



Raychem HVT-Z High Voltage Terminations

The HVT-Z high voltage termination system features a new, co-extruded one-piece termination. The main termination component consists of the proven Raychem non-tracking tube together with a co-extruded stress control grading layer. This stress control layer is based on ceramic semi-conductor technology (ZnO) and provides superior discharge and impulse performance. When the tubing is shrunk down, the coating softens and sticks to irregular surfaces, providing moisture seals as well as electrical stress control.

Reliable, field proven performance

Independent testing and field experience have repeatedly proven the long-term stability, durability and reliability of the TE Connectivity (TE) HVT system, even in highly polluted environments. The non-tracking, insulating outer jacket can withstand the rigors of long-term electrical stress and surface pollution without loss of performance. The non-tracking material offers the additional benefit of being maintenance free, with no need for periodic cleaning. Extensive load cycle testing verifies the long-term thermo-mechanical compatibility between the termination system and the cable. This long-term HVT experience, together with the co-extruded ZnO stress control system, provides the new, superior HVT-Z termination.

Raychem
from TE Connectivity

Flexible and versatile

An HVT-Z termination system may be installed upright or inverted and can bend to the same bending radius as the cable. Slim and lightweight, the system can also be mounted directly to fuse cutouts or other devices, eliminating the cost of additional supporting brackets.

**For Copper Tape Shield, Wire Shield, Unshield and Lead Sheath Cables
Selection Information: Dimensions in Inches (mm)**

Indoor Outdoor Kit	Conductor Size Min/Max		Insulation Diameter Min/Max	Jacket OD Max
	5 kV (0.90")	8 kV (0.115")		
HVT-Z-80-G/SG	#4 - #1 AWG	#6 - #2 AWG	0.35 - 0.60 (9 - 15)	0.95 (24)
HVT-Z-81-G/SG	1/0 AWG - 250 kcmil	#1 - 4/0 AWG	0.60 - 0.95 (15 - 24)	1.20 (30)
HVT-Z-82-G/SG	300 - 500 kcmil	250 - 500 kcmil	0.80 - 1.25 (20 - 32)	1.50 (38)
HVT-Z-83-G/SG	600 - 1750 kcmil	600 - 1750 kcmil	1.10 - 1.75 (28 - 44)	2.10 (53)
HVT-Z-84-G/SG	1500 - 3500 kcmil	1500 - 2500 kcmil	1.60 - 2.45 (41 - 62)	2.75 (70)

Installed Length: 11.5" (295) Can be cut shorter for use with MCK kits No Skirts for Outdoor Operation

Indoor Kit	Outdoor Kit	Conductor Size Min/Max	Insulation Diameter Min/Max	Jacket OD Max
15 kV		15 kV (0.175" - .220")		
HVT-Z-151-G	HVT-Z-151-SG	#4 - 1/0 AWG	0.60 - 0.95 (15 - 24)	1.20 (30)
HVT-Z-152-G	HVT-Z-152-SG	2/0 AWG - 350 kcmil	0.80 - 1.25 (20 - 32)	1.50 (38)
HVT-Z-153-G	HVT-Z-153-SG	400 - 1000 kcmil	1.10 - 1.75 (28 - 44)	2.10 (53)
HVT-Z-154-G	HVT-Z-154-SG	1250 - 2500 kcmil	1.60 - 2.45 (41 - 62)	2.75 (70)

Installed Length: 11.5" (295) T-Skirts for Outdoor Operation

Indoor Kit	Outdoor Kit	Conductor Size Min/Max		Insulation Diameter Min/Max	Jacket OD Max
25 kV/35 kV		25 kV (0.260")	35 kV (0.345")		
HVT-Z-252/352-G	HVT-Z-252/352-SG	#2 AWG - 250 kcmil	#1 - 1/0 AWG	0.80 - 1.25 (20 - 32)	1.50 (38)
HVT-Z-253/353-G	HVT-Z-253/353-SG	300 - 750 kcmil	2/0 AWG - 500 kcmil	1.10 - 1.75 (28 - 44)	2.10 (53)
HVT-Z-254/354-G	HVT-Z-254/354-SG	1000 - 2000 kcmil	750 - 1750 kcmil	1.60 - 2.45 (41 - 62)	2.75 (70)

Installed Length: 19.0" (485) 4-Skirts for Outdoor Operation

Kits Include a TE ShearBolt Terminal

Selection Information: Dimensions in inches (mm)

Optional ShearBolt Terminal

As an option, the HVT-Z can also be ordered with TE's new line of Aluminum ShearBolt Terminals. These are range taking mechanical connectors that will accommodate a conductor range from #2 compact to 1000 kcmil stranded, Class B.

This connector is suited for making aluminum or copper cable connections to flat bar or equipment pads equipped with 2-hole NEMA spacing. The ShearBolt terminal design incorporates shear head bolts, which ensures that the correct torque is applied to each bolt and consequently the optimal contact force is generated to minimize connection resistance.

Indoor Outdoor Kit	Conductor Size Min/Max	Insulation Diameter Min/Max	Jacket OD Max
5/8 kV		5 kV	8 kV
HVT-Z-81-G/SG-T5	1/0 AWG - 250 kcmil	#1 - 4/0 AWG	0.60 - 0.95 (15 - 24)
HVT-Z-82-G/SG-T5	300 - 350 kcmil	250 - 350 kcmil	0.80 - 1.07 (20 - 27)
HVT-Z-82-G/SG-T8	350 - 500 kcmil	350 - 500 kcmil	0.85 - 1.25 (22 - 32)
HVT-Z-83-G/SG-T9	600 - 1000 kcmil	600 - 1000 kcmil	1.10 - 1.40 (28 - 36)

No-Skirts for Outdoor Operation

Indoor Kit	Outdoor Kit	Conductor Size Min/Max	Insulation Diameter Min/Max	Jacket OD Max
15 kV		15 kV		
HVT-Z-151-G-T5	HVT-Z-151-SG-T5	#2 - 1/0 AWG	0.65 - 0.95 (17 - 24)	1.20 (30)
HVT-Z-152-G-T5	HVT-Z-152-SG-T5	2/0 AWG - 350 kcmil	0.80 - 1.25 (20 - 32)	1.50 (38)
HVT-Z-153-G-T8	HVT-Z-153-SG-T8	400 - 500 kcmil	1.10 - 1.355 (28 - 34)	2.10 (53)
HVT-Z-153-G-T9	HVT-Z-153-SG-T9	600 - 1000 kcmil	1.215 - 1.65 (32 - 42)	2.10 (53)

Indoor Kit	Outdoor Kit	Conductor Size Min/Max		Insulation Diameter Min/Max	Jacket OD Max
25 kV/35 kV		25 kV (0.260")	35 kV (0.345")		
HVT-Z-252/352-G-T5	HVT-Z-252/352-SG-T5	#2 AWG - 250 kcmil	#1 - 1/0 AWG	0.80 - 1.25 (20 - 32)	1.50 (38)
HVT-Z-253/353-G-T5	HVT-Z-253/353-SG-T5	300 - 350 kcmil	2/0 AWG - 350 kcmil	1.10 - 1.50 (28 - 38)	2.0 (51)
HVT-Z-253/353-G-T8	HVT-Z-253/353-SG-T8	350 - 750 kcmil	350 - 500 kcmil	1.185 - 1.70 (30 - 43)	2.10 (53)
HVT-Z-254/354-G-T9	HVT-Z-254/354-SG-T9	600 - 1000 kcmil	600 - 1000 kcmil	1.60 - 1.79 (41 - 45)	2.75 (70)

4-Skirts for Outdoor Operation

For Jacketed Concentric Neutral and Unjacketed Concentric Neutral Cables Selection Information: Dimensions in Inches (mm)					
Indoor Kit	Outdoor Kit	Conductor Size Min/Max		Insulation Diameter Min/Max	Jacket OD Max
15 kV		15 kV (100%)			
HVT-Z-151-J	HVT-Z-151-SJ	#2 - #1 AWG		0.60 - 0.95 (15 - 24)	1.05 (27)
HVT-Z-152-J	HVT-Z-152-SJ	#2/0 AWG - 250 kcmil	#2 - 4/0 AWG	0.80 - 1.05 (20 - 27)	1.45 (37)
HVT-Z-153-J	HVT-Z-153-SJ	350 - 500 kcmil	250 - 500 kcmil	1.05 - 1.40 (27 - 36)	1.90 (48)
HVT-Z-154-J	HVT-Z-154-SJ	750 - 1000 kcmil	750 - 1000 kcmil	1.25 - 2.00 (32 - 51)	2.50 (63)

Installed Length: 11.5" (295)

1 Skirt for Outdoor Operation

Indoor Kit	Outdoor Kit	Conductor Size Min/Max		Insulation Diameter Min/Max	Jacket OD Max
25 kV/35 kV		25 kV			
HVT-Z-252/352-J	HVT-Z-252/352-SJ	#1 - 3/0 AWG		0.80 - 1.05 (20 - 27)	1.45 (37)
HVT-Z-253/353-J	HVT-Z-253/353-SJ	4/0 AWG - 500 kcmil	#1/0 - 4/0 AWG	1.05 - 1.40 (27 - 36)	1.90 (48)
HVT-Z-254/354-J	HVT-Z-254/354-SJ	750 - 1000 kcmil	250 - 1000 kcmil	1.25 - 2.00 (32 - 51)	2.50 (63)

Installed Length: 20.0" (500)

4 Skirts for Outdoor Operation

Indoor Kit	Outdoor Kit	Conductor Size Min/Max	Insulation Diameter Min/Max	Jacket OD Max
15 kV		15 kV		
HVT-Z-151-J-T5	HVT-Z-151-SJ-T5	#2 AWG - 1/0 AWG	0.65 - 0.95 (17 - 24)	1.20 (30)
HVT-Z-152-J-T5	HVT-Z-152-SJ-T5	2/0 AWG - 350 kcmil	0.80 - 1.25 (20 - 32)	1.50 (38)
HVT-Z-153-J-T8	HVT-Z-153-SJ-T8	400 - 500 kcmil	1.10 - 1.355 (28 - 34)	2.10 (53)
HVT-Z-153-J-T9	HVT-Z-153-SJ-T9	600 - 1000 kcmil	1.215 - 1.65 (31 - 42)	2.10 (53)

1 Skirt for Outdoor Operation

Indoor Kit	Outdoor Kit	Conductor Size Min/Max		Insulation Diameter Min/Max	Jacket OD Max
25 kV/35 kV		25 kV (0.260")			
		35 kV (0.345")			
HVT-Z-252/352-J-T5	HVT-Z-252/352-SJ-T5	#2 AWG - 250 kcmil	#1 AWG - 1/0 kcmil	0.80 - 1.25 (20 - 32)	1.50 (38)
HVT-Z-253/353-J-T5	HVT-Z-253/353-SJ-T5	300 - 350 kcmil	2/0 AWG - 350 kcmil	1.185 - 1.7 (30 - 43)	2.10 (53)
HVT-Z-253/353-J-T8	HVT-Z-253/353-SJ-T8	350 - 750 kcmil	350 - 700 kcmil	1.395 - 1.7 (35 - 43)	2.10 (53)
HVT-Z-254/354-J-T9	HVT-Z-254/354-SJ-T9	600 - 1000 kcmil	600 - 1000 kcmil	1.60 - 1.79 (41 - 45)	2.75 (70)

4 Skirts for Outdoor Operation

Testing Chart			
Product and Voltage Class	HVT-Z-80 Series (5 - 8 kV)	HVT-Z-150 Series (15 kV)	HVT-Z-250/350 Series (25 - 35 kV)
Test Description			
AC Withstand, 1 minute, (kV)	35	60	90
DC Withstand, 15 minutes (kV)	65	75	140
Partial Discharge (min. kV) for 3 pc or less	9	15.6	36
Impulse withstand 1.2 X 50 us, crest kV	95	110	200
Continuous current rating	Equal to cable ampacity		
Wet withstand, 10 seconds, kV rms.	30	45	80
Dry withstand, 6 hours, kV rms.	25	35	75
Indoor Kits (-G and -J) do not contain skirts	Outdoor 15 kV and higher voltage kits contain skirts		

Kits Include a TE ShearBolt Terminal

Selection Information: Dimensions in inches (mm)

Terminals	
ASBT-2-350, ASBT-350-750	N/A
ASBT-600-1000	502-47363, Rev. O, 502-47370
ASBS-2-350	502-47292 (1) Rev. A, 502-47300 (1) Rev. A, 502-47340 (1) Rev. O
ASBS-350-750	502-47329 (1) Rev. A
ASBS-600-1000	502-47289 (1) Rev. B, 502-47344 (1) Rev. O, 502-47305 (1) Rev. A

Testing

TE's high-voltage terminations are fully qualified per IEEE-48 as Class I terminations to provide a long, trouble-free service life.

Independent testing and field experience have repeatedly proven the long-term durability, reliability, and stability of the HVT-Z termination system.

Test Reports		
Voltage Class	Indoor	Outdoor
5/8/15 kV	EDR-5322	EDR-5223-A
25/28/35 kV	EDR-5337	EDR-5338

FOR MORE INFORMATION

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