



## FRA 145/S Multicore

### Applications

Multicore cable with improved fire performance and very high resistance to temperature designed for internal wiring in lamps, heating appliances and distribution boxes in apparatus, mechanical and plant engineering, etc. Used for fixed and flexible application in dry, humid and wet rooms.

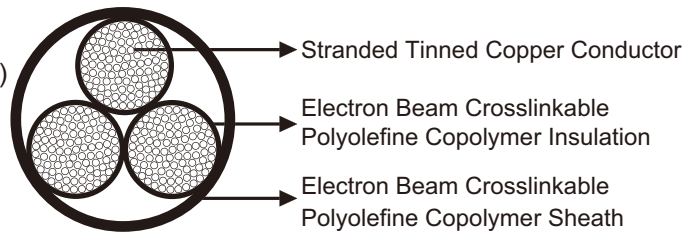


### Standard

- IEC 60754-1, EN 50267-2-1 (halogen free)
- IEC 60754-2, EN 50267-2-2 (no corrosive gases)
- NES 02-713, NFC 20-454 (no toxic gases)
- IEC 61034, EN 50268-2 (low smoke density)
- IEC 60332-1, EN 50265-2-1 (flame retardant)
- IEC 60332-3, EN 50266-2, NF C 32-070

(non-flame propagating)

- DIN 51900 (low fire load)



### Construction

- **Conductors:** Class 5 stranded tinned copper to IEC60228/VDE 0295.
- **Insulation:** Electron beam crosslinkable polyolefine copolymer.
- **Sheath:** Electron beam crosslinkable polyolefine copolymer.

### Electrical Characteristics at 20°C

Nominal Conductor Cross Section	mm <sup>2</sup>	0.50	0.75	1.0	1.5	2.5	4.0	6.0
Maximum Conductor Resistance	Ω/km	40.1	26.7	20.0	13.7	8.21	5.09	3.39
Voltage Rating	V	300/500V (≤1mm <sup>2</sup> ); 450/750V (≥1.5mm <sup>2</sup> )						

Nominal Conductor Cross Section	mm <sup>2</sup>	10	16	25	35	50	70	95
Maximum Conductor Resistance	Ω/km	1.95	1.24	0.795	0.565	0.393	0.277	0.21
Voltage Rating	V	300/500V (≤1mm <sup>2</sup> ); 450/750V (≥1.5mm <sup>2</sup> )						



## ↘ Mechanical and Thermal Properties

Minimum Bending Radius: 4xOD (Static); 6xOD (Flexing)

Temperature Range: -55°C ~+145°C (Static); -40°C ~+120°C (Flexing)

Short Circuit Temperature: +280°C

## ↘ Dimensions and Weight

No. of cores& Nominal Conductor Cross Sectional Area No.×mm <sup>2</sup>	Number and Nominal Diameter of Strands No/mm	Nominal Insulation Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
2×0.5	19/0.18	0.5	5.1	38
3G0.5	19/0.18	0.5	5.5	46
4×(G)0.5	19/0.18	0.5	5.9	55
5G0.5	19/0.18	0.5	6.7	68
6G0.5	19/0.18	0.5	7.1	77
7G0.5	19/0.18	0.5	7.8	93
8G0.5	19/0.18	0.5	8.6	102
10G0.5	19/0.18	0.5	9.4	130
12G0.5	19/0.18	0.5	9.4	125
14G0.5	19/0.18	0.5	10.0	145
16G0.5	19/0.18	0.5	10.7	166
2×0.75	24/0.20	0.6	5.9	52
3G0.75	24/0.20	0.6	6.2	61
4×(G)0.75	24/0.20	0.6	6.9	75
5G0.75	24/0.20	0.6	7.7	94
6G0.75	24/0.20	0.6	8.3	107
7G0.75	24/0.20	0.6	9.1	127
8G0.75	24/0.20	0.6	10.2	144
10G0.75	24/0.20	0.6	11.1	186
14G0.75	24/0.20	0.6	11.7	203
16G0.75	24/0.20	0.6	12.5	233
1×1	32/0.20	0.6	3.9	25
2×1	32/0.20	0.6	6.3	50
3G1	32/0.20	0.6	6.8	67
4G1	32/0.20	0.6	7.4	87
5G1	32/0.20	0.6	8.4	107
6G1	32/0.20	0.6	8.9	124
7G1	32/0.20	0.6	10.2	152
8G1	32/0.20	0.6	11.0	177
10G1	32/0.20	0.6	12.1	222
14G1	32/0.20	0.6	12.7	252
16G1	32/0.20	0.6	13.6	290
19G1	32/0.20	0.6	15.1	338
21G1	32/0.20	0.6	16.0	380
24G1	32/0.20	0.6	17.1	437



No. of cores& Nominal Conductor Cross Sectional Area No.×mm <sup>2</sup>	Number and Nominal Diameter of Strands No/mm	Nominal Insulation Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
25G1	32/0.20	0.6	17.1	468
27G1	32/0.20	0.6	17.1	497
30G1	32/0.20	0.6	17.7	514
33G1	32/0.20	0.6	18.9	582
37G1	32/0.20	0.6	20.3	714
1×1.5	30/0.25	0.6	4.3	32
2×1.5	30/0.25	0.6	7.8	89
3G1.5	30/0.25	0.6	9.1	106
4×(G)1.5	30/0.25	0.6	9.1	123
5G1.5	30/0.25	0.6	10.1	156
7G1.5	30/0.25	0.6	12.1	224
10G1.5	30/0.25	0.6	15.0	314
12G1.5	30/0.25	0.6	15.0	346
14G1.5	30/0.25	0.6	15.4	366
16G1.5	30/0.25	0.6	16.8	415
19G1.5	30/0.25	0.6	18.3	486
21G1.5	30/0.25	0.6	19.7	562
24G1.5	30/0.25	0.6	21.1	644
25G1.5	30/0.25	0.6	21.7	693
27G1.5	30/0.25	0.6	21.7	731
30G1.5	30/0.25	0.6	21.8	760
33G1.5	30/0.25	0.6	22.6	831
37G1.5	30/0.25	0.6	24.8	1032
1×2.5	48/0.25	0.7	5.0	45
2×2.5	48/0.25	0.7	9.1	102
3G2.5	48/0.25	0.7	9.9	145
4G2.5	48/0.25	0.7	10.9	189
5G2.5	48/0.25	0.7	12.2	235
6G2.5	48/0.25	0.7	13.2	288
7G2.5	48/0.25	0.7	14.6	344
8G2.5	48/0.25	0.7	15.7	379
10G2.5	48/0.25	0.7	17.7	482
12G2.5	48/0.25	0.7	18.7	483
14G2.5	48/0.25	0.7	19.0	572
16G2.5	48/0.25	0.7	20.1	651
19G2.5	48/0.25	0.7	20.7	765
21G2.5	48/0.25	0.7	23.7	857
24G2.5	48/0.25	0.7	25.8	984
25G2.5	48/0.25	0.7	25.8	1121
27G2.5	48/0.25	0.7	25.8	1069
30G2.5	48/0.25	0.7	26.7	1175
33G2.5	48/0.25	0.7	28.0	1301
37G2.5	48/0.25	0.7	30.6	1599
1×4	56/0.30	0.8	5.6	62



No. of cores& Nominal Conductor Cross Sectional Area No.×mm <sup>2</sup>	Number and Nominal Diameter of Strands No/mm	Nominal Insulation Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
2×4	56/0.30	0.8	10.2	161
3G4	56/0.30	0.8	10.9	217
4G4	56/0.30	0.8	12.8	268
5G4	56/0.30	0.8	14.2	334
6G4	56/0.30	0.8	14.9	398
7G4	56/0.30	0.8	16.4	458
8G4	56/0.30	0.8	17.6	523
10G4	56/0.30	0.8	20.1	674
12G4	56/0.30	0.8	20.1	688
14G4	56/0.30	0.8	21.5	805
1×6	81/0.30	0.9	6.1	83
2×6	81/0.30	0.9	11.6	213
3G6	81/0.30	0.9	12.4	279
4G6	81/0.30	0.9	13.8	341
5G6	81/0.30	0.9	15.8	494
6G6	81/0.30	0.9	16.7	519
7G6	81/0.30	0.9	18.3	616
1×10	78/0.40	1.0	7.7	136
2×10	78/0.40	1.0	14.7	351
3G10	78/0.40	1.0	15.7	457
4G10	78/0.40	1.0	17.5	590
5G10	78/0.40	1.0	19.6	746
6G10	78/0.40	1.0	21.7	875
7G10	78/0.40	1.0	23.7	1024
1×16	119/0.40	1.1	9.1	204
2×16	119/0.40	1.1	17.7	530
3G16	119/0.40	1.1	19.3	707
4G16	119/0.40	1.1	21.5	919
5G16	119/0.40	1.1	23.9	1148
6G16	119/0.40	1.1	26.2	1369
7G16	119/0.40	1.1	28.9	1569
1×25	182/0.40	1.3	10.9	308
2×25	182/0.40	1.3	21.3	792
3G25	182/0.40	1.3	22.7	977
4G25	182/0.40	1.3	25.4	1299
5G25	182/0.40	1.3	28.1	1630
6G25	182/0.40	1.3	31.1	1964
7G25	182/0.40	1.3	34.5	2351
1×35	266/0.40	1.3	12.1	414
2×35	266/0.40	1.3	23.7	1050
3G35	266/0.40	1.3	25.5	1325
4G35	266/0.40	1.3	28.4	1747
5G35	266/0.40	1.3	31.3	2173
1×50	378/0.40	1.6	14.9	589



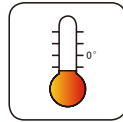
No. of cores & Nominal Conductor Cross Sectional Area No. x mm <sup>2</sup>	Number and Nominal Diameter of Strands No/mm	Nominal Insulation Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
2x50	378/0.40	1.6	29.3	1471
3G50	378/0.40	1.6	31.5	3133
4G50	378/0.40	1.6	35.3	2514
5G50	378/0.40	1.6	39.1	3133
1x70	348/0.50	1.6	17.1	800
2x70	348/0.50	1.6	33.7	1982
3G70	348/0.50	1.6	36.4	2585
4G70	348/0.50	1.6	40.3	3390
5G70	348/0.50	1.6	44.5	4233
1x95	444/0.50	1.8	19.2	1054
2x95	444/0.50	1.8	37.5	2565
3G95	444/0.50	1.8	40.0	3326
4G95	444/0.50	1.8	45.3	4451
5G95	444/0.50	1.8	50.7	5602



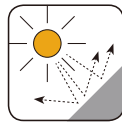
Impact Resistant



Highly Flexible



Weather Resistant



UV Resistant



Fire Retardant  
NF C32-070-2.2(C1)  
IEC 60332-3/EN50266



Flame Retardant  
NF C32-070-2.1(C2)  
IEC 60332-1/EN 50265-2-1



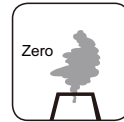
Low Corrosivity  
EN 50267-2-2/NF C32-074  
IEC 60754-2/NF C20-453



Low Toxicity



Low Smoke Emission  
IEC 61034/NFC20-902  
EN 50268/NF C32-073



Zero Halogen  
IEC 60754-1/NF C20-454  
EN 50267-2-1