mm, Inch Sizes: 1/8" to 2", Q-200E(TW) - mm Sizes: 9.5 to 50.8, Inch Sizes: 3/8" to 2"
Q-PTFE	Modified PTFE	Semi-rigid Thin Wall	2:1	-65°C to +260°C, 600V	-	350°C	Self-extinguish	-	SAE-AMS-DTL 23053/12	Polytetrafluoroethylene Tubing Sizes: AWG 20 to AWG 0
QDR QDR(TW)	Modified Elastomer	Very Flexible Thin Wall	2:1	-75°C to +150°C, 600V	-	175°C	VW-1	-	SAE-AMS-DTL 23053/16	Diesel Resistant Elastomer QDR - mm Sizes: 3.2 to 76.2, Inch Sizes: 1/8" to 3"; QDR(TW) - mm Sizes: 2.4 to 38.1, Inch Sizes: 3/32" to 1 1/2"

HEAT SHRINK MEDIUM / HEAVY WALL TUBING - ADHESIVE LINED

Q5-2X	Polyolefin	Dual Wall	2:1	-45°C to +125°C, 600V	100°C	125°C	Self-extinguish in 30 seconds	E236137 242540	SAE-AMS-DTL 23053/4	Adhesive-Lined, Flexible, High Shrink Ratio, Flame-Retardant Tubing mm Sizes: 3.2 to 38.1mm, Inch Sizes: 1/8" to 1 1/2"
Q5-3X	Polyolefin	Dual Wall	3:1	-45°C to +125°C, 600V	80°C	120°C	Self-extinguish in 30 seconds	E236137 242540	SAE-AMS-DTL 23053/4	Adhesive-Lined, Flexible, High Shrink Ratio, Flame-Retardant Tubing mm Sizes: 3.0 to 50.0mm, Inch Sizes: 1/8" to 2 "
Q5-4X	Polyolefin	Dual Wall	4:1	-45°C to +125°C, 600V	80°C	125°C	Self-extinguish in 30 seconds	E236137 242540	SAE-AMS-DTL 23053/4	Adhesive-Lined, Flexible, High Shrink Ratio, Flame-Retardant Tubing mm Sizes: 4.0 to 52.0mm, Inch Sizes: 3/16" to 2 "
Q5-F3X	Polyolefin	Dual Wall	3:1	-55°C to +125°C, 600V	100°C	-	Self-extinguish in 30 seconds	E236137 242540	SAE-AMS-DTL 23053/4	Adhesive-Lined, Flexible, Polyolefin Tubing mm Sizes: 3.0 to 40mm, Inch Sizes: 1/8" to 1 1/2"
Q5-F4X	Polyolefin	Dual Wall	4:1	-55°C to +125°C, 600V	100°C	-	Self-extinguish in 30 seconds	E236137 242540	SAE-AMS-DTL 23053/4	High Shrink Ratio, Adhesive-Lined, Flexible, Flame-Retardant Tubing mm Sizes: 4 to 52mm, Inch Sizes: 3/16" to 2 "

Q2-ZRoHS
Compliant

FLEXIBLE, FLAME RETARDANT POLYOLEFIN TUBING
ENVIRONMENT FRIENDLY
SHRINK RATIO 2:1

Features/Applications

An environment friendly, flame retardant shrink tubing. Specially designed formulation to meet UL 224 and CSA 22.2 on the basis of no harmful substance such as PBB, PBBE, PBBO and toxic metal compounds. Widely used for insulation, strain relief, harnessing, bundling and color coding of wire with a low shrink temperature. Good flexibility and superior mechanical strength in such fields as electronics, communication and automobile.

- Operating temperature: -55°C to +125°C
- Minimum shrink temperature: 70°C
- Full recovery temperature: 100°C
- Approval:  File No. E236137,  242540, 125°C, VW-1, 600V
- Meets: Sony SS-00259,
- Material: No PBB's, PBBO's, PBBE's
- Cadmium content <5 ppm, Lead content <10 ppm
- Standard color: Black, red, blue, yellow, green, white
- Other colors are available upon request.
- RoHS Compliant

**Technical Data**

Property	Test Method	Typical Data
Operating Temperature	UL 224	-55°C to +125°C
Tensile Strength	ASTM D 2671	> 14 MPa
Ultimate Elongation	ASTM D 2671	400%
Longitudinal Shrinkage	UL 224	± 5%
Eccentricity	ASTM D 2671	< 30%
Heat Aging Tensile Strength Ultimate Elongation	158°C, 168 hrs.	> 12 MPa > 350%
Flammability	VW-1	Pass
Dielectric Strength	IEC 243	> 20kV / mm
Volume Resistance	IEC 93	> 10 ¹⁴ Ω.cm
Copper Stability	UL 224	Pass

Product Dimensions - Inch Sizes

Size (Inch)	As Supplied (mm)	After Recovered (mm)		Standard Packaging				
	Inside Diameter (min.)	Inside Diameter (max.)	Wall Thickness (min.)	Mini Spool *(MS) (Feet)	Standard Spool *(SS) (Feet)	Box Length *(QX) (Feet)	Cut to Length Pcs. *(QB)	
							Qty per bag	
3/64	1.2	0.60	0.33	100	1000	50	40	25
1/16	1.6	0.80	0.36	100	1000	50	36	25
3/32	2.4	1.20	0.44	100	500	50	32	25
1/8	3.2	1.60	0.44	100	500	50	28	25
3/16	4.8	2.40	0.56	100	500	30	24	25
1/4	6.4	3.20	0.56	100	500	30	20	25
5/16	8.0	4.00	0.56	100	250	30	18	25
3/8	9.5	4.80	0.56	100	250	30	16	25
1/2	12.7	6.40	0.65	100	200	15	14	5
5/8	15.9	8.00	0.69	50	200	15	14	5
3/4	19.1	9.50	0.80	50	200	15	12	5
1	25.4	12.70	0.90	50	200	15	8	5
1 1/4	31.8	15.90	0.90	50	100	-	8	5
1 1/2	38.1	19.10	1.02	50	100	-	5	5
2	50.8	25.40	1.02	50	100	-	3	5
3	76.2	38.10	1.20	--	100	-	2	2
4	101.6	50.80	1.30	--	100	-	1	2
5	126.0	63.50	1.30	--	50	-	1	2
6	150.0	76.00	1.30	--	50	-	1	2

Product Dimensions - mm Sizes

Size (mm)	As Supplied (mm)	After Recovered (mm)		Standard Spool *(SS) (Meter)
	Inside Diameter (min.)	Inside Diameter (max.)	Wall Thickness (min.)	
1.0	1.0	0.50	0.33	200
1.5	1.5	0.75	0.36	200
2.0	2.0	1.00	0.44	200
2.5	2.5	1.25	0.44	200
3.0	3.0	1.50	0.44	200
3.5	3.5	1.75	0.44	200
4.0	4.0	2.00	0.44	200
5.0	5.0	2.50	0.56	100
6.0	6.0	3.00	0.56	100
7.0	7.0	3.50	0.56	100
8.0	8.0	4.00	0.56	100
9.0	9.0	4.50	0.56	100
10	10.0	5.00	0.56	100
11	11.0	5.50	0.56	100
12	12.0	6.00	0.56	50
13	13.0	6.50	0.65	50
14	14.0	7.00	0.69	50
15	15.0	7.50	0.69	50
16	16.0	8.00	0.69	50
18	18.0	9.00	0.80	50
20	20.0	10.00	0.80	50
22	22.0	11.00	0.80	50
25	25.0	12.50	0.90	50
28	28.0	14.00	0.90	50
30	30.0	15.00	0.90	50
35	35.0	17.50	0.90	50
40	40.0	20.00	1.00	50
50	50.0	25.00	1.00	50
60	60.0	30.00	1.00	30
70	70.0	35.00	1.20	30
80	80.0	40.00	1.20	30
100	100.0	50.80	1.30	30
125	125.0	63.50	1.30	15
150	150.0	76.00	1.30	15