

Technical Information

UL Approved Insulation/Jacketing Options

UL Listed for MC and TC			
Insulation/Jacket	Max. Temp Rating		Flame Tests
	Wet	Dry	
PVC-Nylon/PVC (THHN or THWN) 14 AWG & larger	75°C	90°C	UL 1685 FT4/ IEEE 1202/383 ICEA T-29-520
PVC-Nylon/PVC (TFN or TFFN) 16 & 18 AWG	NA	90°C	UL 1685 FT4/ IEEE 1202/383 ICEA T-29-520
XLPE/PVC or CPE (XHHW-2) 14 AWG & larger	90°C	90°C	UL 1685 FT4/ IEEE 1202/383 VW-1 rated singles ICEA T-29-520
XLPE/PVC or CPE (RFH-2) 16 & 18 AWG	75°C	75°C	UL 1685 FT4/ IEEE 1202/383 VW-1 rated singles ICEA T-29-520
FRPO/PVC 18 AWG & larger	—	75°C	UL 1685
TPE/TPE	75°C	90°C	UL 1685
FRPO/PVC	75°C	90°C	UL 1685
XLPE/Haloarrest (XHHW-2) 14 AWG & larger	90°C	90°C	UL 1685 FT4/IEEE 1202/383 ICEA T-29-520
XLPE/Haloarrest (RFH-2) 16 & 18 AWG	75°C	75°C	UL 1685 FT4/IEEE 1202/383 ICEA T-29-520
FEP/PVC	90°C	90°C	UL 1685

UL Listed for PLTC	
Insulation/Jacket	Max. Temp Rating
XLPE/PVC	90°C
XLPE/CPE	90°C
PVC/PVC	105°C
PVC/CPE	105°C
PE/PVC	75°C
FPE/PVC	75°C
TPE/TPE	105°C
XLPE/Haloarrest®	90°C
FEP/FEP	200°C

Abbreviations Key

CPE	Chlorinated Polyethylene
FEP	Fluorinated Ethylene-propylene
FPE	Foam Polyethylene
FRPO	Flame-Retardant Polyolefin
PE	Polyethylene
PVC	Polyvinyl Chloride Nylon insulated singles are type THHN or THWN for conductors 14 AWG or larger. Conductor sizes 16 and 18 AWG are Type TFN or TFFN singles.
TPE	Thermoplastic Elastomer
XLPE	Cross-Linked Polyethylene Cross-Linked Polyethylene (XLPE) insulated singles are type XHHW-2 for conductors 14 AWG or larger. Conductor sizes 16 and 18 AWG are RFH-2.

Vertical Tray Flame Test Comparison

Test	UL-1685 (UL-1581)	FT4/IEEE 1202/ IEEE 383-2003	IEEE 383-1974	IEC 323-3	ICEA T-29-520
Flame Test Chamber	Vertical Tray	Vertical Tray	Vertical Tray	Vertical Tray	Vertical Tray
Burner Type	Ribbon gas burner	Ribbon gas burner	Ribbon gas burner	Ribbon gas burner	Ribbon gas burner
Theoretical Heat Input	70,000 BTU/hr	70,000 BTU/hr	70,000 BTU/hr	70,000 BTU/hr	210,000 BTU/hr
Burner Positioning	horizontal 3" from samples 18" from tray base	20° up from horizontal 2.95" from cable surface 11.8" above floor	horizontal 3" from samples 18" above tray bottom	horizontal 2.95" from cable surface 23.6" above floor	horizontal 8-1/4" from cable surface 12-1/4" above tray base
Tray Dimensions	8' length 12" width 3" side flanges	9.84' length 11.81" width 2.85" side flanges	8' length 12" width 3" side flanges	11.5' length 19.7" width none	8' length 12" width 3" side flanges
Sample Spacing	1/2 cable diameter	1/2 cable diameter	1/2 cable diameter	lesser of 1/2 cable diameter and .78"	1/2 cable diameter
Duration of Flame Application	20 minutes	20 minutes	20 minutes	20 minutes	20 minutes
Mode of Failure	Cable blistering or charring has reached the top of the sample after the cable has self-extinguished.	Cable char has exceeded a length of 4.92'.	Cable blistering or charring has reached the top of the sample after the cable has self-extinguished.	Cable charring has reached a height of 98.4" above the bottom of the burner.	Cable blistering or charring has reached the top of the sample after the cable has self-extinguished.