



# DUNBAR-QPL™ -221

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

## Applications

DUNBAR-QPL™ -221 is a flexible, flame retardant, heat shrinkable polyolefin tube. It is designed for a wide range of applications including insulation for electric & electronic devices, wire strain relief, and protective covering for parts such as resistors and capacitors.

## Features

- ★ Shrink ratio: 50% or more in the radial direction, 5% or less in the axial direction
- ★ In stock for immediate shipments
- ★ Continuous operating temperature: - 55°C (-67°F) to 135°C (275°F)
- ★ Flammability: UL VW-1, CSA OFT (except clear)
- ★ High resistance to abrasion, chemicals, and oils

## Standard

- ★ AS23053/5 Class 1, Clear is Class 2
- ★ UL 224 (File Number: E319303)
- ★ RoHS2 & REACH Compliant

## Specification Values

Property		Test Method	Value	
Physical	Unaged	Tensile strength	Min. 1,500 psi	
		Elongation	Min. 200%	
	Aged	Elongation	Min. 100%	
	Fluid Resist.	Tensile strength	24°C/24 hrs	Min. 1,000 psi
		Dielectric strength	6 Fluids	Min. 400 Volts/mil
	Concentricity		ASTM D2671	Min. 70%
	Heat shock		250°C/4 hrs	No cracks, flowing or dripping
	Low temperature flexibility		- 55°C/4 hrs	No cracking
	Secant modulus		ASTM D882	Max. 25,000 psi
Specific gravity		ASTM D792	Max. 1.35 (Max. 1.00 Clear)	
Electrical	Dielectric strength		ASTM D2671	Min. 500 Volts/mil
	Volume resistivity		ASTM D876	Min. 10 <sup>14</sup> Ω - cm
Chemical	Copper corrosion		175°C/16 hrs	No corrosion
	Fungus resistance		ASTM G21	No growth
	Water Absorption		ASTM D570	Max. 0.5%
	Flammability		ASTM D2671	Pass

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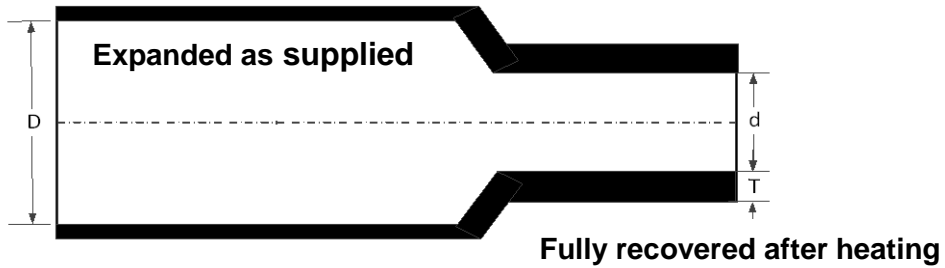
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Tubing and Identification Products

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## Product Dimensions

Minimum Shrink Temperature: 90°C

Size	Expanded		Recovered				Standard Spool Length
	Internal Diameter (min.) (D)		Internal Diameter (max.) (d)		Wall Thickness (min.) (T)		
	In.	mm	In.	mm	In.	mm	
Inch Size							Ft.
3/64"	0.046	1.2	0.023	0.6	0.013	0.3	500
1/16"	0.063	1.6	0.031	0.8	0.014	0.3	500
3/32"	0.093	2.4	0.046	1.2	0.017	0.4	500
1/8"	0.125	3.2	0.062	1.6	0.017	0.4	500
3/16"	0.187	4.7	0.093	2.4	0.017	0.4	250
1/4"	0.250	6.4	0.125	3.2	0.022	0.5	250
5/16"	0.331	8.4	0.157	4.0	0.022	0.5	250
3/8"	0.375	9.5	0.187	4.7	0.022	0.5	200
1/2"	0.500	12.7	0.250	6.4	0.022	0.5	200
5/8"	0.657	16.7	0.315	8.0	0.027	0.7	200
3/4"	0.750	19.1	0.375	9.5	0.027	0.7	100
1"	1.000	25.4	0.500	12.7	0.030	0.7	100
1-1/4"	1.291	32.8	0.630	16.0	0.034	0.8	100
1-1/2"	1.50	38.1	0.750	19.10	0.034	0.8	100
2"	2.00	50.8	1.00	25.4	0.038	0.9	100
3"	3.00	76.2	1.5	38.1	0.042	1.0	100
4"	4.00	101.6	2.0	50.8	0.046	1.2	100
5"	5.00	127.0	2.5	63.5	0.046	1.2	100

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