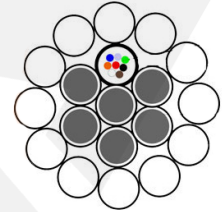


OPGW-127-1 (OPTICAL GROUND WIRE)



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	GALVANIZED STEEL WIRE DIAMETER	O/F STAINLESS STEEL TUBE DIAMETER	OPGW CONDUCTOR DIAMETER	NUMBER OF GALVANIZED STEEL WIRE	NUMBER OF GALVANIZED STEEL WIRE	NUMBER OF STAINLESS STEEL TUBE
mm	mm	mm	mm	Center	1st Layer	1st Layer
3.00±0.03	3.00±0.05	3.00±0.05	15.0±0.3 mm	1	5	1
NUMBER OF ALUMINIUM ALLOY (AAA) WIRE	LAY DIRECTION	LAY DIRECTION	TOTAL OPGW CROSS - SECTION	ALUMINIUM ALLOY UNIT WEIGHT	GALVANIZED STEEL UNIT WEIGHT	O/F TUBE&JELLY UNIT WEIGHT
2nd Layer	1st Layer	2nd Layer	mm ²	kg/km	kg/km	kg/km
12	Left-Hand (S-twist)	Right -Hand (Z-twist)	134.3	235	344	16
TOTAL OPGW UNIT WEIGHT	OPGW RATED TENSILE STRENGTH (RTS)	FINAL MODULUS ELASTICITY of OPGW	THERMAL EXPANCION COEFFICIENT of OPGW	PERMISSIBLE MAX. TENSION	MEDIUM HIGHT TENSION	ENDURANCE TENSILE STRENGTH (ETS)
kg/km	daN	daN/mm ²	10-6/°C	daN	daN	daN
595	8950	9500	15.Tem	10580	3650	6258
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
14700	180	80	0.4	2.6/3.0	12-24	-40 to 80