

## Cable joint and repair cable joint for paper-insulated cable SMTD 12 kV

- No special tools
- Insulating bitumen compound and insulating oil need not be heated at temperatures exceeding +10°C
- No soldering
- The oil prevents discharges in paper-insulated cable

### Use

For jointing paper-insulated lead-sheathed cables with Al or Cu conductor 12 kV.

### Standards

Meets the requirements of:

- SEN 24 14 34
- SEN 24 14 23
- VDE 0278

### Rated pressure

0.3 MPa

### Design

The joint tube is a plastic-coated steel tube. The joint insulation consists of transparent polyester film and insulating oil. The oil prevents discharges in the paper-insulated cable. Spring-loaded gaskets provide a

seal between the cable and the joint tube, as well as electrical contact between cable screens and joint tube. Type FPA or FP for belted cables and FPMP for separately lead-sheathed cables.

The length of the SMTD 152 LK and SMTD 153 K joint tube allows crossing of the conductors, in order to obtain the right phase sequence. The repair joint SMTD 152 RK should be completed with three extension cores, of paper- or XLPE-insulated cable (not included).

Insulating bitumen compound and insulating oil need not be heated at temperatures exceeding +10°C.



Designation	Type	Maximum Conductor cross section Al/Cu mm <sup>2</sup>	Suitable spring-loaded gasket	Joint tube Ø mm	Weight kg/item
<b>SMTD 152 K</b>	Standard	3x240	FPA	100	25
<b>SMTD 152 LK*</b>	Extended	3x240	FPA	100	27
<b>SMTD 153 K</b>	Standard	3x300	FP, FPMP	150	52
<b>SMTD 152 RK**</b>	Repair	3x240	FPA	100	39

### To be ordered separately

Designation	Description	Required Qty.	See page
<b>FPA, FP, FPMP</b>	Spring loaded gasket	2	69
<b>SH-SKRM</b>	Screw connector	3***	59

\* Extended type, allows crossing of the conductors, in order to obtain the right phase sequence.

\*\* For jointing with XLPE-conductor, three insulating materials type IG 1718 must be added.

\*\*\* 6 connectors should be used for SMTD 152 RK.

## Supplementary kit for SMTD

(For conversion to a transition joint)



PXS



PXSA

**A.**  
Select the basic kit, SMTD joint (see page before) and spring-loaded gasket according to the dimension of the paper-insulated cable.

**B.**  
Select a XLPE kit, PXS or PXSA, in accordance with the following table.

Designation	Conductor cross section	Diameter across insulation	Type of termination for XLPE cable	Joint tube Ø mm	Weight kg/item
	mm <sup>2</sup>	mm			
PXS 02	10-240	≤ 32	Tape	100	2.9
PXS 03	10-300	≤ 32	Tape	150	5.5
PXSA 12 A	10-35	11-15	SOT termination	100	2.6
PXSA 12	50-185	15-26	SOT termination	100	2.6
PXSA 12 W*	50-185	15-26	SOT termination	100	2.6
PXSA 22	240	25-32	SOT termination	100	2.7
PXSA 22 W*	240	25-32	SOT termination	100	2.7
PXSA 23	240-300	25-32	SOT termination	150	5.2

\* For 3 x 1-core XLPE-cables with Al foil screen.

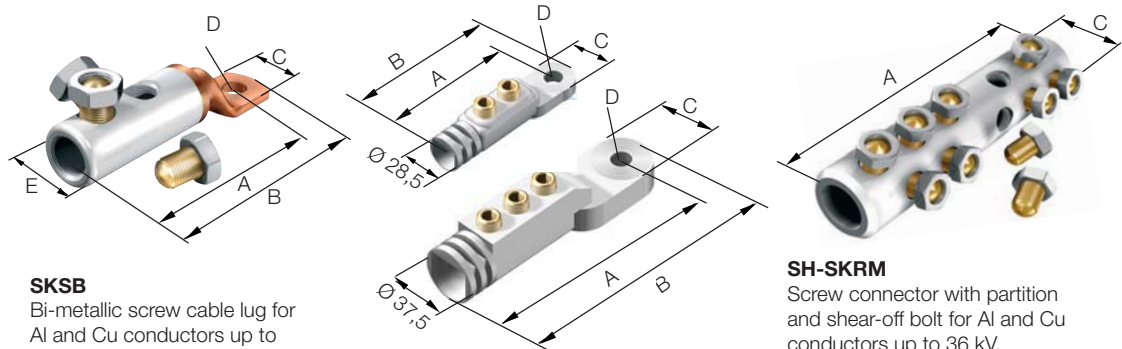
### To be ordered separately

Designation	Description	Required Qty.	See page
SH-SKRM	Connector with a partition	3	59

- No special tools

## Connectors

All dimensions in mm



### SKSB

Bi-metallic screw cable lug for Al and Cu conductors up to 36 kV.

- Meets the requirements of: IEC 61238-1
- The cable lug is equipped with a turnable two-sided shear-off bolt and a specially designed nut.  
The bolt is rotated in the appropriate direction, and the nut is then assembled. When the specified torque is reached, the bolt will shear-off and the installation is completed.
- Single core kits.

### SKSA 95-13, 300-13

Screw cable lug for indoor and outdoor connection of Al or Cu conductors. Can be connected to an Al or Cu busbar.

A greased cupal washer must be used when connecting to a Cu conductor outdoors.

- Meets the requirements of: IEC 61238-1
- Single core kits.



### CW 3013, CW 3817

Cupal washer, to be used when connecting an aluminium cable lug to a copper busbar outdoors. The washers are coated with contact grease.

- Supplied in bags of three.

### SH-SKRM

Screw connector with partition and shear-off bolt for Al and Cu conductors up to 36 kV.

- Meets the requirements of: IEC 61238-1.
- The connector is equipped with a turnable two-sided shear-off bolts and a specially designed nut. The bolt is rotated in the appropriate direction, and the nut is then assembled. When the specified torque is reached, the bolt will shear off and the installation is completed.
- Single core kits.

Designation	Conductor Al or Cu			Tightening torque	Dimensions					Weight kg/item
	sector shaped mm <sup>2</sup>	Round mm <sup>2</sup>	max Ø mm		A	B	C	D(Ø)	E(Ø)	
<b>SKSB 70-12</b>	25-70	16-70	11	15*	90	103	25	13	21.5	0.15
<b>SKSB 150-12</b>	95	95-150	16	20*	103	118	30	13	27	0.25
<b>SKSB 240-12</b>	120-185	185-240	20	30*	125	140	30	13	33.5	0.40
<b>SKSB 400-16</b>	240	300-400	25.5	40*	166	185	37	17	41.5	0.75
<b>SKSB 630-16</b>	–	500-630	33	45*	201	227	55	17	49	1.45
<b>SKSA 95-13</b>	–	25-95	11.6	25*	88	103	30	13	–	0.10
<b>SKSA 300-13</b>	–	50-300	20.6	25**/45***	140	160	40	13	–	0.30
<b>SH-SKRM 70</b>	25-70	16-70	11	15*	100	–	21.5	–	–	0.25
<b>SH-SKRM 150</b>	95	95-150	16	20*	114	–	27	–	–	0.35
<b>SH-SKRM 240</b>	120-185	185-240	20	30*	144	–	33.5	–	–	0.60
<b>SH-SKRM 400</b>	240	300-400	25.5	40*	175	–	41.5	–	–	0.90
<b>SH-SKRM 630</b>	–	500-630	33	45*	210	–	49	–	–	1.20

Designation	Outer diameter mm	Hole diameter mm	Thickness mm	Weight g/item
<b>CW 3013</b>	30	13	2	5
<b>CW 3817</b>	38	17	2	8

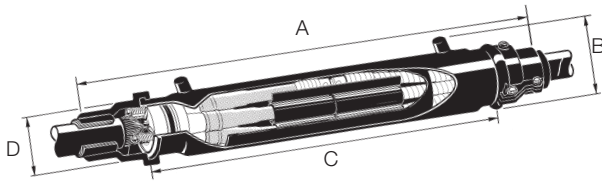
\* The bolt will be sheared-off at the right tightening torque.

\*\* When 50-95 mm<sup>2</sup>.

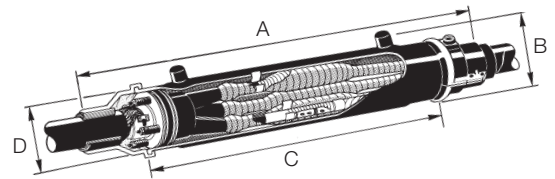
\*\* When 120-300 mm<sup>2</sup>.

## Dimensional drawings, SMT...

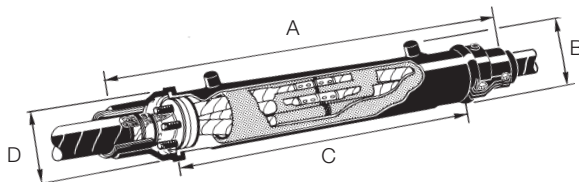
All dimensions in mm



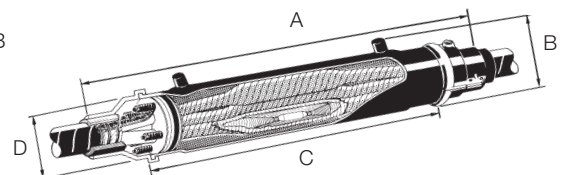
Designation	Dimensions in mm			
	A	B	C	D
<b>SMTXB 1502</b>	1135	175	900	100
<b>SMTXB 1502 L</b>	1335	175	1100	100
<b>SMTXB 1503</b>	1500	228	1200	150
<b>SMTXB 1522</b>	1135	175	900	100
<b>SMTXB 1522 L</b>	1335	175	1100	100
<b>SMTXB 1522 W</b>	1135	175	900	100
<b>SMTXB 1532</b>	1135	175	900	100
<b>SMTXB 1532 L</b>	1335	175	1100	100
<b>SMTXB 1532 W</b>	1135	175	900	100
<b>SMTXB 1533</b>	1500	228	1200	150



Designation	Dimensions in mm			
	A	B	C	D
<b>SMTXD 3613</b>	1500	228	1200	150
<b>SMTXD 3623</b>	1500	228	1200	150
<b>SMTXD 3633</b>	1500	228	1200	150



Designation	Dimensions in mm			
	A	B	C	D
<b>SMTD 152 K</b>	1135	175	900	100
<b>SMTD 152 LK</b>	1335	175	1100	100
<b>SMTD 153 K</b>	1500	228	1200	150
<b>SMTD 152 RK</b>	1935	175	1700	100



Designation	Dimensions in mm			
	A	B	C	D
For belted cable <b>SMTA 24362</b>	1335	175	1100	100
For belted or separate lead-sheathed cable <b>SMTPA 24523</b>	1500	228	1200	150

- No special tools
- No soldering

## Spring-loaded gaskets for paper-insulated cables

*The diameter of the lead sheathed cable should be measured.*



**FPA**  
Ø 100 mm for belted cables.



**FP**  
Ø 150 mm for belted cables.



**FPMP**  
Ø 150 mm, 3-hole gasket, non-magnetic design for separate lead-sheathed cables.

Designation	Diameter over lead sheath mm	Weight kg/item
FPA 1021	18-21	1.2
FPA 1024	21-24	1.2
FPA 1027	24-27	1.1
FPA 1030	27-30	1.1
FPA 1033	30-33	1.1
FPA 1036	33-36	1.1
FPA 1039	36-39	1.0
FPA 1042	39-42	1.0
FPA 1045	42-45	1.0
FPA 1048	45-48	1.0
FPA 1051	48-51	1.0
FPA 1054	51-54	0.9
FPA 1057	54-57	0.9
FPA 1060	57-60	0.9
FPA 1063	60-63	0.9
FPA 1065	63-66	0.9

Designation	Diameter over lead sheath mm	Weight kg/item
FP 1530	25-30	4.2
FP 1535	30-35	4.2
FP 1540	35-40	4.3
FP 1545	40-45	4.1
FP 1550	45-50	4.2
FP 1555	50-55	3.9
FP 1560	55-60	4.1
FP 1565	60-65	4.0
FP 1570	65-70	3.9
FP 1575	70-75	3.8
FP 1580	75-80	3.9
FP 1585	80-85	4.0

Designation	Diameter over lead sheath mm	Weight kg/item
FPMP 1523	20-23	4.5
FPMP 1526	23-26	4.4
FPMP 1529	26-29	4.4
FPMP 1532	29-32	4.4
FPMP 1535	32-35	4.2
FPMP 1538	35-38	4.1
FPMP 1540	38-40	4.2

## General accessories for paper-insulated cable joints and transition joints



**GC**  
The kit contains one sealing ring, screws and two roomy clamp halves for Ø 100 mm joint tubes. The clamps are made from glass fibre reinforced polymer. The bolt and washer are moulded into the material. Used on the XLPE side of the transition joints; SMTXB 1502/1522/1532 when installing 1-core cables with an outer diameter greater than 40 mm.



**IA 2502 - 2519**  
Bituminized paper for filling, for example in cable clamps.



**RKM 402**  
Funnel for oil filling.



**IA 1003**  
Stress controlling tape.



**IA 2112 - 2113**  
Impregnated crepe paper tape.



**IKP**  
Impregnated carbon crepe paper (conductive).

Designation	Use	Length m	Width mm	Thickness mm	Weight kg/item
<b>GC</b>	SMTXB with Ø 100 joint tube	Cable Ø 40-45	–	–	0.72
<b>IA 1003</b>	Paper-insulated cable joint	–	–	–	0.13
<b>IA 2112</b>	Paper-insulated cable joint	9	10	–	0.40
<b>IA 2113</b>	Paper-insulated cable joint	9	24	–	0.60
<b>IA 2502</b>	For filling cable clamps	3	83	0.5	0.20
<b>IA 2508</b>	For filling cable clamps	14	200	0.5	1.40
<b>IA 2518</b>	For filling cable clamps	10	83	0.5	0.50
<b>IA 2519</b>	For filling cable clamps	14	100	0.5	0.75
<b>IKP</b>	–	–	–	–	0.30
<b>RKM 402</b>	For oil filling	–	–	–	0.10

## Accessories for paper-insulated cable joints and transition joints



**IG 1201**  
Cold insulating bitumen compound for cable clamps.



**IG 1601, IG 1604**  
Insulating oil, for joints and terminations for paper-insulated cables 12-52 kV. Need not be heated at temperatures exceeding +10°C.



**IG 1717, 1718**  
Insulating film made of transparent polyester for transition joints and for paper-insulated cables 12-24 kV, type SMTXB and SMTD.



**IK 1002**  
Linen yarn.



**IK 1003**  
Polyester tape.

Designation	Length m	Width mm	Volume l	Weight kg/item
IG 1201	–	–	–	1.3
IG 1601	–	–	1.0	1.0
IG 1604	–	–	4.0	4.1
IG 1717	1.7	457	–	0.3
IG 1718	1.5	711	–	0.2
IK 1002	5	–	–	0.2
IK 1003	4x1.5	2.5	–	0.1

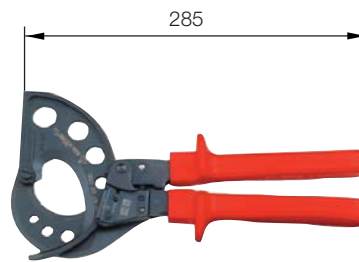
## Tools



### 730 R

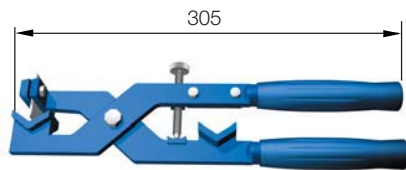
Torque wrench for screw connectors, screw cable lugs, overhead line clamps, etc. Supplied with 7 mm socket head, extension and 8 mm internal hexagon head.

Torque range 6-50 Nm.



### Intercable No. RKS 1607 054

Cable shears for cutting cable  
Ø max 54 mm.



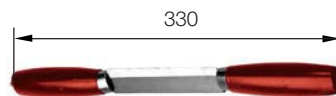
### RKM 1055

Splitting tool for longitudinal splitting off XLPE-insulation with Ø 10-55 mm.



### RKM 670

Cable knife, 30 mm blade.



### RKM 672

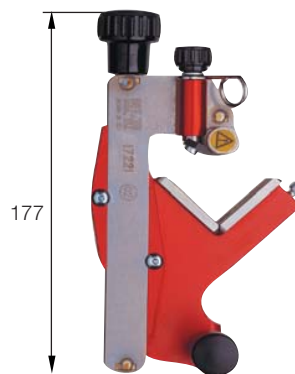
Sheath removing knife with two handles for plastic sheathed cable.

Designation	Description
730 R	Torque wrench
RKS 1607 054	Cable shears
RKM 1055	Peeling tool
RKM 1055 K	Spare blade for RKM 1055
RKM 670	Cable knife
RKM 672	Sheath removing knife

## Tools



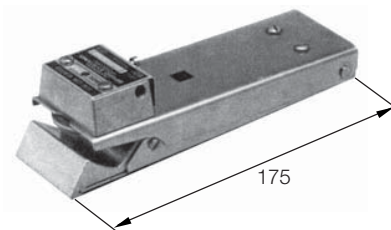
**Intercable No. AV 6220**  
Sheath removing tool for  
PE-sheathed cable  $\varnothing > 20$  mm.



**Intercable No. FBS 1722 1**  
Stripping tool for the vulcanized, outer  
conducting layer of XLPE-insulated  
cable  $\varnothing 10-52$  mm.  
The tool is supplied in a rigid case  
with a tube of silicone grease.



**GB-M20**  
Cutting tool for cable sheath  
and XLPE-insulation:  
Diameter:  $\varnothing 15-50$  mm  
Cutting depth:  $\leq 8$  mm



**Model 1700 Series**  
Peeling tool for strippable outer  
conductive layer on XLPE-insulated  
cable  $\varnothing 13-51$  mm.

Designation	Description
AV 6220	Sheath removing tool
FBS-1722 1	Stripping tool
GB-M20	XLPE stripping tool
Model 1700 Series	Peeling tool