



Service Entrance Cables SE Style R VS SE Style U USE and USE-2

BACKGROUND

Service entrance cables are manufactured, tested and marked in accordance with UL 854 “Service-Entrance Cables” for underground use as UL Type USE or USE-2, or above ground use as UL Type SE, either Style R or Style U. These are commonly referenced as SE-R or SE-U, and have a flame-retardant, moisture resistant covering designed for pulling through wooden joists and framing members in a residential building. The installation and use of UL Type SE and USE cables are covered under NEC Article 338.

CONDUCTOR MATERIAL

UL Type SE, both Style R and Style U, are manufactured with an AA-8000 series (ACM) electrical-conductor-grade aluminum alloy only. UL Type USE and USE-2 not marked with any other type (such as RHH, RHW, or RHW-2) are manufactured with an EC-1350 grade aluminum alloy or an AA-8000 series (ACM) electrical-conductor-grade aluminum alloy.

RATINGS AND MARKINGS

Cable	SE Style R	SE Style U	USE-2	Mobile Home Feeder
Number of Conductors	2c + Bare Cabled 3c + Bare Cabled 4c + Bare Cabled	2c + Bare Concentric	1c	3c + Insulated Ground
Aluminum Conductor Size	8 AWG to 300 kcmil	8 AWG to 4/0 AWG	8 AWG to 1000 kcmil	2 AWG to 4/0 AWG
Conductor Insulation	Thermoplastic (UL 83) Thermoset (UL 44)		Thermoset (UL 44)	
Conductor Types	UL 83: THHN / THWN-2 UL 44: XHHW		RHH / RHW-2 / USE-2	
Covering	Overall Tape-and-Finish		N/A	N/A
Covering Material	75 deg C PVC		N/A	N/A
Covering Thickness	Minimum Average: 30 mil Minimum Point: 25 mil		N/A	N/A
Sunlight Resistant	YES	YES	YES	YES
Impact and Crush Tested	NO	NO	YES	YES
Direct Burial	NO	NO	YES	YES
Flame Spread	Vertical Flame	Vertical Flame	FH	FH
Joist Pull Tested	YES	YES	NO	NO
Overload Test	300 A for 60 minutes		150 A for 30 minutes 175 A for 5 minutes 200 A for 5 minutes 225 A for 5 minutes 250 A for 5 minutes 275 A for 5 minutes 300 A for a short time (1)	
Failure	Flame or Tape-and-Finish Rupture		Flame or Rupture	

Note:

(1) 300 A is applied for the short time that it takes to adjust the current from a constant 275 A to a constant 300 A.



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Mar 9 2021