RST SZ SCS IS IS STK Rescue Rods Fuse Tongs Switching Sticks Insulating Sticks Insulating Stick Kit

Safety Equipment Selection Guide

Operating Sticks

Device	Nominal Voltage U _N / Frequency f _N	Application	Page	
IS STK	up to 36 kV / 50 Hz	Suitable for use in wet weather conditions	48	
Insulating Stick Kit		For use in indoor and outdoor installations	50	
		Plug-in coupling protected against twisting and bridging		
		Easy transport due to detachable sticks		
		Kits for a variety of applications		T AME
		For use as switching stick, earthing stick or operating stick		
IS Insulating Sticks	up to 123 kV / 50 Hz	For use in wet weather conditions	52	
		For use in indoor and outdoor installations	54	
		Attachable switching stick head allows for use as switching stick		
		Supporting head for hexagon shaft or T pin shaft		
		For use as earthing stick		20 100
		For use as operating stick for insulating protective shut	tters	
SCS Switching Stic	ks up to 123 kV / 50 Hz	For use in wet weather conditions	56	1
		For indoor and outdoor installations	57	
		Fully insulated, massive switching stick head		Ī
		Allows deep access into the installation		7
		For use as operating stick for insulating protective shutters		†
SZ Fuse Tongs		Not suitable for use in wet weather conditions	58	Q
J	·	Operating head with two adjustable jaws		
		Straight or 20° angled operating head		
		Secure clamping		
		Wide clamping range ∅30 90 mm		+ 📆
		. 3 3		
RST Rescue Rods	up to 36 kV / 50 Hz	Not suitable for use in wet weather conditions	60	
		For use in indoor and outdoor installations		ì
		Fully insulated and fixed rescue hook		
		For rescuing persons weighing up to approximately		
		100 kg from the live working zone in the event of a electrical accident	n	
Storage Bags and	Transport Cases	Sheet metal or plastic case	187	
		Artificial leather or canvas bag		Tills.

Maintenance tests

According to German regulations (BGV A3), operating sticks have to be tested for compliance with the prescribed limits as stated in the Electrical Safety Rules. This test is performed in the high voltage test laboratory of DEHN + SÖHNE and includes

- measurement of the leakage current,
- test for protection against bridging,
- visual inspection, manual tests and measurements.

This maintenance test is documented in a test report and on the device.

Prior to each use, operating sticks must be visually inspected for signs of damage or any other defect.



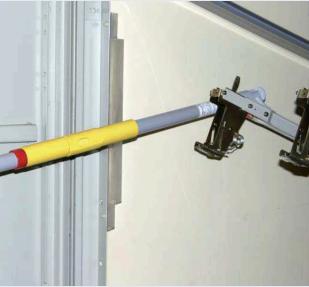


IS STK Insulating Stick Kit with Silicon Rubber Insulator

Safety Equipment

Nominal voltages up to 36 kV / 50 Hz

Operating Sticks



IS STK insulating stick fitted with STK switching stick head used as switching stick

General Information:	
Standard (switching stick head)	DIN VDE 0681 Part 2
Standard (insulating stick)	EN/IEC 61243-1 (DIN VDE 0682 Part 411) test for protection against brid- ging (section 6.3.2) after wet test and leakage current measurement (section 7.1.2)
Standard (switching stick)	DIN VDE 0681 Part 1 and 2
Standard (operating stick)	DIN VDE 0682 Part 552
Standard (earthing stick)	Based on EN/IEC 61230 (DIN VDE 0683 Part 100)
Use	Suitable for use in wet weather conditions
For	Indoor and outdoor installations

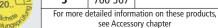


Anti-rotation plastic plug-in coupling used as insulating stick extension (yellow coupling)

Easy and safe working

- Cost-effective due to universal use
- Space-saving transport

	Kit includes:			
	Pos. No. Part No.		Pos. No.	Part No.
	1	766 164	6	766 468
	2	766 365	7	766 456
	3	766 465	8	766 466
2	4	766 356	9	766 996
216	5	766 367		





The artificial leather bag with reinforced back panel allows for safe transport and easy storage of the single components.



Dirt-repellent end fittings with plug-in coupling

Accessory for IS STK Insulating Stick Kit

Operating Head with plug-in Coupling / hexagon Shaft



For indoor use	
Туре	AK 36 SK STK 330
Part No.	766 364
Diameter	30 mm
Total length (I _G)	330 mm
Material	Plastic
Colour	Yellow

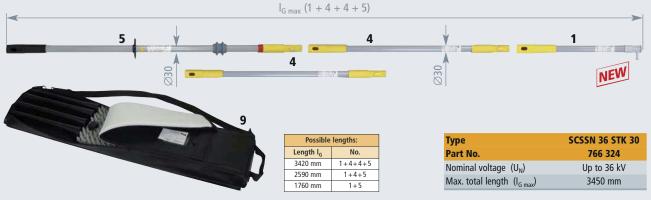


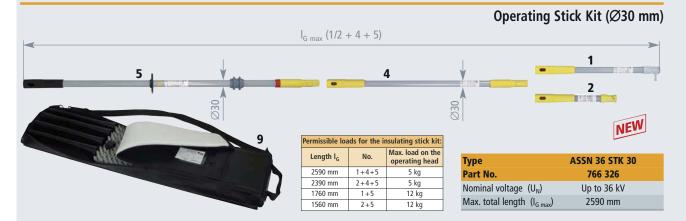
RST SZ SCS IS IS STK Switching Sticks Insulating Sticks Insulating Stick Insulating Stick Stick Insulating Stick Kit

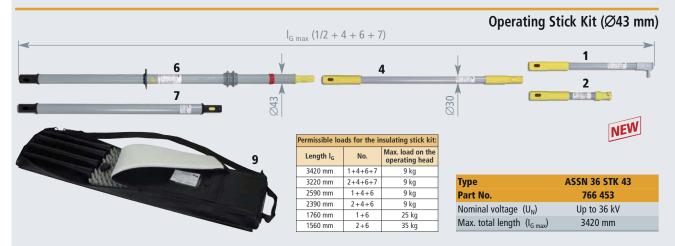
Safety Equipment

IS STK Insulating Stick Kit with Silicon Rubber Insulator







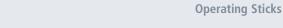




IS STK Insulating Stick Kit

Safety Equipment

Nominal voltages up to 36 kV / 50 Hz





- Easy and safe working
- Cost-effective due to universal use
- Space-saving transport



Kit includes:			
Part No.	Pos. No.	Part No.	
766 164	6	766 463	
766 365	7	766 456	
766 465	8	766 466	
766 356	9	766 996	
766 363			
	Part No. 766 164 766 365 766 465 766 356 766 363	Part No. Pos. No. 766 164 6 766 365 7 766 465 8 766 356 9	

For more detailed information on these products, see Accessory chapter

 $\ensuremath{\mathsf{IS}}$ STK insulating stick fitted with STK switching stick head used as switching stick

General Information:	
Standard (switching stick head)	DIN VDE 0681 Part 2
Standard (insulating stick)	DIN VDE 0681 Part 1
Standard (switching stick)	DIN VDE 0681 Part 1 and 2
Standard (operating stick)	DIN VDE 0682 Part 552
Standard (earthing stick)	Based on EN/IEC 61230 (DIN VDE 0683 Part 100)
Use	Not suitable for use in wet weather conditions
For	Indoor and outdoor installations



Anti-rotation plastic plug-in coupling used as insulating stick extension (yellow coupling)



The artificial leather bag with reinforced back panel allows for safe transport and easy storage of the single components.



plug-in coupling

Accessory for IS STK Insulating Stick Kit

Operating Head with plug-in Coupling / hexagon Shaft



ror indoor use	
Туре	AK 36 SK STK 330
Part No.	766 364
Diameter	30 mm
Total length (I _G)	330 mm
Material	Plastic
Colour	Yellow



RST SZ SCS IS Rescue Rods Fuse Tongs Switching Sticks Insulating Sticks Insulating Stick Kit

Safety Equipment

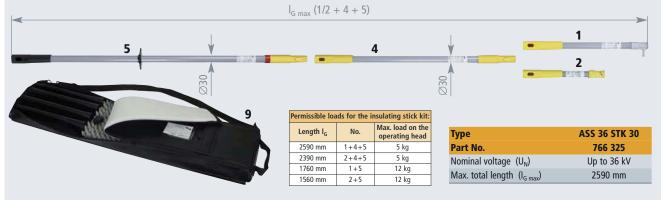
IS STK Insulating Stick Kit

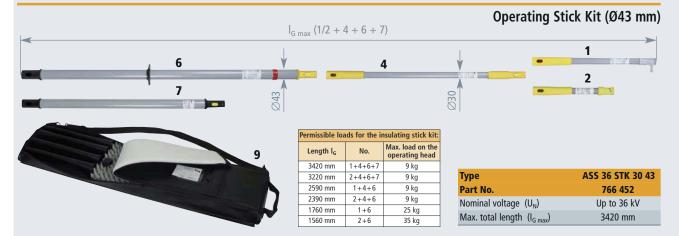


Switching Stick Kit (Ø30 mm)



Operating Stick Kit (Ø30 mm)









IS Insulating Sticks with Silicon Rubber Insulator

Nominal voltages up to 123 kV / 50 Hz

Safety Equipment

Operating Sticks



Switching stick head screwed on an IS SK insulating stick for switching a switch disconnector

General Information:	
Standard (switching stick head)	DIN VDE 0681 Part 2
Standard (insulating stick)	EN/IEC 61243-1 (DIN VDE 0682 Part 411) test for protection against brid- ging (section 6.3.2) after wet test and leakage current measurement (section 7.1.2)
Standard (operating stick)	DIN VDE 0682 Part 552
Use	Suitable for use in wet weather conditions
For	Indoor and outdoor installations
Material	Glass-fibre reinforced polyester tube
End fitting	Non-slip plastic cap / plug-in coupling for extending the handle



ISN SK insulating stick used for clamps with hexagon shaft of earthing and short-circuiting devices

Easy and safe working

- Cost-effective since the installation of different supporting heads allows universal use
- Easy to use







SSK M12 switching stick head screwed on ISN SK insulating stick



ISN SQ insulating stick fitted with SSK SQ switching stick head. The insulating stick can be additionally locked by means of the black knurled nut.



Accessory for IS Insulating Sticks, rain-proof

Screw-on Switching Stick Head for IS SK **Insulating Sticks**



With M12 thread In accordance with DIN VDE 0681 Part 2

Туре	SSK M12
Part No.	765 005
Material	Steel, plastic-sheathed

Switching Stick Head for IS SQ Insulating



With T pin shaft (bayonet locking mechanism) In accordance with DIN VDE 0681 Part 2 T pin shaft in accordance with DIN 48087 Switching stick head is fixed on the insulating stick via the knurled nut

Туре	SSK SQ
Part No.	765 009
Material	Polyamide



Safety Equipment

IS Insulating Sticks with Silicon Rubber Insulator

Operating Sticks

Insulating stick, hexagon Shaft



With M12 thread and spring locking mechanism

- Can be used as switching stick by attaching a switching stick head (Part No. 765 005)
- Can be used as earthing stick





Туре	ISN 36 SK 1000	ISN 36 SK 1500	
Part No.	766 210	766 215	
Nominal voltage (U _N)	36 kV	36 kV	
Total length (I _G)	1000 mm	1500 mm	
Insertion depth (I _O)	175 mm	475 mm	

Insulating stick, T Pin Shaft



Bayonet locking mechanism

- Can be used as switching stick by a attaching switching stick head (Part No. 765 009)
- Can be used as earthing stick
- Can be used as operating stick for inserting insulating protective shutters



Туре	ISN 36 SQ 1000	ISN 36 SQ 1500
Part No.	766 211	766 216
Nominal voltage (U _N)	36 kV	36 kV
Max. load on the operating head	17*) kg	17*) kg
Total length (I _G)	1028 mm	1528 mm
Insertion depth (I ₀)	150 mm	500 mm

^{*)} Max. Shutter weight when used for inserting insulating protective shutters

Insulating stick, hexagon Shaft, plug-in Coupling



With M12 thread, spring locking mechanism and plug-in coupling for extending the handle

- For use as switching stick with a switching stick head (Part No. 765 005)
- For use as earthing stick





Туре	ISN 36 SK STK 1000
Part No.	766 111
Nominal voltage (U _N)	36 kV
Total length (I _G)	1000 mm
Insertion depth (I ₀)	175 mm

Insulating stick, T Pin Shaft, plug-in Coupling



Bayonet locking mechanism and plug-in coupling for extending the handle

- Can be used as switching stick by attaching a switching stick head (Part No. 765 009)
- Can be used as earthing stick
- Can be used as operating stick for inserting insulating protective shutters



Туре	ISN 36 SQ STK 1000	
Part No.	766 310	
Nominal voltage (U _N)	36 kV	
Max. load on the operating head	17* ⁾ kg	
Total length (I _G)	1025 mm	
Insertion depth (I ₀)	150 mm	

^{*)} Max. Shutter weight when used for inserting insulating protective shutters

Modular Insulating stick, hexagon Shaft, plug-in Coupling



	1
Туре	ISN 123 SK STK 2500
Part No.	766 222
Nominal voltage (U _N)	123 kV
Total length (I _G)	2500 mm
Insertion depth (I ₀)	287 mm

Modular Insulating stick, T Pin Shaft, plug-in Coupling



Туре	ISN 123 SQ STK 2500
Part No.	766 332
Nominal voltage (U _N)	123 kV
Total length (I _G)	2500 mm
Insertion depth (I _o)	287 mm

IS STK IS SCS
Insulating Stick Kit Insulating Sticks Switching Sticks

lating Stick Kit Insulating Sticks Switching Sticks Fuse Tongs Rescue Rods

Nominal voltages up to 123 kV / 50 Hz

IS Insulating Sticks



Switching a disconnector by means of an IS SK insulating stick fitted with switching stick head $\,$

General Information:	
Standard (switching stick head)	DIN VDE 0681 Part 2
Standard (insulating stick)	DIN VDE 0681 Part 1
Standard (operating stick)	DIN VDE 0682 Part 552
Use	Not suitable for use in wet weather conditions
For	Indoor and outdoor switchgear installations
Material	Glass-fibre reinforced polyester tube
End fitting	Non-slip plastic cap / plug-in coupling for handle extension



IS SK insulating stick used for clamps with hexagon shaft of earthing and short-circuiting devices

Easy and safe working

• Cost-effective since the installation of different supporting heads allows universal use

RST

Easy to use

SZ







IS SK insulating stick fitted with SSK M12 switching stick head



Safety Equipment

Operating Sticks

IS SQ insulating stick fitted with SSK SQ switching stick head. The black knurled nut is locked into position using the insulating stick.





Safety Equipment IS Insulating Sticks

Operating Sticks

Insulating stick, hexagon Shaft



With M12 thread and spring locking mechanism

- Can be used as switching stick by attaching a switching stick head (Part No. 765 005)
- Can be used as earthing stick



Туре	IS 36 SK 1000	IS 36 SK 1500	
Part No.	766 001	766 002	
Nominal voltage (U _N)	36 kV	36 kV	
Total length (I _G)	1000 mm	1500 mm	
Insertion depth (I _o)	175 mm	475 mm	

Insulating stick, T Pin Shaft



Bayonet locking mechanism

- Can be used as switching stick by attaching a switching stick head (Part No. 765 009)
- Can be used as earthing stick
- Can be used as operating stick for inserting insulating protective shutters

Туре	IS 36 SQ 1000	IS 36 SQ 1500
Part No.	766 311	766 315
Nominal voltage (U _N)	36 kV	36 kV
Max. load on the operating head *)	17 kg	17 kg
Total length (I _G)	1028 mm	1528 mm
Insertion depth (I ₀)	150 mm	500 mm

^{*)} Max. shutter weight when inserting insulating protective shutters

Insulating stick, hexagon Shaft, plug-in Coupling



With M12 thread, spring locking mechanism and plug-in coupling for handle extension

- Can be used as switching stick by attaching a switching stick head (Part No. 765 005)
- Can be used as earthing stick



Туре	IS 36 SK STK 1000	IS 123 SK STK 2000
Part No.	766 100	766 122
Nominal voltage (U _N)	36 kV	123 kV
Total length (I _G)	1000 mm	2000 mm
Insertion depth (I ₀)	175 mm	200 mm

Insulating stick, T Pin Shaft, plug-in Coupling



Bayonet locking mechanism and plug-in coupling for extending the handle

- Can be used as switching stick by attaching a switching stick head (Part No. 765 009)
- Can be used as earthing stick
- Can be used as operating stick for inserting insulating protective shutters

Туре	IS 36 SQ STK 1000	IS 123 SQ STK 2000
Part No.	766 301	766 322
Nominal voltage (U _N)	36 kV	123 kV
Max. load on the operating head	*) 17 kg	8 kg
Total length (I _G)	1025 mm	2000 mm
Insertion depth (I ₀)	150 mm	200 mm

^{*)} Max. shutter weight if used for inserting insulating protective shutters

Accessory for IS Insulating Sticks

Screw-on Switching Stick Head for IS SK Insulating Sticks

With M12 thread

In accordance with DIN VDE 0681 Part 2

in accordance with bit VDE 0001 Tare 2		
Туре	SSK M12	
Part No.	765 005	
Material	Steel, plastic-sheathed	



Accessory for IS Insulating Sticks Switching Stick Head for IS SQ Insulating Sticks

With T pin shaft (bayonet locking mechanism)
In accordance with DIN VDE 0681 Part 2
T pin shaft in accordance with DIN 48087
Switching stick head is fixed on the insulating stick via the knurled nut

Туре	SSK SQ
Part No.	765 009
Material	Polyamide





SCS Switching Sticks with Silicon Rubber Insulator

Safety Equipment
Operating Sticks

Nominal voltages up to 123 kV / 50 Hz



Switching a disconnector by means of an SCS switching stick

Easy and safe working

- Cost-effective
- Easy to use





General Information:	
Standard (switching stick head)	DIN VDE 0681 Part 2
Standard (switching stick)	DIN VDE 0681 Part 1 and Part 2
Standard (insulating stick)	EN/IEC 61243-1 (DIN VDE 0682 Part 411) test for protection against brid- ging (section 6.3.2) after wet test and leakage current measurement (section 7.1.2)
Standard (operating stick)	DIN VDE 0682 Part 552
Use	Suitable for use in wet weather conditions
For	Indoor and outdoor installations
Design	Fully insualted, massive switching stick head
Material (insulating tube)	Glass-fibre reinforced polyester tube
Material (switching pin)	Steel, sheathed overall in plastic
End fitting	Non-slip plastic cap / plug-in coupling for extending the handle

Nominal Voltages up to 36 kV



With end cap		T	
Туре	SCSN 36 1000	SCSN 36 1500	SCSN 36 2000
Part No.	763 510	763 511	763 512
Nominal voltage (U _N)	36 kV	36 kV	36 kV
Max. shutter weight	17 kg	17 kg	9 kg
Total length (I _G)	1030 mm	1500 mm	2000 mm
Insertion depth (I _O)	135 mm	415 mm	765 mm

Nominal Voltages up to 36 kV, plug-in Coupling



Handle termination with plastic plug-in coupling for extending the handle

Туре	SCSN 36 STK 1000
Part No.	763 111
Nominal voltage (U _N)	36 kV
Max. shutter weight	17 kg
Total length (I _G)	1000 mm
Insertion depth (I ₀)	135 mm

Nominal Voltages up to 123 kV, modular



Handle termination with plastic plug-in coupling for extending the handle

763 181
123 kV
2800 mm
637 mm



RST SZ SCS IS IS STK Rescue Rods Fuse Tongs Switching Sticks Insulating Sticks Insulating Stick Kit

Safety Equipment

SCS Switching Sticks

Operating Sticks

Nominal voltages up to 123 kV / 50 Hz

Easy and safe working

- Cost-effective
- User-friendly





General Information:	
Standard (switching stick head)	DIN VDE 0681 Part 2
Standard (switching stick)	DIN VDE 0681 Part 1 and Part 2
Standard (insulating stick)	DIN VDE 0681 Part 1
Standard (operating stick)	DIN VDE 0682 Part 552
Use	Not suitable for use in wet weather conditions
For	For indoor and outdoor switchgear installations
Design	Fully insulated, massive switching stick head
Material (insulating tube)	Glass-fibre reinforced polyester tube
Material (switching pin)	Steel, sheathed overall in plastic
End fitting	Non-slip plastic cap / plug-in coupling for extending the handle



Switching a disconnector by means of an SCS switching stick

Nominal Voltages up to 72.5 kV



With end cap

Туре	SCS 36 1000	SCS 36 1500	SCS 36 2000	SCS 72 1500	SCS 72 2000
Part No.	763 610	763 611	763 612	763 615	763 620
Nominal voltage (U _N)	36 kV	36 kV	36 kV	72.5 kV	72.5 kV
Max. shutter weight	17 kg	17 kg	9 kg	_	_
Total length (I _G)	1030 mm	1500 mm	2000 mm	1500 mm	2000 mm
Insertion depth (I ₀)	135 mm	415 mm	765 mm	290 mm	690 mm

Nominal Voltages up to 123 kV



Handle termination with plastic plug-in coupling for extending the handle

Туре	SCS 36 STK 1000	SCS 72 STK 1500	SCS 123 STK 2000
Part No.	763 100	763 150	763 180
Nominal voltage (U _N)	36 kV	72.5 kV	123 kV
Max. shutter weight	17 kg	_	_
Total length (I _G)	1000 mm	1500 mm	2000 mm
Insertion depth (I ₀)	135 mm	290 mm	200 mm



IS STK IS SCS SZ RST Insulating Stick Kit Insulating Sticks Switching Sticks Fuse Tongs Rescue Rods

SZ Fuse Tongs Safety Equipment

Nominal voltages up to 36 kV

Operating Sticks



SZ fuse tongs for inserting and removing HH fuses

Easy and safe workingUser-friendly





General Information:	
Standard	DIN VDE 0681 Part 3
Use	Not suitable for use in wet weather conditions
Design	Straight and 20° angled operating head
Clamping range	Wide clamping range ∅30 90 mm
Material (insulating stick)	Glass-fibre reinforced polyester tube
Material (operating head)	Glass-fibre reinforced polyamide
Material (adjustable handle)	Polyamide
Material (reducing insert)	Polyamide
Colour	Grey

A fuse tong is an operating stick used for working on live parts of an installation with voltages exceeding 1 kV a.c. The operating head is used to remove and insert high-voltage high-breaking-capacity fuses (HH fuses). The clamping jaws are opened and closed by simply turning the adjustable handle.



In practice, the 20° angled operating head allows safe and easy actuation of HH fuses that are not easily accessible.



The reducing insert allows low clamping ranges from $\varnothing 30$ to 50 mm. Without reducing insert, HH fuses from $\varnothing 50$ to 90 mm can be actuated.



RST SZ SCS IS IS STK Switching Sticks Insulating Sticks Insulating Stick Kit

Safety Equipment SZ Fuse Tongs

Operating Sticks

Straight SZ Fuse Tong



Туре	SZ HH 1060	SZ HH 1250	SZ HH 1500
Part No.	765 040	765 041	765 042
Clamping range	30 50*) / 50 90 mm	30 50*) / 50 90 mm	30 50*) / 50 90 mm
Total length (I _G)	1060 mm	1250 mm	1500 mm
Insertion depth (I ₀)	185 mm	185 mm	185 mm

^{*)} Only if used with reducing insert

20° angled SZ Fuse Tong



Туре	SZ HH W20 1070	SZ HH W20 1250	SZ HH W20 1500
Part No.	765 050	765 051	765 052
Clamping range	30 50*) / 50 90 mm	30 50*) / 50 90 mm	30 50*) / 50 90 mm
Total length (I _G)	1070 mm	1250 mm	1500 mm
Insertion depth (I _o)	195 mm	195 mm	195 mm

^{*)} Only if used with reducing insert

Other lengths are available on request.

Accessory for SZ Fuse tongs Storage Devices for HH Fuses

Wall-mounted

Туре	HV 3HH ET
Part No.	700 005
For	HH fuses



Accessory for SZ Fuse tongs

Storage Devices for HH Fuses and Fuse Tong

Wall-mounted

Туре	HV 3HH SZ ET
Part No.	700 004
For	HH fuses and fuse tong



Storage Device Kit for HH Fuses or HH fuses and Fuse Tong

Wall-mounted

vvaii illouliteu		
Туре	HV 3HH	HV 3HH SZ
Part No.	700 015	700 014
Consisting of	2x HV 3HH ET	1x HV 3HH ET and
		1x HV 3HH ZS ET





IS STK IS SCS SZ RST Insulating Stick Kit Insulating Sticks Switching Sticks Fuse Tongs Rescue Rods

RST Rescue Rods Safety Equipment

Nominal voltages up to 36 kV / 50 Hz



Insulated RST rescue rod used to rescue an electrified victim from the live working zone

- For use in indoor and outdoor installations
- Fixed rescue hook (protected against bridging)

Operating Sticks

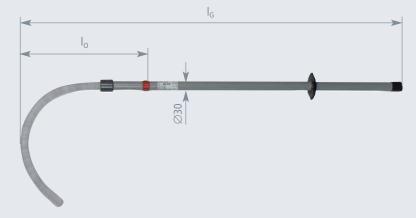
 For rescuing persons weighing up to approximately 100 kg from the live working zone in the event of an electrical accident





General Information:	
Standard	Based on DIN VDE 0681 Part 1
Use	Not suitable for use in wet weather conditions
Material (hook)	PVC-HI solid stick
Material (insulating tube)	Glass-fibre reinforced polyester tube
End fitting	Non-slip plastic cap

Nominal voltages up to 36 kV / 50 Hz



Type Part No.	RST 36 1000 766 040	RST 36 1500 766 041	RST 36 2000 766 042
Total length (I _G)	1000 mm	1500 mm	2000 mm
Insertion depth (I ₀)	175 mm	425 mm	775 mm



Safety Equipment

Insulating Protective Shutters

Insulating Protective Shutters Rated voltages from 1 kV to 36 kV

- Protection against accidental contact with live parts of installations with rated voltages from 1 kV to 36 kV
- Four different designs for use in almost all types of switchgear installations





Inserting an insulating protective shutter (type A1) by hand

General Information:		
Standard	DIN VDE 0682 Part 552	
For	Use in indoor installations only	

According to the five safety rules, adjacent parts are parts situated in the vicinity zone. If parts of an installation near the work location cannot be isolated, additional safety measures must be taken before beginning work as is the case with work near live parts.

Insulating protective shutters according to DIN VDE 0682 Part 522 are used to provide protection against accidental contact with live parts of an installation. They are portable and are inserted by hand or by using an operating stick under live conditions.

Insulating protective shutters are designed for short-term use in indoor electrical installations according to DIN VDE 0101 with voltages exceeding 1 kV to 36 kV a.c. at nominal frequencies below 100 Hz to provide protection against direct contact according to DIN VDE 0105 Part 100 when working near live parts.

When used in medium-voltage systems, insulating protective shutters might have to be adapted, for example if it is not possible to insert shutters in the live working zone without risk due to unfavourably located drives, switch components or isolating plates. In such cases, a standard-compliant solution can be found by cutting out parts of the insulating protective shutter or cutting it to size. For that purpose, technical details must be provided. We have developed a special template for insulating protective shutters which can be used, for example, to mark the exact location of the cut-outs.

For enquiries and orders, please fill in the template on pages 66 to 68 or visit our website www.dehn.de.

