

Fire-resistant control and communicating cables in rubber insulation and in rubber sheath of pair twisting

KNpRng-FRHF, KNpREng-FRHF, KNpRPng-FRHF, KNpREPng-FRHF types



Design

Current-Carrying conductor	Copper, stranded
Fire-resistant barrier	Mica tape
Insulation	Ethylene propylene rubber of HF EPR
Group of the conductors	Insulated conductors are twisted in pair, triad, quad
Filling material	Halogen-free composition
Taping	Synthetic tape
Collective screen	Of copper wires for cables of KNpREng-FRHF, KNpREPng-FRHF types
Intermediate sheath	Oil-resistant halogen-free rubber of SHF2 type for cable of KNpREPng-FRHF type
Armour	Of steel galvanized wires for the cables of KNpRPng-FRHF, KNpREPng-FRHF types
Taping	Synthetic tape
Sheath	Oil-resistant halogen-free rubber of SHF2 type

Standards IEC 60092-350, IEC 60092-376

Materials	IEC 60228 2 nd class (conductor) IEC 60092-351 (insulation) IEC 60092-359 (sheath)
Fire-resistance (operability in the flame)	IEC 60331-21 IEC 60331-31
Flame - retardant	IEC 60332-3-22 (A category) and IEC 60332-1
Absence of halogens	IEC 60754-2
Small smoke emission	IEC 61034-2
Maximum current-carrying conductor's heating temperature is	+90 °C
Service life	35 years

Cables with “FRLS” index are mud-resistant.

Nominal outer diameter and weight of cables of KNpRng-FRLS type equal to nominal outer diameter and weight of cables of KNpRng-FRHF type, nominal outer diameter and weight of cables of KNpREng-FRLS type equal to nominal outer diameter and weight of cables of KNpREng-FRHF type, nominal outer diameter and weight of cables of KNpRPng-FRLS type equal to nominal outer diameter and weight of cables of KNpRPng-FRHF type, nominal outer diameter and weight of cables of KNpREPng-FRLS type equal to nominal outer diameter and weight of cables of KNpREPng-FRHF type.

Engineering parameters and reference data of the samples (selective cross-section):

Number and nominal cross-section of the conductors, mm ²	Nominal outer diameter, mm				Weight of 1 km cable, kg			
	KNpRng-FRHF	KNpREng-FRHF	KNpRPng-FRHF	KNpREPng-FRHF	KNpRng-FRHF	KNpREng-FRHF	KNpRPng-FRHF	KNpREPng-FRHF
1x2x 1,0	9,1	9,8	10,4	13,4	143	167	152	287
2x2x 1,0	13,5	14,6	15,0	18,6	237	287	312	513
3x2 x 1,0	14,5	15,4	15,8	19,6	274	326	347	569
4x2 x 1,0	15,9	17,0	17,4	21,2	321	393	410	653
5x2 x 1,0	17,7	18,6	19,0	23,0	404	486	493	768
7x2 x 1,0	19,5	20,4	20,8	25,0	489	589	587	899
8x2 x 1,0	21,2	22,2	22,6	26,8	544	669	661	1000
10x2 x 1,0	25,4	26,2	26,6	31,2	731	893	856	1284
12x2 x 1,0	26,2	27,0	27,6	32,0	805	989	950	1375
14x2 x 1,0	27,8	28,6	29,0	33,8	912	1120	1050	1531
19x2 x 1,0	31,2	32,4	32,4	37,8	1169	1440	1324	1963
24x2 x 1,0	37,0	38,4	38,4	44,4	1518	1866	1722	2542
1x2x 1,5	9,7	10,4	11,2	14,2	158	182	180	325
2x2x 1,5	14,7	15,6	16,0	19,8	311	359	361	584
3x2 x 1,5	15,6	16,6	17,0	20,8	346	411	412	650
4x2 x 1,5	17,3	18,2	18,6	22,6	409	479	480	750
5x2 x 1,5	19,0	20,1	20,5	24,7	491	591	592	901
7x2 x 1,5	21,0	22,1	22,5	26,7	585	705	706	1042
8x2 x 1,5	23,0	23,8	24,2	28,6	660	782	783	1159
10x2 x 1,5	27,5	28,4	28,8	33,6	856	1030	1030	1508
12x2 x 1,5	28,4	29,3	29,7	34,5	934	1130	1130	1622
14x2 x 1,5	30,1	31,4	31,4	36,8	1049	1346	1271	1891
19x2 x 1,5	33,8	35,1	35,1	40,9	1402	1694	1609	2341
24x2 x 1,5	40,1	41,6	41,6	47,8	1816	2190	2088	2998