

DSG-CANUSA

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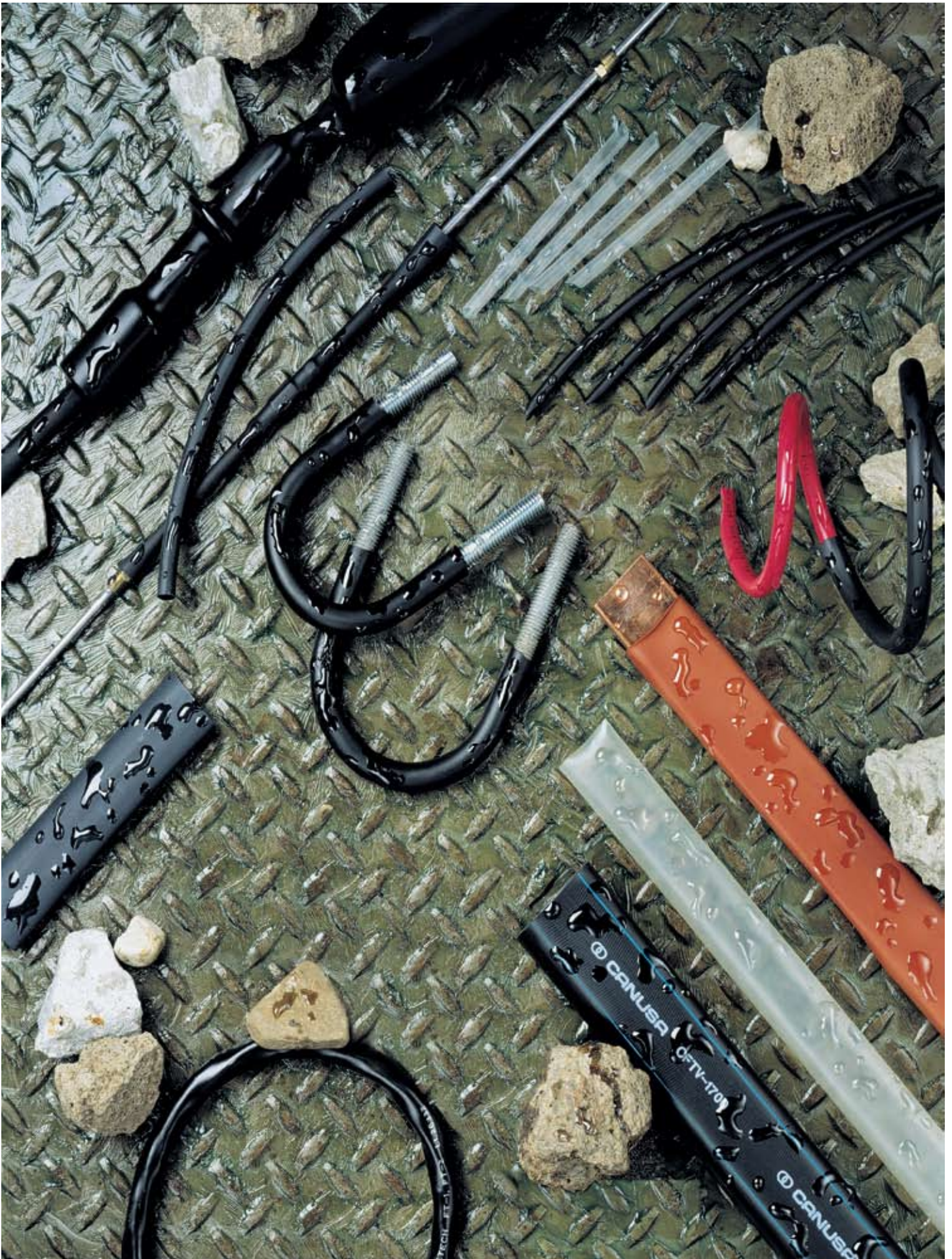
EQUIPMENT INSULATION AND CONNECTION PRODUCTS



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EQUIPMENT INSULATION AND CONNECTION PRODUCTS

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EQUIPMENT INSULATION AND CONNECTION PRODUCTS

Specialty tubing products and kit accessories are used for demanding applications where electrical performance and ease of installation are critical.

Examples of applications in Electrical Switchgear and Power Distribution Equipment include:

- Anti-track tubing and tape for insulating medium voltage bus bar
- Elbow sealing kits for sealing and reinforcing load-break and dead break elbows on medium voltage power cables

CESK SERIES

3:1
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ELBOW GROUNDING/SEALING KITS

CESK elbow sealing kit for sealing and reinforcing load-break and dead-break elbows on jacketed power cables.

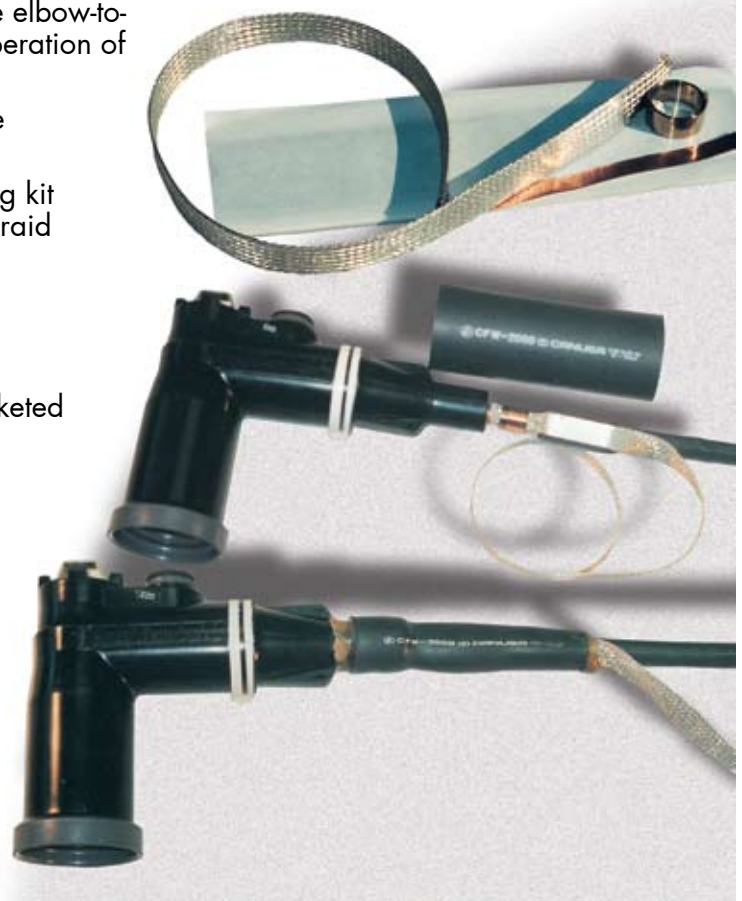
CESK-xG elbow sealing kit for sealing, externally grounding and reinforcing load-break and dead-break elbows on jacketed metal tape shielded power cables.

FEATURES AND BENEFITS

- 3:1 shrink ratio
- Easy installation
- Wide application range; only 2 sizes for virtually all elbow and cable combinations
- Heat activated seals for preventing moisture ingress
- Tough heavy wall tube to mechanically reinforce the elbow-to-cable interface to prevent flexing during hot-stick operation of the elbow
- Sealant tested for compatibility with semi-conductive components
- CESK-xG kits include a solderless external grounding kit with three feet of moisture blocked, tinned copper braid

TYPICAL APPLICATIONS

- Environmental sealing of dead-break elbows on jacketed power cables
- Grounding metal tape shielded power cables



DIMENSIONS

ORDER NUMBER	CONDUCTOR SIZE/VOLTAGE CLASS			
	5 kV	15 kV	25 kV	35 kV
CESK - ELBOW SEALING (NO EXTERNAL GROUNDING KIT): FOR JACKETED WIRE SHIELD OR CONCENTRIC NEUTRAL CABLE				
CESK 1	#2 - 500	#2 - 250	#1 - 3/0	n/a
CESK 2	600 - 1000	350 - 1000	4/0 - 1000	1/0 - 1000
CESK-xG - ELBOW SEALING WITH EXTERNAL GROUNDING KIT: FOR JACKETED METAL TAPE SHIELDED CABLE				
CESK 1G	#2 - 500	#2 - 250	#1 - 3/0	n/a
CESK 2G	600 - 1000	350 - 1000	4/0 - 1000	1/0 - 1000

ORDERING

- Select the appropriate kit from the table above based on voltage class and conductor size.
- Kit Contents:
 - CESK: one piece uncoated tubing and CTSR sealant to prevent moisture ingress
 - CESK-xG: one piece uncoated tubing, CTSR sealant and stainless steel constant force spring, copper foil tape and moisture blocked flexible tinned copper braid for external grounding
- Order Example: CESK 1 or CESK 1G

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CBTM/CBTH

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MEDIUM VOLTAGE CROSS-LINKED POLYOLEFIN BUS BAR TUBING

Medium and heavy wall anti-track heat shrink tubing specifically designed for insulating medium voltage bus bar

FEATURES AND BENEFITS

- 3:1 shrink ratio
- Reduces bus bar clearance requirements
- Protects against accidental flashover
- Anti-track
- Halogen free
- CBTM medium wall tubing rated to 25 kV
CBTH heavy wall tubing rated to 36 kV
- Continuous operating temperature: -40°C to 125°C
- Shrink temperature: 120°C

STANDARDS

- Tested to ANSI C37.20.2 standards for medium voltage switchgear applications to 36 kV, UL recognized component

TYPICAL APPLICATIONS

- Insulation of medium voltage bus bars in switchgear equipment



MEDIUM VOLTAGE CROSS-LINKED POLYOLEFIN BUS BAR TUBING

CBTM/CBTH

DIMENSIONS

ORDER NUMBER	EXPANDED				RECOVERED				APPLICATION RANGES							
	INTERNAL DIAMETER		WALL THICKNESS		INTERNAL DIAMETER		WALL THICKNESS		*RECTANGULAR BUS BAR				ROUND BUS BAR			
	MIN. D		NOM. w		MAX. d		NOM. w		MIN.		MAX.		MIN.		MAX.	
	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN

CBTM MEDIUM WALL BUS TUBING: FOR SERVICES TO 25 kV ON UNBOLTED BUS BAR

0750	19.0	0.75	1.14	0.045	5.5	0.22	2.70	0.109	6.4	1/4	6.4	1/4	6.8	0.27	15.2	0.60
1300	33.0	1.30	1.14	0.045	10.1	0.40	2.97	0.117	12.7	1/2	28.5	1 1/8	12.4	0.49	27.9	1.10
2050	52.0	2.05	1.14	0.045	19.0	0.75	2.79	0.110	31.5	1 1/4	50.8	2	22.3	0.88	43.1	1.70
2750	69.8	2.75	1.14	0.045	25.4	1.00	2.87	0.115	44.4	1 3/4	76.2	3	29.7	1.17	58.4	2.30
3500	88.9	3.50	1.14	0.045	29.9	1.18	3.09	0.122	57.1	2 1/4	101.6	4	35.8	1.41	73.6	2.90
4700	119.3	4.70	1.14	0.045	39.9	1.57	3.20	0.126	73.0	2 7/8	142.8	5 5/8	47.7	1.88	101.6	4.00
6700	170.1	6.70	1.14	0.045	58.4	2.30	3.17	0.125	114.3	4 1/2	203.2	8	69.5	2.74	144.7	5.70

CBTH HEAVY WALL BUS TUBING: FOR SERVICES TO 36 kV ON UNBOLTED BUS BAR

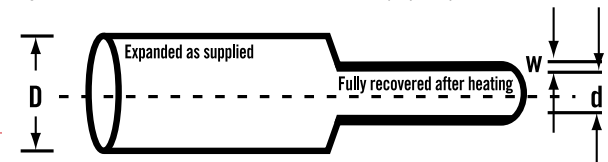
1100	27.9	1.10	1.67	0.066	8.9	0.35	3.88	0.153	9.5	3/8	12.7	1/2	10.6	0.42	17.7	0.70
2000	50.8	2.00	1.57	0.062	16.0	0.63	4.08	0.161	22.2	7/8	34.9	1 3/8	19.3	0.76	33.0	1.30
2700	68.0	2.68	1.52	0.060	22.1	0.87	4.08	0.161	34.9	1 3/8	50.8	2	26.1	1.05	43.1	1.70
3500	89.9	3.54	1.52	0.060	29.9	1.18	4.08	0.161	50.8	2	76.2	3	35.8	1.41	58.4	2.30
4700	119.9	4.72	1.57	0.062	39.9	1.57	4.19	0.165	69.8	2 3/4	111.1	4 3/8	47.7	1.88	81.2	3.20
6600	167.6	6.60	1.67	0.066	65.0	2.56	4.19	0.165	114.3	4 1/2	177.8	6 1/2	69.5	2.74	124.4	4.90

*Assume rectangular bus bars have 1/4 in thickness on min. application ranges and 5/8 in thickness on max. application ranges.

Application ranges noted above selected to obtain minimum insulation thickness required to meet ANSI C37.20.2 withstand requirements at bus bar spacing and operating voltages noted. These spacings were determined from a limited number of test configurations. Due to the wide variety of bus bar configurations, these spacings and recovered wall thicknesses should not be employed by the user without actual verification and testing for the intended application.

CLEARANCES WITH INSULATION

SYSTEM VOLTAGE	BIL	CBTM MEDIUM WALL TUBING				CBTH HEAVY WALL TUBING			
		P TO P		P TO G		P TO P		P TO G	
		MM	IN	MM	IN	MM	IN	MM	IN
15 kV	95	86.0	3.4	106.0	4.2	55.0	2.2	66.0	2.6
25 kV	125	114.0	4.5	152.0	6.0	71.0	2.8	101.0	4.0
36 kV	150	165.0	6.5	203.0	8.0	142.0	5.6	190.0	7.5



P to P: Phase to Phase orientation
P to G: Phase to Ground orientation
Spacing based on metal to metal dimension prior to insulation
Spacing based on insulation wall thickness per application range of above table

ORDERING

- Select a dimension which will shrink snugly over the component to be covered. If recovery is restricted the resultant wall thickness will be less than specified.
- Please specify the product name, order reference number
- Standard is red, printed, unlined, 50 ft lengths (maximum or 1 splice allowed with minimum length of 15 ft)
- Order Example: CBTM, 1300

Please contact your Customer Service Representative for information on custom colours, sizes, lengths and material data sheet.

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CMVBT

1.7:1
SHRINK RATIO



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MEDIUM VOLTAGE CROSS-LINKED POLYOLEFIN BUS BAR TAPE

Anti-track, adhesive coated, heat shrink tape specifically designed for insulating and protecting medium voltage bus bar

FEATURES AND BENEFITS

- 1.7:1 shrink ratio
- Reduces bus bar clearance requirements
- Protects against accidental flashover
- Anti-track
- Halogen free
- Continuous operating temperature: -25°C to 90°C
- Shrink temperature: 120°C

STANDARDS

- Tested to ANSI C37.20.2 standards for medium voltage switchgear applications to 25 kV

TYPICAL APPLICATIONS

- Insulation and protection of bus bar joints



DIMENSIONS

ORDER NUMBER	ROLL WIDTH (MIN.)		BACKING THICKNESS RECOVERED (NOM)		ROLL LENGTH	
	MM	IN	MM	IN	M	FT

FOR SERVICES TO 25 kV OVER BOLTED BUS BAR

CMVBT-1	25.4	1	1.06	0.042	7.62	25
CMVBT-2	50.8	2	1.06	0.042	7.62	25
CMVBT-4	101.6	4	1.06	0.042	7.62	25

CLEARANCES WITH INSULATION

SYSTEM VOLTAGE	BIL	P TO P		P TO G	
kV	kV	MM	IN	MM	IN
15	95	64	2.5	74	2.9
17	110	86	3.4	106	4.2
25	125	114	4.5	152	6.0

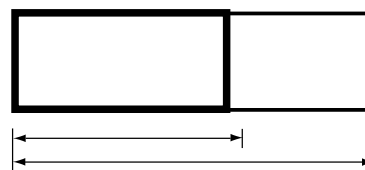
P to P: Phase to Phase orientation

P to G: Phase to Ground orientation

Spacing based on metal to metal dimension prior to insulation

INSTALLATION INSTRUCTIONS

- CMVBT-1 is best for short lengths
- CMVBT-2 is most commonly used and versatile
- CMVBT-4 is used for long lengths
- A 2/3 overlap is recommended
- One layer application required to 17 kV
- Two layer application required to 25 kV



Shrink ratio of 1.7:1 on heating

ORDERING

- Select a roll width which will shrink snugly over the component to be covered.
- Standard product is red and supplied in 25 ft rolls
- For each item please specify the product name
- Order Example: CMVBT-1

Please contact your Customer Service Representative for information on custom colours, sizes, lengths and material data sheet.

CMTK SERIES



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MOTOR LEAD TERMINATION KIT

Motor termination kit insulates and protects bolted stub type or in-line type motor lead connections. CMTK 10 series for 600 V motors and CMTK 50 series for 2300 - 4160 V motors

FEATURES AND BENEFITS

- Installs in minutes, reducing labour costs
- Removes in minutes, reducing the time and cost of motor change outs
- Tough, discharge resistant outer covers provide excellent protection from vibration and corona cutting on medium voltage motor connections
- High impact and abrasion resistance provides excellent mechanical protection
- Continuous operating temperature: -55°C to 110°C
- Shrink temperature: 120°C

TYPICAL APPLICATIONS

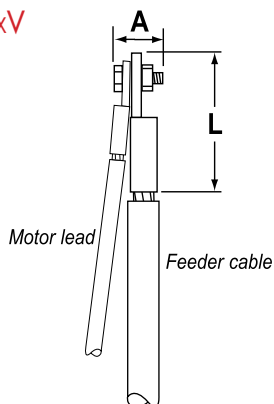
- Motor connections for polymeric cable



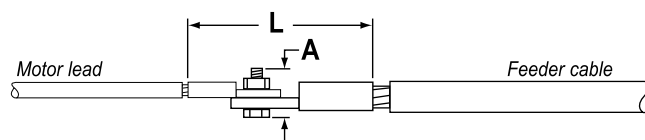
DIMENSIONS

ORDER NUMBER	EXPANDED			
	NORMAL CAP LENGTH	MAXIMUM BOLT "A"	MOTOR FEEDER SIZE	Lug Length Maximum "L"
	IN	IN	AWG/MCM	IN
600 V MOTOR TERMINATION KITS - SINGLE HOLE, V-STUB, STANDARD AND LONG BARREL COMPRESSION LUG				
CMTK-11V	3.5	0.625	#14 - #8	2.0
CMTK-12V	4.0	0.750	#8 - #2	2.5
CMTK-13V	4.5	1.000	#4 - 4/0	3.5
CMTK-14V	5.0	1.500	4/0 - 500	5.5
600 V MOTOR TERMINATION KITS - SINGLE HOLE, IN-LINE, STANDARD AND LONG BARREL COMPRESSION LUG				
CMTK-11L	9.0	1.250	#8 - 4/0	5.0
CMTK-12L	12.0	1.500	250 - 1000	8.0
5 kV MOTOR TERMINATION KITS - SINGLE HOLE, V-STUB, STANDARD AND LONG BARREL COMPRESSION LUG				
CMTK-51V	7.5	1.000	#8 - #2	5.0
CMTK-52V	8.5	1.500	#1 - 250	6.0
CMTK-53V	9.5	1.500	300 - 750	7.0
5 kV MOTOR TERMINATION KITS - SINGLE HOLE, IN-LINE, STANDARD AND LONG BARREL COMPRESSION LUG				
CMTK-51L	9.0	1.250	#8 - 4/0	5.0
CMTK-52L	12.0	1.500	250 - 1000	8.0

STUB TYPE CMTK xxV



IN-LINE TYPE CMTK xxL



ORDERING

- Select the appropriate motor termination kit based on your cable conductor, bolt size and lug length. Check the cable/bolt/lug dimensions to be sure they conform to the selected kit size.
- Each kit includes 3 caps or sleeves, 3 protective tape strips or tubes and 3 pieces of tape sealant.
- Order Example: CMTK-12V (for 600 V rated stub type kit)

Please contact your Customer Service Representative for information on custom kits and material data sheet.

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