

ARE4H5EX 12/20KV TRIPLEX

Aluminium medium voltage cables 20kV



Cables with aluminium conductors for medium voltage transport and distribution of electrical energy in dry, humid or moist outdoor application, direct buried or in underground pipes or in wind applications. The cables can handle medium mechanical stresses due to their aluminum tape screen. They are designed to replace heavy and rigid cables armoured with metal in places where protection against damage is needed.

Conductor shape round, class 2 = stranded; red outer sheath

GENERAL INFORMATION

Brand	Prysmian
Application	Industrial Installations, Sustainable Energy & Installations, Power Distribution

STANDARDS AND CERTIFICATIONS

EN 60228	Conductors of insulated cables
GSC001	MV Underground MV Cables, ENEL
IEC 60502-2	Cables for rated voltages from 6 kV ($U_m = 7,2$ kV) up to 30 kV ($U_m = 36$ kV)

CABLE DESIGN

Conductor material	Aluminium
Core insulation material	XLPE
Longitudinal water blocking screen	Yes
Longitudinal water blocking cable	Yes
Longitudinal water blocking construction	Water swellable tape(s)
Radial water blocking cable	Yes
Protective barrier	Al/PE
Material outer sheath	MDPE
Cable shape	Round

ELECTRICAL & THERMAL PARAMETERS

Nominal voltage U ₀ [V]	12,000
Nominal voltage U [V]	20,000
Test voltage [kV]	42
Rated voltage U ₀ /U (U _m)	12/20 (24) kV
Max. conductor temperature [°C]	90
Max. conductor temperature at short circuit [°C]	250
Laying temperature (min) [°C]	-20
Laying temperature (max) [°C]	50

CHEMICAL PROPERTIES

CPR reaction to fire	Fca
Halogen free	acc. IEC/EN 60754-1/2
UV resistant	Yes
Silicon free	Yes
Lead free	Yes

CHARACTERISTICS

Outdoor installation	Yes
Underground installation	Yes
Suitable as installation cable	Yes
Bending radius (rule)	During installing: 12 x D multi-core cables

CABLE PROPERTIES

Basic construction	SAP code	Nominal thickness insulation [mm]	Nominal diameter over insulation [mm]	Nominal outer diameter [mm]	Cable weight [kg/km]	Bending radius, during laying (min) [mm]	Conductor resistance at 20° C [Ohm/km]	Short circuit current conductor (1sec) [kA]	Short circuit current screen (1sec) [kA]
3x1x120RM	20405548	4.9	23.4	68	2,778	818	0.253	11.6	3
3x1x185RM	20179657	4.9	26.4	71.1	3,354	1,067	0.164	17.9	3.5
3x1x240RM	20173012	4.9	28.9	80.1	4,207	1,150	0.125	23.1	3.6

CURRENT CARRYING CAPACITY

Cross-section (mm ²)	Direct in ground trefoil (A)
70	200
120	290
150	320
185	360
240	420

Ground temperature: 20°C

Depth of laying: 1,2 m; Soil resistivity, moist: 1 K.m/W