

Fire-resistant control and communicating cables in rubber insulation in plastic sheath with separately screened pairs

KNpERkng-FRHF, KNpEREkng-FRHF, KNpERPkgng-FRHF, KNpEREKkng-FRHF types



Design	
Current-carrying conductor	Copper stranded
Fire-resistant barrier	Mica tape
Insulation	Ethylene propylene rubber of HF EPR type
Group of the conductors	Insulated conductors are twisted in pair, triad, quad
Screen of group	- Of copper wires - Of tape foiled with aluminum
Filling material	Halogen-free composition
Taping	Synthetic tape
Collective screen	Of copper wires for the cables of KNpEREkng-FRHF, KNpEREKkng-FRHF types
Intermediate sheath	Halogen-free composition for the cable of KNpEREKkng-FRHF type
Armour	Of steel galvanized cable of KNpERPkgng-FRHF, KNpEREKkng-FRHF types
Taping	Synthetic tape
Sheath	Cross-linked oil-resistant halogen-free composition of SHF2 type

Standards IEC 60092-350, IEC 60092-376	
Material	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
Current-carrying conductor's heating temperature	+90 °C
Service life	35 years

Nominal outer diameter and weight of cables of KNpERkng-FRHF type equal to nominal outer diameter and weight of cables of KNpEREkng-FRHF type, nominal outer diameter and weight of cables of KNpEREKkng-FRHF type equal to nominal outer diameter and weight of cables of KNpEREKkng-FRHF type, nominal outer diameter and weight of cables of KNpERPkgng-FRHF type equal to nominal outer diameter and weight of cables of KNpERPkgng-FRHF type, nominal outer diameter and weight of cables of KNpEREKkng-FRHF type equal to nominal outer diameter and weight of cables of KNpEREKkng-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			
	KNpERkng-FRHF	KNpEREkng-FRHF	KNpERPkg-FRHF	KNpEREpkng-FRHF	KNpERkng-FRHF	KNpEREkng-FRHF	KNpERPkg-FRHF	KNpEREpkng-FRHF
1x2x 1,0	9,8	10,5	11,3	13,2	156	193	213	315
2x2x 1,0	14,9	15,7	16,1	18,6	305	382	384	579
3x2 x 1,0	15,8	16,8	17,2	19,9	353	445	447	666
4x2 x 1,0	17,5	18,4	18,8	21,5	429	524	525	765
5x2 x 1,0	19,5	20,3	20,7	23,6	540	647	648	924
7x2 x 1,0	21,3	22,3	22,7	25,8	651	783	784	1100
8x2 x 1,0	23,3	24,1	24,7	27,8	739	871	885	1228
10x2 x 1,0	27,8	28,7	29,1	32,8	980	1142	1142	1598
12x2 x 1,0	28,7	29,6	30,2	33,7	1093	1264	1279	1734
14x2 x 1,0	30,5	31,8	31,8	35,7	1243	1504	1427	2016
19x2 x 1,0	34,2	35,7	35,7	39,8	1606	1925	1839	2520
24x2 x 1,0	40,6	42,1	42,1	46,8	2077	2459	2356	3231
1x2x 1,5	10,4	11,3	11,9	14,0	179	225	240	355
2x2x 1,5	15,9	16,9	17,3	20,0	353	444	445	666
3x2 x 1,5	17,0	17,9	18,3	21,0	419	510	511	744
4x2 x 1,5	18,7	19,8	20,2	23,1	500	612	613	882
5x2 x 1,5	20,8	21,6	22,2	25,1	632	746	759	1055
7x2 x 1,5	22,9	23,8	24,2	27,5	775	906	906	1258
8x2 x 1,5	25,1	25,9	26,3	29,6	879	1022	1023	1406
10x2 x 1,5	29,8	31,3	31,3	35,0	1149	1414	1338	1900
12x2 x 1,5	31,0	32,2	32,2	36,1	1301	1562	1484	2082
14x2 x 1,5	32,9	34,1	34,1	38,2	1479	1759	1677	2329
19x2 x 1,5	36,9	38,3	38,3	42,6	1914	2257	2163	2917
24x2 x 1,5	44,0	45,2	45,2	50,1	2493	2883	2771	3737