



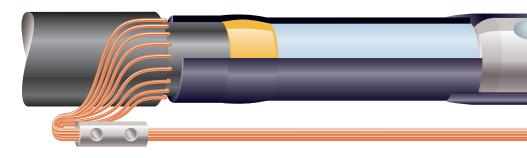
MXSU is based on a joint design using mechanical connectors

- Mechanical connectors for conductor and wire shield are supplied with the kit
- Kits are widely range taking and cover most conductor constructions including their tolerances
- No crimping tools or tool maintenance required
- Short and space saving design for installation
- Improves installation reliability
- Has unlimited shelf life, simplifies material logistics and reduces cost
- Avoids bulky waste and costly waste disposal
- Exceeds international performance standards including CENELEC HD 629 or IEC 60502-4 for joints

Modern jointing

Today's jointing technology must achieve higher levels of reliability and flexibility to meet the demand of operators who are under increasing pressure to improve network efficiency. In an environment with less engineering resources for product selection, outsourced services, emphasis on repair time and a variety of cable and conductor types in the network, a universal joint including range taking screw connectors ensures reliable application and service.





Mechanical shear bolt connectors

All joint kits incorporate a TE's Raychem designed screw connector with shear head bolts to ensure a reliable pre-engineered electrical connection for the different conductor materials, shapes and types used in today's network. The pre-set shear torque of the bolts ensures that the correct contact pressure is always achieved. The specially designed contact surface on the inside of the connector breaks up any conductor oxide layer and ensures reliable service over the entire life time of the joint. The connectors have been tested in accordance with IEC 61238-1 class A.



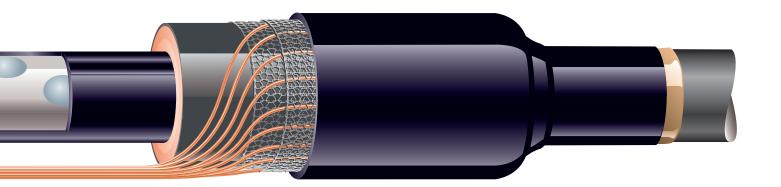
TE Connectivity BSM type connectors used for aluminium and copper conductors

- Pre-set shear torque provides safe and reliable installation
- Removable half shell insert provide core centering
- Tin-plated and greased contact surface for corrosion protection
- Shorter length compared to compression connectors
- Excellent tensile performance due to special bolt tip design





Cordless impact wrench for simple and easy installation of mechanical connectors.



Electrical stress control

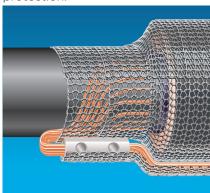
The stress control tubing at each cable end in combination with the yellow stress grading mastic at the screen cut provide a precisely defined impedance characteristic which smoothes the electrical field. For ease of installation, a stress control patch is applied around the mechanical connector to provide a similar function.

Shield continuity

Typical shield wire cross sections up to 35 mm² can easily be connected with the mechanical connector supplied in the kit. Positioned at the oversheath cut back, the connection provides a smooth profile and resists mechanical damage. There is no need for a crimping tool and its maintenance.

Two shearbolts provide the required contact force in order to ensure safe installation and reliable performance during load cycling in service as well as during short circuit conditions.

An additional layer of copper mesh is applied around the joint to provide satisfactory shielding and protection.



Rayfit joint body (a) expanded shape (b) recovered shape

The conductive outer layer (1) together with the insulating middle layer (2) represent the heat-shrinkable hold out for the inner elastomeric laver (3) of the joint body. During the shrinking process the stored recovery force of the elastomeric layer is released and adds up to the recovery force generated by the heat shrinkable outer layers of the joint body. The resulting high compression forces as well as the perfect ability of geometrical adjustment are providing tight electrical interfaces and a perfect seal against moisture ingress.

The elastomeric properties of the inner insulation layer of the joint body allow for any cable diameter compensation and adjustment resulting from the load cycling of the cable. At the same time the two outer heat shrinkable layers provide a tight and rigid belt for the joint body representing a high level of mechanical protection against outer environmental interferences such as soil weight or pebble stones etc.

Robust outer sealing and protection

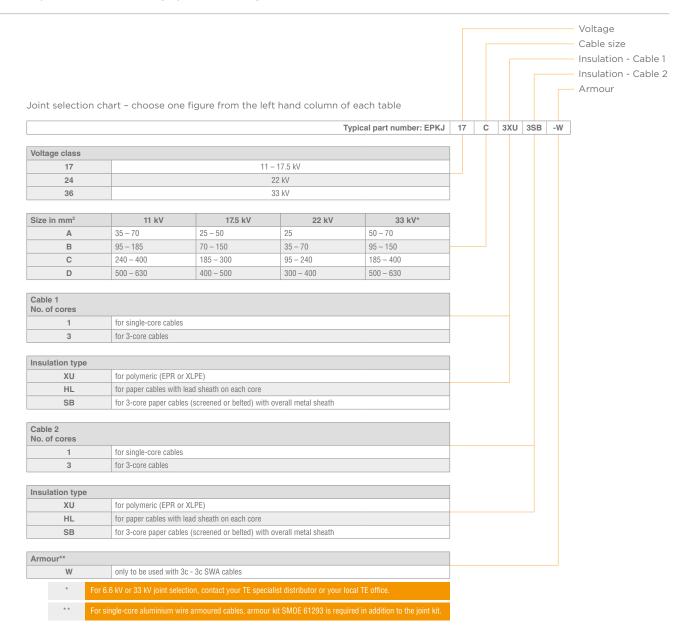
Modern cable laying techniques require a robust oversheath replacement capable of withstanding high mechanical stresses during conventional cable laying as well as mechanical impact occurring during the entire cable life time. The thick-wall heat-shrinkable tubing is internally coated with a hot melt adhesive to ensure an effective moisture seal and corrosion protection for the joint. When installed, the ioints provide the similar level of protection and thickness as modern cables with PE oversheath. All voltage sheath testing commonly used today after cable laying or as control test methods have easily been passed.





EPKJ

Raychem 11-33 kV Jointing System for Straight and Transition Joints





Raychem Medium Voltage Heat Shrink Cable Joints up to 17.5 kV

FEATURES

Pre-engineered range taking heat-shrinkable tubings incorporating precisley engineered impedence stress control. EPKJ universal joints are suitable for a wide range of connectors and cable sizes with no limitations on shelf life

APPLICATION

 Suitable for polymeric, rubber and paper insulated MIND cables single and three core, armoured and non-armoured

CONFORMS TO

CENELEC and IEC standards

Raychem medium voltage heat shrink cable joints up to 17.5 kV



Product name	Conductor size (mm²)	Part number
XLPE TO XLPE		
Single core to three core		
EPKJ-17A/1XU-3XU	35 – 70	611905-011
EPKJ-17B/1XU-3XU	95 – 185	591811-011
EPKJ-17C/1XU-3XU	240 – 400	961580-011
Three core to three core		
EPKJ-17A/3XU-3XU	35 – 70	345116-011
EPKJ-17B/3XU-3XU	95 – 185	765410-011
EPKJ-17C/3XU-3XU	240 – 400	251291-011
Three core to three core a	armoured	
EPKJ-17A/3XU-3XU-W	35 – 70*	863732-011
EPKJ-17B/3XU-3XU-W	95 – 185*	467470-011
EPKJ-17C/3XU-3XU-W	240 - 400*	678746-011
XLPE to paper insulated I	ead covered single core	
EPKJ-17A/1XU-1HL	35 – 70	042316-011
EPKJ-17B/1XU-1HL	95 – 185	361308-011
EPKJ-17C/1XU-1HL	240 – 400	634912-011
EPKJ-17D/1XU-1HL	500 - 630	813649-011
Paper insulated lead cove	ered single core	<u>'</u>
EPKJ-17C/1HL-1HL	240 – 400	885779-011
EPKJ-17D/1HL-1HL	500 - 630	292748-011
XLPE to paper insulated I	ead covered 3-core unarm	oured
EPKJ-17A/3XU-3SB	35 – 70	179240-000
EPKJ-17B/3XU-3SB	95 – 185	226574-011
EPKJ-17C/3XU-3SB	240 – 400	545967-011
XLPE to paper insulated I	ead sheathed 3-core armo	ured
EPKJ-17A/3XU-3SB-W	25 – 50	116472-011
EPKJ-17B/3XU-3SB-W	70 – 150	351372-011
EPKJ-17C/3XU-3SB-W	185 – 300	984248-011
Paper insulated lead shea	athed 3-core armoured	·
EPKJ-17A/3SB-3SB-W	25 – 50	144086-011
EPKJ-17B/3SB-3SB-W	70 – 150	098379-011
EPKJ-17C/3SB-3SB-W	185 – 300	114577-011
XLPE single core to pape	r insulated lead sheathed	3-core
EPKJ-17B/1XU-3HL	95 – 185	635241-011
XLPE single core to pape	r insulated lead sheathed	3-core
EPKJ-17A/1XU-3SB	35 – 70	652371-011
EPKJ-17B/1XU-3SB	95 – 185	650316-011
EPKJ-17C/1XU-3SB	240 – 400	747518-011
EPKJ-17D/1XU-3SB	500 - 630	098464-000

NOTE

SB for 3-core paper cables (screened or belted) with overall metal sheath. HL for paper cables with lead sheath on each core. Where possible use MXSU and MXSW product.



EPKJ

Raychem Medium Voltage Heat Shrink Cable Joints up to 24 kV

FEATURES

Pre-engineered range taking heat-shrinkable tubings incorporating precisley engineered impedence stress control. EPKJ universal joints are suitable for a wide range of connectors and cable sizes with no limitations on shelf life

APPLICATION

- Suitable for polymeric, rubber and paper insulated MIND cables
- single and three core, armoured and non-armoured

CONFORMS TO

CENELEC and IEC standards

Raychem medium voltage heat shrink cable joints up to 24 kV



Product name	Conductor size (mm²)	Part number		
XLPETO XLPE				
EPKJ-24D/1XU-3XU	300 – 400	858656-011		
EPKJ-24D/3XU-3XU	300 – 400	209513-011		
EPKJ-24B/3XU-3XU-W	35 – 70	961281-011		
EPKJ-24C/3XU-3XU-W	95 – 240	741682-011		
EPKJ-24D/3XU-3XU-W	300 – 400	425444-011		
XLPE to paper insulated le	ead covered single core			
EPKJ-24B/1XU-1HL	35 – 70	533966-000		
EPKJ-24C/1XU-1HL	95 – 240	110743-011		
EPKJ-24D/1XU-1HL	300 – 400	818203-011		
Paper insulated lead cove	red single core			
EPKJ-24B/1HL-1HL	35 – 70	712089-000		
EPKJ-24C/1HL-1HL	95 – 240	122185-011		
EPKJ-24D/1HL-1HL	300 – 400	861101-000		
XLPE to paper insulated le	ead sheathed 3-core unarmo	oured		
EPKJ-24C/3XU-3SB	95 – 240	013208-011		
XLPE to paper insulated le	ead sheathed 3-core armour	red		
EPKJ-24C/3XU-3SB-W	95 – 240	600096-011		
XLPE to paper insulated le	ead covered 3-core unarmou	ured.		
EPKJ-24C/3XU-3HL	95 – 240	634461-011		
EPKJ-24D/3XU-3HL	300 – 400	736647-011		
XLPE single core to paper	insulated lead sheathed 3-	core		
EPKJ-24A/1XU-3SB	25	655611-000		
EPKJ-24B/1XU-3SB	35 – 70	866971-011		
EPKJ-24C/1XU-3SB	95 – 240	972354-011		
EPKJ-24D/1XU-3SB	300 – 400	025566-011		
XLPE single core to paper	insulated lead sheathed 3-	core		
EPKJ-24B/1XU-3HL	35 – 70	026840-000		
EPKJ-24C/1XU-3HL	95 – 240	861100-011		
EPKJ-24D/1XU-3HL	300 – 400	338149-000		

NOTE

SB for 3-core paper cables (screened or belted) with overall metal sheath HL for paper cables with lead sheath on each core.
Where possible use MXSU and MXSW product.



Raychem Medium Voltage Heat Shrink Cable Joints up to 36 kV

FEATURES

Pre-engineered range taking heat-shrinkable tubings incorporating precisley engineered impedence stress control. EPKJ universal joints are suitable for a wide range of connectors and cable sizes with no limitations on shelf life

APPLICATION

 Suitable for polymeric, rubber and paper insulated MIND cables single and three core, armoured and non-armoured

CONFORMS TO

CENELEC and IEC standards

Raychem medium voltage heat shrink cable joints up to 36 kV



Product name	Conductor size (mm²)	Part number
XLPE TO XLPE		
EPKJ-36A/1XU-1XU	50 – 70	116908-011
EPKJ-36B/1XU-1XU	95 – 150	407944-011
EPKJ-36C/1XU-1XU	185 – 400	682466-011
EPKJ-36D/1XU-1XU	500 - 630	698309-011
EPKJ-36A/3XU-3XU-W	50 – 70	653639-011
EPKJ-36B/3XU-3XU-W	95 – 150	245043-011
EPKJ-36C/3XU-3XU-W	185 – 400	868075-011
XLPE to paper insulated I	ead covered single core	
EPKJ-36A/1XU-1HL	50 – 70	933038-011
EPKJ-36B/1XU-1HL	95 – 150	093715-011
EPKJ-36C/1XU-1HL	185 – 400	697197-011
EPKJ-36D/1XU-1HL	500 - 630	291626-011
SMOE-64222	500 poly to 1000 mm ²	CS9849-011
Paper insulated lead cove	ered single core	
EPKJ-36B/1HL-1HL	95 – 150	093715-011
EPKJ-36C/1HL-1HL	185 – 400	105526-011
EPKJ-36D/1HL-1HL	500 - 630	928072-011
XLPE to paper insulated I	ead sheathed 3-core armo	ured
EPKJ-36C/3XU-3SB-W- GB01	185 – 240	CU8132-011
EPKJ-36B/3SB-3SB-W	95 – 150	267335-000
EPKJ-36C/3SB-3SB-W	185 – 400	012579-011
XLPE single core to pape	r insulated lead sheathed	3-core
EPKJ-36A/1XU-3HL	50 – 70	756137-000
EPKJ-36B/1XU-3HL	95 – 150	018099-011
EPKJ-36C/1XU-3HL	185 – 400	021838-011
XLPE single core to pape	r insulated lead sheathed	3-core
EPKJ-36A/1XU-3SB	50 – 70	348453-000
EPKJ-36B/1XU-3SB	95 – 150	016746-011
EPKJ-36C/1XU-3SB	185 – 400	815876-011



SXSU

Raychem Medium Voltage Heat Shrink Cable Joints up to 36 kV

FEATURES

Pre-engineered range taking heat-shrinkable tubings incorporating precisley engineered impedence stress control. SXSU joints are suitable for a wide range of conductor sizes with no limitations on shelf life

APPLICATION

 Suitable for polymeric single core non-armoured cables

CONFORMS TO

CENELEC and IEC standards

Raychem medium voltage heat shrink cable joints up to 36 kV



Product name	Conductor size (mm²)		Part number
	12 kV	17.5 kV	
SXSU-3111	35 – 70	25 - 50 ¹	495201-011
SXSU-3121	95 – 185	50 – 120	974693-011
SXSU-3131	185 – 300	120 – 240	744973-011
SXSU-3141	300 - 500	240 – 300	801119-011
	12 kV	17.5 kV	
SXSU-4111	50 – 70	25 – 50	421541-000
SXSU-4121	95 – 185	50 – 150	164183-011
SXSU-4131	185 – 300	150 – 300	679883-011
SXSU-4141	400 - 630	400 – 500	177049-011
SXSU-4151	800 – 1200	630 - 800	E24076-011
24 kV			
SXSU-5121	35 – 95		435964-011
SXSU-5131	95 – 240		041653-011
SXSU-5141	240 – 500		406887-011
SXSU-5151	600 - 800		525605-011
SXSU-5161	1000 – 1200		C38614-011
36 kV			
SXSU-6122	35 – 150		310527-011
SXSU-6132	150 – 300		632893-011
SXSU-6141	185 – 400		816571-011
SXSU-6142	400 - 630		584493-011
SXSU-6151	500 - 800		873902-011
SXSU-6161	800 – 1200		D63970-011

NOTE Copper only.



MXSU

Raychem Medium Voltage Heat Shrink Cable Joints up to 36 kV

FEATURES

Pre-engineered range taking heat-shrinkable tubings incorporating precisley engineered impedence stress control. MXSU joints are supplied complete with mechanical phase and screen connectors suitable for a wide range of conductor sizes with no limitations on shelf life

APPLICATION

Suitable for polymeric non-armoured cables

CONFORMS TO

CENELEC and IEC standards

Raychem medium voltage heat shrink cable joints up to 36 kV



Product name	Conductor size (mm²)	Part number		
12 kV*				
MXSU-3111	25 – 95	407853-011		
MXSU-3121	70 – 150	233200-011		
MXSU-3131	95 – 240	691269-011		
MXSU-3132	150 – 300	CA7108-011		
MXSU-3141	240 – 400	463998-011		
MXSU-3151	500	CA7354-011		
MXSU-3161	630	CB9319-011		
MXSU-3171	800	CR6798-011		
MXSU-3181	1000	CR8588-011		
17.5 kV*				
MXSU-4111	50 – 95	354771-011		
MXSU-4121	70 – 150	A26347-011		
MXSU-4131	120 – 240	473477-011		
MXSU-4132	150 – 300	CA7112-011		
MXSU-4141	240 – 400	126738-000		
MXSU-4151	500	CA7350-000		
MXSU-5161	630	CB9318-011		
MXSU-5171	800	CR6797-011		
MXSU-5181	1000	CS0450-011		
24 kV*				
MXSU-5111	25 – 95	191081-011		
MXSU-5121	50 – 150	C44894-011		
MXSU-5131	95 – 240	743209-011		
MXSU-5132	150 – 300	CA7110-011		
MXSU-5141	240 – 400	140138-011		
MXSU-5151	500	CA7352-011		
MXSU-5161	630	CB9318-011		
MXSU-5171	800	CR6797-011		
MXSU-5181	1000	CS0450-011		
36 kV*				
MXSU-6111	35 – 95	495780-011		
MXSU-6121	70 – 150	A29218-011		
MXSU-6131	150 – 300	124108-011		
MXSU-6141	240 – 400	390610-011		
MXSU-6151	500	D16648-011		
MXSU-6161	630	CB9317-011		
MXSU-6171	800	CS0650-000		
MXSU-6181	1000	CS0455-011		
XLPE single core to paper	XLPE single core to paper insulated lead sheathed 3-core			
EPKJ-36A/1XU-3SB	50 – 70	348453-000		
EPKJ-36B/1XU-3SB	95 – 150	016746-011		
EPKJ-36C/1XU-3SB	185 – 400	815876-011		

Due to different conductor constructions & dimensions in use with mechanical connectors supplied in the MXSU kit, the application range may differ. For more detailed information refer to the jointing instructions



MXSU

Raychem Medium Voltage Heat Shrink Size Transition Cable Joints up to 36 kV

FEATURES

 Pre-engineered range taking heat-shrinkable tubings incorporating precisley engineered impedence stress control. MXSU joints are supplied complete with mechanical phase and screen connectors suitable for a wide range of conductor sizes with no limitations on shelf life

APPLICATION

Suitable for polymeric non-armoured cables

CONFORMS TO

CENELEC and IEC standards

Raychem medium voltage heat shrink size transition cable joints up to 36 kV



Product name	Conductor size (mm²)	Part number	
12 kV			
MXSU-3131-T2	25/95 - 95/240	CN7183-011	
MXSU-3141-T4	95/240 - 185/400	CP5161-011	
MXSU-3151-T6	185/400 - 500	CN1151-011	
MXSU-3161-T7	185/400 - 630	CP5159-011	
MXSU-3181-T8	630 – 1000	CH5694-011	
17.5 kV			
MXSU-4131-T2	50/95 - 95/240	CP5152-011	
MXSU-4151-T6	185/400 - 500	CP4225-000	
24 kV			
MXSU-5131-T2	25/95 – 95/240	CP3812-000	
MXSU-5141-T4	95/240 - 240/400	CP5162-011	
MXSU-5151-T6	185/400 - 500	CP4226-011	
MXSU-5161-T6	185/400 - 630	CP4815-011	
MXSU-5161-T7	500 - 630	CP5164-000	
MXSU-5171-T8	630 - 800	CU8691-011	
36 kV			
MXSU-6141-T4	95/240 - 240/400	CP5163-011	
MXSU-6151-T6	185/400 - 500	CP5840-011	
MXSU-6161-T6	185/400 - 630	CP5841-000	
MXSU-6161-T7	500 - 630	CP4224-011	
MXSU-6171-T8	630 – 800	CS4608-011	
MXSU-6181-T8	630 – 1000	CS4570-011	

NOTE

Due to different conductor constructions & dimensions in use with mechanica connectors. supplied in the MXSU kit, the application range may differ. For more detailed information refer to the jointing instructions.



MXSB Joints

Raychem Medium Voltage Heat Shrink Branch Joints up to 24 kV

FEATURES

Pre-engineered range taking heat-shrinkable tubings incorporating precisley engineered impedence stress control. MXSU joints are supplied complete with mechanical phase and screen connectors suitable for a wide range of conductor sizes with no limitations on shelf life

APPLICATION

Suitable for polymeric non-armoured cables

CONFORMS TO

CENELEC and IEC standards

Raychem medium voltage heat shrink branch joints up to 24 kV



Product name	Conductor size (mm²)	Part number
MXSB-12A/1XU-2XU	35 – 95	CY8432-011
MXSB-12B/1XU-2XU	70 – 185	CX7295-011
MXSB-12C/1XU-2XU	150 – 300	CH7294-011
MXSB-24A/1XU-2XU	35 – 95	CY8433-011
MXSB-24B/1XU-2XU	70 – 185	CH7297-011
MXSB-24C/1XU-2XU	150 - 300	CH7296-011



MXAW / SXAW

Raychem Medium Voltage Heat Shrink Cable Joints for Aluminium Wire Armoured Cables up to 36 kV

FEATURES

- Pre-engineered range taking heat-shrinkable tubings incorporating precisley engineered impedence stress control. MXAW joints are supplied complete with mechanical phase and screen connectors
- SXAW are supplied without connectors
- Suitable for a wide range of conductor sizes with no limitations on shelf life

APPLICATION

 Suitable for polymeric Aluminium Wire Armoured (AWA) cables

CONFORMS TO

CENELEC and IEC standards

Raychem medium voltage heat shrink cable joints for aluminium wire armoured cables up to 36 kV



Product name	Conductor size (mm²)	Part number
12 kV		
SXAW-3121	95 – 185	233081-011
SXAW-3131	185 – 300	174325-011
SXAW-3141	400 – 500	755643-011
SXAW-3151	630 – 800	707034-000
17.5 kV		
SXAW-3121	70 – 120	233081-011
SXAW-3131	150 – 240	174325-011
SXAW-3141	300 – 400	755643-011
SXAW-3151	500 - 630	707034-000
24 kV		
SXAW-5121	50 – 95	CA5973-011
SXAW-5131	120 – 185	304733-011
SXAW-5141	185 – 400	020745-011
SXAW-5151	500 - 630	564361-011
24 kV		
MXAW-5131	95 – 185	CN6571-011
MXAW-5132	150 – 300	CN6573-011
MXAW-5141	240 – 400	CB2695-011
MXAW-5151	500	CN6574-011
MXAW-5161	630	CN6572-011
36 kV		
SXAW-6122	50 – 95	CA5972-011
SXAW-6132	120 – 240	151361-011
SXAW-6142	300 – 630	814905-011
MXAW-6131	150 – 300	CV2754-011



MXSW / SXSW

Raychem Medium Voltage Heat Shrink Cable Joints for Wire Armoured Cables up to 36 kV

FEATURES

- Pre-engineered range taking heat-shrinkable tubings incorporating precisley engineered impedence stress control. MXSW joints are supplied complete with mechanical phase and screen connectors
- SXSW are supplied without connectors.
- Suitable for a wide range of conductor sizes with no limitations on shelf life

APPLICATION

 Suitable for polymeric Wire Armoured (SWA) cables

CONFORMS TO

CENELEC and IEC standards

Raychem medium voltage heat shrink cable joints for wire armoured cables up to 36 kV



Product name	Conductor size (mm²)	Part number
12 kV (17.5 kV max)		
MXSW-3311-GB01	35 – 95	CL9590-000
MXSW-3331	95 – 240	CM4856-011
MXSW-3332	150 – 300	CM4855-011
17.5 kV		
MXSW-4332	150 – 300	CM4858-011
24 kV		
MXSW-5331	95 – 240	CM4852-011
12 kV (17.5 kV max)		
SXSW-4304	16 – 35*	768369-011
SXSW-4314	50 – 70*	954607-011
SXSW-4324	95 – 185*	457975-011
SXSW-4334	185 – 300*	021398-011
SXAW-5131	120 – 185	304733-011
SXAW-5141	185 – 400	020745-011
SXAW-5151	500 - 630	564361-011
24 kV		
MXAW-5131	95 – 185	CN6571-011
MXAW-5132	150 – 300	CN6573-011
MXAW-5141	240 – 400	CB2695-011
MXAW-5151	500	CN6574-011
MXAW-5161	630	CN6572-011
36 kV		
SXAW-6122	50 – 95	CA5972-011
SXAW-6132	120 - 240	151361-011
SXAW-6142	300 - 630	814905-011
MXAW-6131	150 – 300	CV2754-011



MXSE, EPKE

Raychem Medium Voltage Heat Shrink Live End Seals for Single Core Unarmoured Cable up to 36 kV

FEATURES

- Pre-engineered range taking heat-shrinkable tubings incorporating precisley engineered impedence stress control
- Suitable for a wide range of conductor sizes with no limitations on shelf life

APPLICATION

Suitable for polymeric

CONFORMS TO

CENELEC and IEC standards

Raychem medium voltage heat shrink live end seals for single core unarmoured cable up to 36 kV



Product name	Conductor size (mm²)	Part number	
11 kV			
MXSE- 3131	95 – 240	CH7225-011	
MXSE- 3141	240 – 400	CH7320-011	
MXSE- 3151	500	CH7319-011	
24 kV			
MXSE- 5131	95 – 240	CH7226-011	
MXSE- 5141	240 – 400	CH7452-011	
MXSE- 5151	500	CH7453-011	
36 kV			
EPKE-36C/1XU	120 – 400	278807-011	

