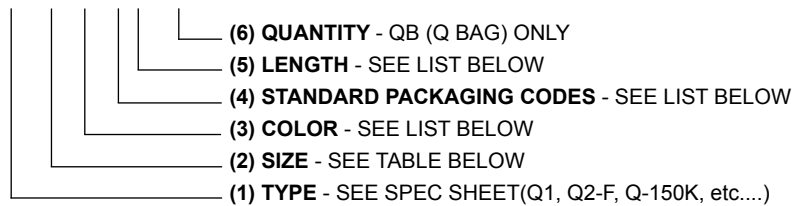


PART NUMBER EXAMPLE: Q2-F-3/64-01-QB48IN-25

PART NUMBER EXAM-

X - X - X - X X - X



NOTE: Table below represents information on individual spec sheet

- 4** **STANDARD PACKAGING CODES:**
- MS - MINI SPOOL + LENGTH (FT or M)
 - QB - Q BAG (Polybag contains quantity specified)
 - QX - Q BOX + LENGTH (FT or M)
 - RK - REFILL BAG
 - SS - STANDARD SPOOL + LENGTH (FT or M)

- 3** **COLOR CODES:**
- 01 BLACK
 - 02 CLEAR
 - 03 WHITE
 - 04 RED
 - 05 BLUE
 - 06 GREEN
 - 07 YELLOW
 - 08 YELLOW / GREEN
 - 09 BROWN
 - 10 ORANGE
 - 11 ASSORTED COLORS
 - 12 GRAY

- 5** **LENGTH:**
- FT = FEET
 - M = METERS
 - IN = INCH
 - MM = MILLIMETERS

HEAT SHRINK THIN WALL TUBING Qualtek Electronics

Q2-F ENVIRONMENT FRIENDLY, FLEXIBLE, HIGHLY FLAME RETARDANT, HEAT SHRINKABLE TUBING
SHRINK RATIO 2:1



Features/Applications
Provides both commercial and military applications electrical insulation and protects in-line components, disconnect terminals and splices with its high strength and excellent resilience. Bundles wires for very flexible light-duty harnesses. Identifies or color-codes wires, cables, terminals and components.

- Operating temperature: -55°C to +135°C
- Minimum shrink temperature: 70°C
- Full recovery temperature: 100°C
- Approval: **UL** File No. E239137, 125°C, VW-1, 600V
- Meets: SAE-AMS-DTL-23053/5 Class 1 & 3, Sony-SS-00259
- Material: No PBDE's, PBB's, PBDE's, Free of Cadmium & Lead
- Standard colors: Black, red, blue, yellow, green, white, clear (class 2)
- RoHS Compliant

Technical Data		
Property	Test Method	Typical Data
Break Strength	ASTM D 2011	>100%
Elongation at Break	ASTM D 2011	>100%
Elongation at Break (Min Avg)	ASTM D 2011	>100%
Flammability	UL 24V VW-1, SAE-AMS-DTL-23053/5	20%
Heat Shrink (200°C, 4 hrs)	ASTM D 2011	No cracking
Conductivity (20°C, 1 Hz)	ASTM D 2011	Nonconductive
Dielectric Strength	ASTM D 149	>20V/mm
Moisture Resistance	ASTM D 2011	>100%
Chemical Resistance	UL 224	Pass
Longitudinal Shrinkage	SAE-AMS-DTL-23053/5	Pass
Scarcity	UL 224	< 2%

Product Dimensions								
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)	Box Length (QB) (Feet)	Cut to Length Pcs. Qty per bag
3/64	1.2	0.6	0.40	100	1000	50	40	25
1/16	1.6	0.8	0.40	100	1000	50	36	25
3/32	2.4	1.2	0.48	100	500	50	32	25
1/8	3.2	1.6	0.48	100	500	50	28	25
3/16	4.8	2.4	0.48	100	500	30	24	25
1/4	6.4	3.2	0.56	100	500	30	20	25
5/16	8.0	4.0	0.62	100	250	30	18	25
3/8	9.5	4.8	0.62	100	250	30	16	25
1/2	12.7	6.4	0.62	100	200	15	14	5
5/8	15.9	8.0	0.68	50	200	15	14	5
3/4	19.1	9.5	0.68	50	200	15	12	5
1	25.4	12.7	0.87	50	200	15	8	5
1 1/4	31.8	15.9	1.00	50	100	-	8	5
1 1/2	38.1	19.1	1.00	50	100	-	5	5
2	50.8	25.4	1.10	50	100	-	3	5
3	76.2	38.1	1.20	-	100	-	2	2
4	102.0	50.8	1.35	-	100	-	1	2
5	125.0	63.5	1.40	-	50	-	1	2
6	151.0	75.0	1.40	-	50	-	1	2

Notes:
1 - See page 6 - Part Number Guide for standard packaging codes.
2 - Cross Reference Guide located on page 1.
3 - Special sizes, packaging, colors and cut pieces are available upon request.

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SAMPLE TABLE: Q2-F

2 **Product Dimensions**

Size (inch)	As Supplied (mm)	After Recovered (mm)			Standard Packaging			
	Inside Diameter (max.)	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	
							6"	48"
3/64	1.2	0.6	0.40	100	1000	50	40	25
1/16	1.6	0.8	0.40	100	1000	50	36	25
3/32	2.4	1.2	0.48	100	500	50	32	25
1/8	3.2	1.6	0.48	100	500	50	28	25
3/16	4.8	2.4	0.48	100	500	30	24	25
1/4	6.4	3.2	0.56	100	500	30	20	25
5/16	8.0	4.0	0.62	100	250	30	18	25
3/8	9.5	4.8	0.62	100	250	30	16	25
1/2	12.7	6.4	0.62	100	200	15	14	5
5/8	15.9	8.0	0.68	50	200	15	14	5
3/4	19.1	9.5	0.68	50	200	15	12	5
1	25.4	12.7	0.87	50	200	15	8	5
1 1/4	31.8	15.9	1.00	50	100	-	8	5
1 1/2	38.1	19.1	1.00	50	100	-	5	5
2	50.8	25.4	1.10	50	100	-	3	5
3	76.2	38.1	1.20	-	100	-	2	2
4	102.0	50.8	1.35	-	100	-	1	2
5	125.0	63.5	1.40	-	50	-	1	2
6	151.0	75.0	1.40	-	50	-	1	2

6

4

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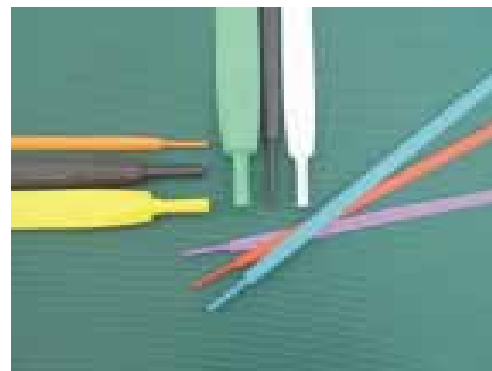
Q2-F RoHS Compliant

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

Features/Applications

Provides both commercial and military applications electrical insulation and protects in-line components, disconnect terminals and splices with its high strength and excellent resilience. Bundles wires for very flexible light-duty harnesses. Identifies or color-codes wires, cables, terminals and components.

- Operating temperature: -55°C to +135°C
- Minimum shrink temperature: 70°C
- Full recovery temperature: 100°C
- Approvals⁴: File No. E236137, File No. 242540, 125°C, VW-1, 600V
- Meets: SAE-AMS-DTL-23053/5 Class 1 & 3, Sony-SS-00259
- Material: No PBB's, PBBO's, PBBE's, Free of Cadmium & Lead
- Standard colors: Black, red, blue, yellow, green, white, clear (class 2)
- RoHS Compliant



Technical Data

Property	Test Method	Typical Data
Operating Temperature	IEC 216	-55°C to +135°C
Tensile Strength	ASTM D 2671	>14 MPa
Ultimate Elongation	ASTM D 2671	> 600%
Longitudinal Shrinkage	UL 224	0 ± 5%
Eccentricity	UL 224	< 30%
Heat Aging Tensile Strength Ultimate Elongation	175°C, 168 hrs.	> 11 MPa > 350 %
Flammability	VW-1	Pass
Dielectric Strength	ASTM D 150	>20kV / mm
Voltage Withstand	ASTM D 2671 / AC2500V. 1 min.	No Breakdown
Volume Resistance	ASTM D 876	>10 ¹⁴ Ω.cm
Copper Stability	UL 224	Pass
Copper Corrosion	UL 224	No Corrosion

Product Dimensions

Size		As Supplied (mm)	After Recovered (mm)		Standard Packaging				
Inch	mm	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	
								6"	48"
3/64	1.2	1.2	0.6	0.40	100	1000	50	40	25
1/16	1.6	1.6	0.8	0.40	100	1000	50	36	25
3/32	2.4	2.4	1.2	0.48	100	500	50	32	25
1/8	3.2	3.2	1.6	0.48	100	500	50	28	25
3/16	4.8	4.8	2.4	0.48	100	500	30	24	25
1/4	6.4	6.4	3.2	0.56	100	500	30	20	25
5/16	8.0	8.0	4.0	0.62	100	250	30	18	24
3/8	9.5	9.5	4.8	0.62	100	250	30	16	25
1/2	12.7	12.7	6.4	0.62	100	200	15	14	5
5/8	15.9	15.9	8.0	0.68	50	200	15	14	5
3/4	19.1	19.1	9.5	0.68	50	200	15	12	5
1	25.4	25.4	12.7	0.87	50	200	15	8	5
1 1/4	31.8	31.8	15.9	1.00	50	100	-	8	5
1 1/2	38.1	38.1	19.1	1.00	50	100	-	5	5
2	50.8	50.8	25.4	1.10	50	100	-	3	5
3	76.2	76.2	38.1	1.20	-	100	-	2	2
4	102.0	102.0	50.8	1.35	-	100	-	1	2
5	125.0	125.0	63.5	1.40	-	50	-	1	2
6	151.0	151.0	75.0	1.40	-	50	-	1	2

Notes:

- * See page 4 - Part Number Guide for standard packaging codes.
- Cross Reference Guide located on page 1.
- Special sizes, packaging, colors and cut pieces are available upon request
- Clear tubing is not flame retardant, UL or CSA approved.