HIGH VOLTAGE DISCHARGE ROD *EST*

for damped discharge and direct, visible earthing

General

When conducting dielectric tests in cables or fault location measurements with high DC voltages, the cable capacitance is charged and represents a dangerous amount of energy. The charging energy is calculated by the formula

$$P = U^2 \cdot \frac{C}{2}$$

Hence, after a measurement, the cable under test must be subject to a damped discharge and a direct, visible earthing. Instructions and recommendations for discharging, earthing and short circuiting can be had from the following VDE regulations:

a. DIN EN 50191 / VDE 0104	01/01
b. DIN VDE 0105-100	06/2000
c. DIN EN 61230	91/96
d. DIN EN 61219	01/95

The discharge time is calculated by the formula

$$\tau = R\ C\ (s / M\Omega / \mu F)$$

After 5 - 10 τ (max. 5 s) the voltage has dropped to a harmless value. Now the cable can be short-circuited by means of the earthing hook.

Use

In its tip with which the live conductor is touched the SebaKMT discharge rod features a discharge resistor which limits the discharge current and ensures a damped discharge. Within a split second, most of the charge of the cable has flown off a post-charging effect is thus eliminated. The discharge rods are made of GFK (fibre-glass strengthened plastic). They are equipped with a handle and conservatively rated clearance against physical contact with high voltage.

Application

Care should be taken to see that the correct number of discharge resistors is screwed together. Before using the discharge rod, the earthing cable has to be connected to safety or operational earth. The earthing hook should remain in contact with the live cable for a few seconds.

Important

The Seba-Dynatronic discharge rods are designed only for discharge of high voltage cables within the framework of cable tests. After use, a cooling period of 30 minutes should be allowed in order to avoid a thermal overload of the built-in discharge resistors.

Type	kV	Length	Weight	max. Capacity	R
EST 0	-	152 cm	1,40 kg	-	-
EST 35	35	50 cm	0,95 kg	6 µF	10 kΩ
EST 50	50	136 cm	1.9 kg	6 µF	100 kΩ
EST 75	80	156 cm	2,2 kg	3 µF	150 kΩ
EST 100	110	176 cm	2,5 kg	2 µF	200 kΩ
EST 150	150	208 cm	2,85 kg	2 µF	300 kΩ

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