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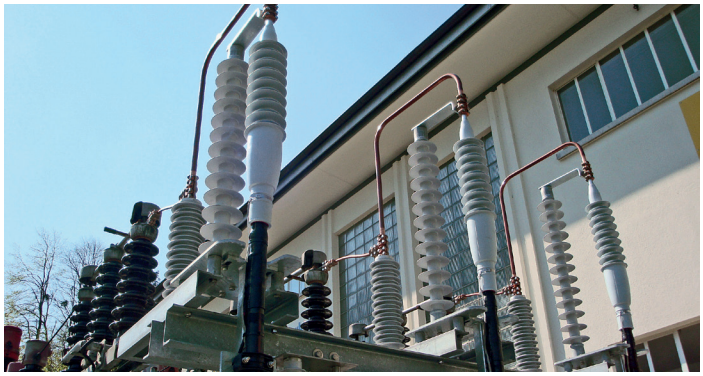


ESF and EST – The new generation of outdoor cable terminations

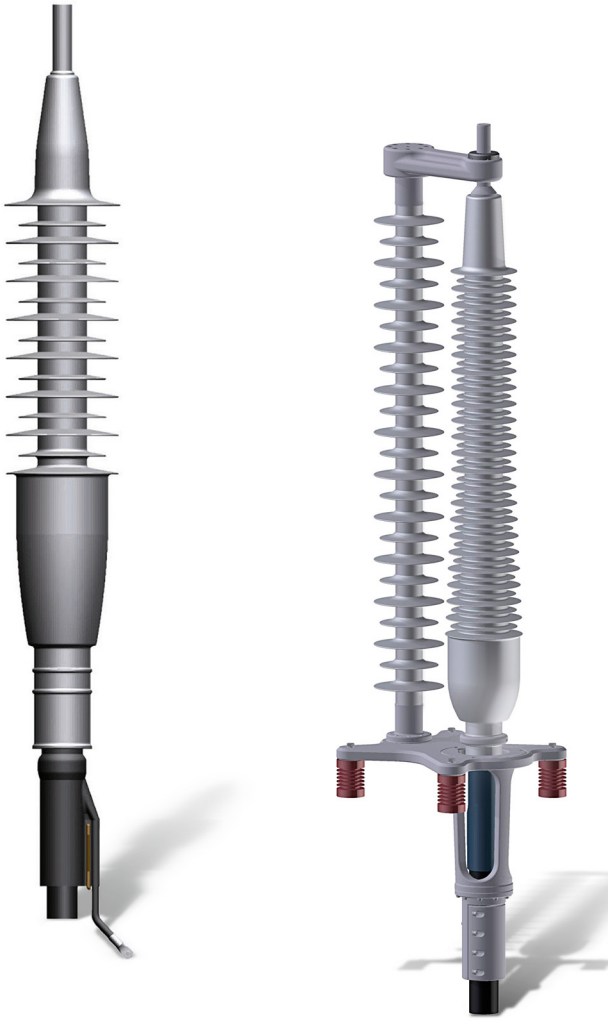
The new oil-free and gas-free cable terminations for high voltage cables are environmentally friendly and reduce installation times. They are available for voltage levels ranging from 52 kV to 170 kV and conductor cross-sections up to 2500 mm².

The most compelling factor of the new generation of dry outdoor slide-on terminations from the IXOSIL series is how easy and cost-effectively they can be installed. Since the terminations do not feature liquid or gaseous insulating material, they are explosion-resistant in the event of a fault and leak-proof over the whole lifetime.

They are available in two designs:

The flexible ESF design is used for flexible quick-installation multiple-use applications in testing or temporary site cables. Thanks to its cost-effective structure and short installation times, it is also popular in applications, in which the outdoor cable termination does not play a self-supporting role.

The self-supporting EST design replaces conventional oil-filled and gas-filled outdoor cable terminations both in overhead line towers and transformer stations. The intelligent head fitting design compensates for any thermal expansion in the conductor. The mounting frame on overhead line towers is now no longer needed since the cable termination can be installed on the high voltage cable on the ground and then lifted onto the tower. This leads to very short turn-off periods of the overhead lines.



The Data. The Details.

		ESF52	ESF72,5	ESF123	ESF145	ESF170
Max. operating voltage	**U_m (kV)**	52	72.5	123	145	170
Standards		IEC60840 IEC60815	IEC60840 IEC60815	IEC60840 IEC60815	IEC60840 IEC60815	IEC60840 IEC60815
Rated voltage	**U (kV)**	45 - 47	60 - 69	110 - 115	132 - 138	150 - 161
Rated lightning impulse withstand voltage (BIL)	**(kV)**	250	325	550	650	750
Partial discharge measurement	**(pC)**	< 5	< 5	< 5	< 5	< 5
Conductor cross-section area	**(mm^2)**	95 - 1200	95 - 1200	95 - 2500	240 - 2500	240 - 2000
Diameter across cable insulation (prepared)	**(mm)**	32.5 - 64.4	32.5 - 82.0	46.0 - 115.0	46.0 - 115.0	52.0 - 115.0
Net weight approx.	**(kg)**	11 - 12	11 - 22	25 - 50	31 - 54	54 - 58
Minimal creepage distance	**(mm)**	1500 - 1813	1450 - 2248	2460 - 3813	3625 - 4495	4250 - 5270
Pollution class		-	2 - 4	2 - 4	3 - 4	3 - 4

		EST72,5	EST123	EST145	EST170
Max. operating voltage	**U_m (kV)**	72.5	123	145	170
Standards		IEC60840 IEC60815	IEC60840 IEC60815	IEC60840 IEC60815	IEC60840 IEC60815
Rated voltage	**U (kV)**	60 - 69	110 - 115	132 - 138	150 - 161
Rated lightning impulse withstand voltage (BIL)	**(kV)**	325	550	650	750
Partial discharge measurement	**(pC)**	< 5	< 5	< 5	< 5
Conductor cross-section area	**(mm^2)**	95 - 1200	150 - 2000	240 - 2000	240 - 2000
Diameter across cable insulation (prepared)	**(mm)**	32.5 - 64.4	46.0 - 115.0	46.0 - 115.0	52.0 - 115.0
Net weight approx.	**(kg)**	65 - 68	100 - 120	120 - 130	150 - 160
Minimal creepage distance	**(mm)**	1813 - 2248	3075 - 3813	3625 - 4495	4250 - 5270
Pollution class		3 - 4	3 - 4	3 - 4	3 - 4

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