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tyco Electronics

ES Caps

Raychem

Semirigid, adhesive-lined, polyolefin heat-shrinkable sealing caps

Adhesive-lined, heat-shrinkable ES Caps are specifically designed to provide mechanical and environmental protection of stub splices in electrical harnesses. Clear ES Caps allow see-through inspection; black ES Caps are flame-retardant. The radiation-crosslinked polyolefin outer jacket is mechanically tough, providing abrasion protection. The cap's inner layer is a unique hot-melt adhesive, specially formulated to seal to most types of commercial wire insulation and to perform well at an extended temperature range. The thick adhesive forms an effective barrier against fluids and moisture, helping protect the harness from the effects of corrosion and water wicking.

Temperature rating

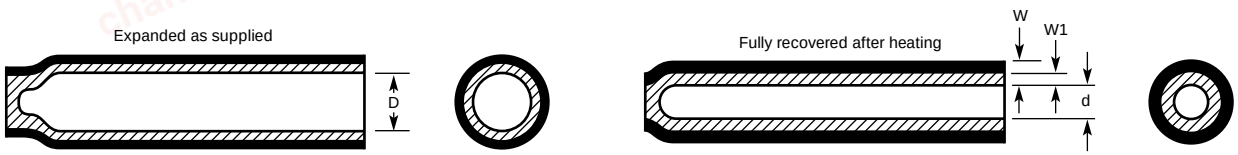
Full recovery temperature:	135°C
Continuous operating temperature:	–40°C to 105°C

*Specifications**

Type	Raychem	UL
ES Caps	RW-3006	E85381

*When ordering, always specify latest issue.

Dimensions (millimeters/inches)



		Inside diameter (including core)				Recovered wall thickness**			
Part number	Minimum lengths as supplied (millimeters)	D (min.) Expanded as supplied		d (max.) Recovered after heating		W Minimum total wall		W1 Minimum adhesive wall	
ES Cap–No. 1	30, 35, 40, 50	5.70	*0.225*	1.27	*0.050*	1.20	*0.047*	0.56	*0.022*
ES Cap–No. 2	30, 35, 40, 50	7.40	*0.293*	1.65	*0.065*	1.52	*0.060*	0.76	*0.030*
ES Cap–No. 3	40, 50	10.85	*0.427*	2.41	*0.095*	1.91	*0.075*	1.02	*0.040*

**Wall thickness will be less if tubing recovery is restricted during shrinkage.

Ordering information

Colors	Clear, black
Size selection	Always order the largest size that will fit snugly over the component being covered.
Standard packaging	In pieces.
Marking	Caps will be marked with the number size (for example, ES-1, ES-2, or ES-3).
Ordering description	Specify product name, size, color, and length; for example, ES-CAP-NO.2-X-35MM (X=Clear).
Cap lengths	Other cap lengths available upon request.

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Specification values

	Property	Unit	Requirement	Method of test
Physical*	Dimensions	mm *(inches)*	See reverse	ASTM D 2671
	Tensile strength**	psi *(MPa)*	1500 *(10.3)* minimum	ASTM D 2671
	Ultimate elongation**	percent	250 minimum	See below***
	Heat shock (4 hours at 225°C/*437°F*)		No dripping, flowing, or cracking of outer jacket	ASTM D 2671
	Dynamic cut-through	pounds *(kg)*	30 *(13.6)* minimum	ASTM D 3032 See below***
	Flammability (black only)		Self-extinguishing within 60 seconds	ASTM D 2671 See below***
Splice performance	Current leakage test Insulation resistance test		0.25 microamp maximum 10^8 ohms minimum	See below***
	Room temperature flex test Current leakage test Insulation resistance test		 0.25 microamp maximum 10^8 ohms minimum	See below***
	Thermal shock Current leakage test Insulation resistance test		 0.25 microamp maximum 10^8 ohms minimum	See below***
	Cold impact Current leakage test Insulation resistance test		No cracking of outer jacket 0.25 microamp maximum 10^8 ohms minimum	See below***
	Heat aging Current leakage test Insulation resistance test		 0.25 microamp maximum 10^8 ohms minimum	See below***
	Fluid immersion Current leakage test Insulation resistance test		 0.25 microamp maximum 10^8 ohms minimum	See below***

*Note: These requirements apply to ES Cap material only. These tests, except dimensions, cannot be performed on material in ES Cap configuration.
**Calculation based on wall thickness of jacket only.
***Consult Raychem RW-3006 for specific details about test procedures.
Raychem is a trademark of Tyco Electronics Corporation.

Users should independently evaluate the suitability of the product for their application.

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