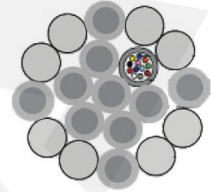


OPGW-95 (OPTICAL GROUND WIRE)



DEFINITION

OPGW (optical ground wire) is a type of conductor that is used in the construction of electric power transmission lines. Here the conductor combines both the functions of grounding and communications. OPGW contains a tubular structure with one or more optical fibers in it, surrounded by layers of galvanized steel and aluminium alloy wire. In the OPGW system, the conductor serves as a normal ground wire protecting the phase conductors against the lightning strikes. The optical fibers are integrated in a stainless steel tube filled with a thixotropic jelly and hermetically sealed to provide best protection of enclosed fibers at any stage of the installation or operation.

APPLICATION

The optical fiber of the OPGW is manufactured and designed to provide optimum transmission services. These fibers are used primarily in telecommunications networks characterised by long distance links and high capacity.

TECHNICAL SPECIFICATION

ALUMINIUM ALLOY WIRE DIAMETER	ALUMINIUM CLAD STEEL WIRE DIAMETER	O/F STAINLESS STEEL TUBE DIAMETER	OPGW CONDUCTOR DIAMETER	ALUMINIUM ALLOY UNIT WEIGHT	TOTAL OPGW CROSS - SECTION	NUMBER OF STAINLESS STEEL TUBE
mm	mm	mm	mm	kg/km	mm ²	1st Layer
2.60 ± 0.03	2.60 ± 0.05	2.60 ± 0.05	13.00 ± 0.5	115	95.6	1
NUMBER OF ALUMINIUM ALLOY (AAA) WIRE	LAY DIRECTION	LAY DIRECTION	NUMBER OF ALUMINIUM CLAD STEEL WIRE	NUMBER OF ALUMINIUM CLAD STEEL WIRE	ALUMINIUM CLAD STEEL WIRE UNIT WEIGHT	O/F TUBE & JELLY UNIT WEIGHT
2nd Layer	1st Layer	2nd Layer	1st Layer	2nd Layer	kg/km	kg/km
8	Left-Hand (S-twist)	Right-Hand (Z-twist)	5	4	350	16
TOTAL OPGW UNIT WEIGHT	OPGW RATED TENSILE STRENGTH (RTS)	FINAL MODULUS ELASTICITY of OPGW	THERMAL EXPANSION COEFFICIENT of OPGW	PERMISSIBLE MAX. WORKING STRESS	MEDIUM HIGHT TENSION	ENDURANCE TENSILE STRENGTH (ETS)
kg/km	daN	daN/mm ²	10-6/°C	daN	daN	daN
485	8200	11844	15.1	3280	1312 - 2050	5740
SHORT TIME OVERCURRENT (0.5 second) (40-180°C)	TEMPERATURE AFTER SHORT TIME OVERCURRENT	WORKING TEMPARATURE (MAX.)	RESISTANCE at 20°C (MAX.)	O/F STAINLESS STEEL TUBE DIAMETER (INNER/OUTER)	FIBER COUNT	WORKING TEMPERATURE
A	°C	°C	ohm/km	mm		°C
14000	180	80	0.540	2.2/2.6	12-24	-40 to 80