



PRODUCT FOR INSTALLATION OF ELECTRICAL WIRING

Metal conduits in a protective sheath – MG (ST AO KEK-009-2024)

The hermetically sealed metal conduit MG is intended for safeguarding and protecting cables, wires, and flexible hoses from chemical and mechanical damage, exposure to moisture, and solar radiation. The MG metal conduit is used for open and concealed installation indoors and outdoors, in ducts, tunnels, and trenches, and may be applied in hazardous areas of all classes. The metal conduit is permitted to be used for the transportation of liquid, powdered, and bulk materials.



Design of the metal conduit

The metal conduit is manufactured from galvanized steel, stainless steel «N», or aluminum «AL» strip, over which a protective polymer sheath is applied (see Figure 1).

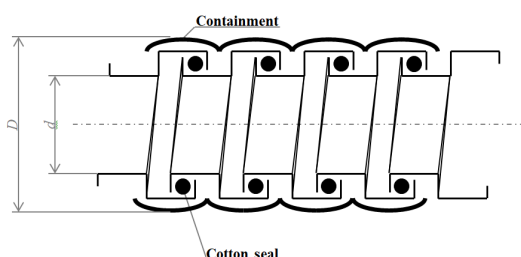


Figure 1. Design of the hermetically sealed metal conduit MG

The polymer sheath ensures complete hermetic sealing of the metal conduit, protects it from harmful environmental influences, and significantly increases the tensile strength of the metal conduit. A cotton thread is placed between the turns of the steel strip to provide sealing.

Technical characteristics



Minimum installation temperature of the metal conduit:
–25° for versions «Tng», «HL»,
–15° for other versions

Operating temperature of the metal conduit:

–60°...+125 °C for version «Tng»,
–50°...+105 °C for version «t»,
–60°...+80 °C for versions «HL», «ng-HL», «ng-LS-HL»,
–50°...+50 °C for versions «ng-HF», «ng-HFLT»,
–60°...+50 °C for version «ng-HF-HL»,
–50°...+80 °C for other versions



Climatic version V, placement category 1–5 (in accordance with GOST 15150). Application is possible in all macroclimatic regions, including the tropics.



All versions of the metal conduit are resistant to solar radiation (test method 211-1 according to GOST 20.57.406-81). The maximum ultraviolet resistance is provided by the black-colored sheath.



The sheath is tested for withstand voltage 6 kV in accordance with GOST 2990-78.



The warranty period for the conduits is 1 year. The warranty period is calculated from the date of installation of the conduits, but not later than 24 months from the date of manufacture.



The metal conduit is classified by version as follows:

a) by strip material:

- | | |
|--|-----------------------|
| — made of galvanized steel strip | — without designation |
| — made of high-strength galvanized steel strip | — P |
| — made of stainless steel strip | — N |
| — made of aluminum strip | — AL |

b) by polymer material of the protective sheath:

- | | |
|--|-----------------------|
| — made of polyvinyl chloride (PVC) plastic | — without designation |
| — made of high-heat-resistant polyvinyl chloride (PVC) plastic | — t |
| — made of low-flammability polyvinyl chloride (PVC) plastic | — ng |
| — made of fire-retardant polyvinyl chloride (PVC) plastic | — ng-LS |
| — made of halogen-free polymer material | — ng-HF |
| — made of halogen-free polymer material with reduced smoke emission | — ng-LS-HF |
| — made of low-flammability thermoplastic elastomer | — Tng |
| — made of fire-retardant polyvinyl chloride (PVC) plastic with low toxicity of combustion products | — ng-LSLTx |
| — made of halogen-free polymer material with low toxicity of combustion products | — ng-HFLTx |
| | — HL |
| | — ng-HL |
| | — ng-LS-HL |
| — made of high-cold-resistant polymer material | — ng-HF-HL |

c) by resistance to specific environments:

- | | |
|--|-----------------------|
| — without requirements for resistance to specific environments | — without designation |
| — with enhanced oil and gasoline resistance | — M |
| — with enhanced chemical resistance to acids and alkalis | — H |

Note:

All metal conduits are resistant to solar radiation (UF).

The color of the protective sheath must be specified when ordering and should have the following designations:

- | | |
|----------------------|------------------------|
| — black | — without designation; |
| — blue or light blue | — S; |
| — green | — Z; |
| — red or pink | — K; |
| — yellow or orange | — G; |
| — brown | — Kch; |
| — white or gray | — B |

The warranty period for the conduits is 1 year.

The warranty period is calculated from the date of installation of the conduits, but not later than 24 months from the date of manufacture.

Note:

The minimum order quantity is 50 meters. The manufacturer may supply segments shorter than 50 meters, but not exceeding 20% of the order quantity.

Table 1. Grades, main parameters, and dimensions of metal conduits

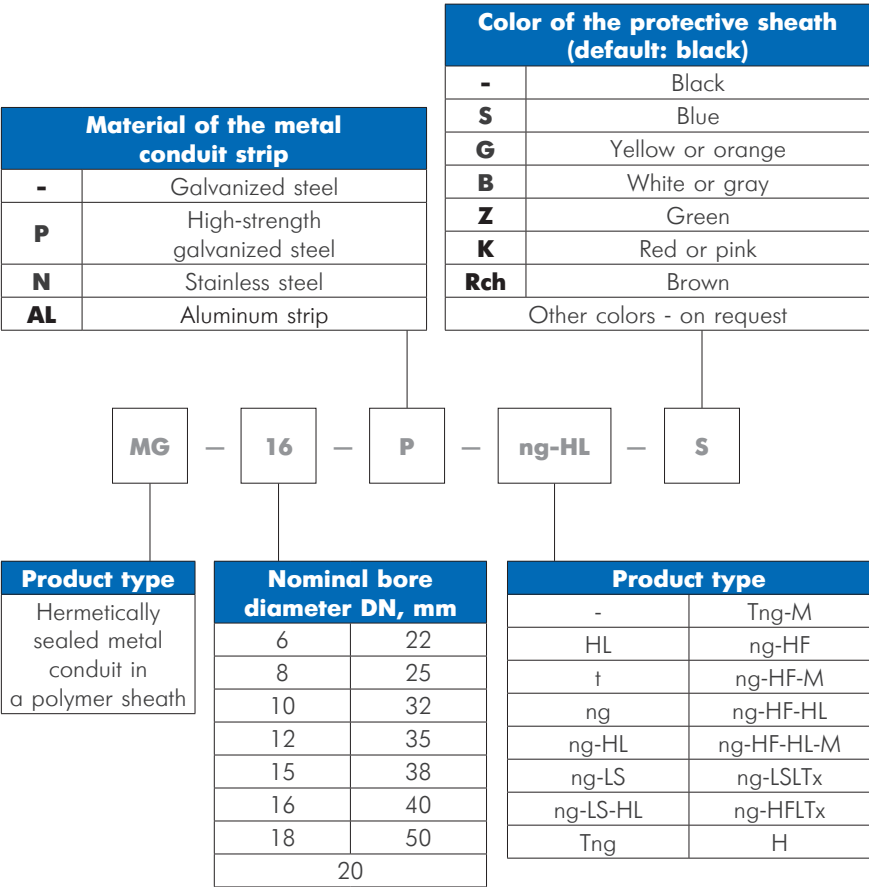
Metal conduit grade	Nominal bore diameter, mm	Minimum internal diameter, mm	Maximum external diameter, mm	Minimum operational bending radius, mm	Tensile strength, N (kgf), not less than	Calculated weight 1 m, kg
MG-* MG-*-HL MG-*-t MG-*-ng MG-*-ng-HL MG-*-ng-LS MG-*-ng-LS-HL MG-*-ng-HF MG-*-ng-HF-HL MG-*-ng-LS-HF MG-*-Tng MG-*-ng-LSLTx MG-*-ng-HFLTx	6	5,1	11,3	30	98,1(10)	0,18
	8	7,8	13,6	35	117,7(12)	0,15
	10	9,1	15,9	45	147,1(15)	0,18
	12	10,9	18,3	65	196,1(20)	0,24
	15	13,9	21,3	65	245,2(25)	0,28
	16	14,9	21,5	70	245,2(25)	0,30
	18	16,9	24,3	80	245,2(25)	0,33
	20	18,7	26,4	80	294,2(30)	0,36
	22	20,7	27,0	100	294,2(30)	0,37
	25	23,7	33,2	100	343,2(35)	0,42
	32	30,4	40,8	140	441,3(45)	0,65
	35	33,5	43,0	150	441,3(45)	0,70
	38	36,4	46,8	160	490,4(50)	0,82
	40	38,5	48,5	170	490,4(50)	0,88
	50	47,5	58,8	220	686,5(70)	1,07
MG-*-P MG-*-P-HL MG-*-P-t MG-*-P-ng MG-*-P-ng-HL MG-*-P-ng-LS MG-*-P-ng-LS-HL MG-*-P-ng-HF MG-*-P-ng-HF-HL MG-*-P-ng-LS-HF MG-*-P-Tng MG-*-P-ng-LSLTx MG-*-P-ng-HFLTx	6	5,1	11,3	35	294,2(30)	0,13
	8	7,8	13,6	40	392,3(40)	0,16
	10	9,1	15,9	55	441,3(45)	0,20
	12	10,9	18,3	75	686,5(70)	0,25
	15	13,9	21,3	75	784,5(80)	0,31
	16	14,9	21,5	80	784,5(80)	0,32
	18	16,9	24,3	90	833,5(85)	0,36
	20	18,7	26,4	90	980,7(100)	0,39
	22	20,7	27,0	110	980,7(100)	0,40
	25	23,7	33,2	110	1078,7(110)	0,46
	32	30,4	40,8	150	1274,8(130)	0,70
	35	33,5	43,0	160	1274,8(130)	0,76
	38	36,4	46,8	180	1471,0(150)	0,88
	40	38,5	48,5	190	1471,0(150)	0,95
	50	47,5	58,8	245	2451,7(250)	1,12

End of Table 1

Metal conduit grade	Nominal bore diameter, mm	Minimum internal diameter, mm	Maximum external diameter, mm	Minimum operational bending radius, mm	Tensile strength, N (kgf), not less than	Calculated weight 1 m, kg
MG-*-N MG-*-N-HL MG-*-N-† MG-*-N-ng MG-*-N-ng-HL MG-*-N-ng-LS MG-*-N-ng-LS-HL MG-*-N-ng-HF MG-*-N-ng-HF-HL MG-*-N-ng-LS-HF MG-*-N-Tng MG-*-N-ng-LSLTx MG-*-N-ng-HFLTx	6	5,1	11,3	35	294,2 (30)	0,13
	8	7,8	13,6	40	392,3 (40)	0,16
	10	9,1	15,9	55	441,3 (45)	0,18
	12	10,9	18,3	75	686,5 (70)	0,26
	15	13,9	21,3	75	784,5 (80)	0,31
	16	14,9	21,5	80	784,5 (80)	0,32
	18	16,9	24,3	90	833,5 (85)	0,36
	20	18,7	26,4	90	980,7 (100)	0,39
	22	20,7	27,0	110	980,7 (100)	0,40
	25	23,7	33,2	110	1078,7(110)	0,47
	32	30,4	40,8	150	1274,8(130)	0,71
	35	33,5	43,0	160	1274,8(130)	0,76
	38	36,4	46,8	180	1471,0(150)	0,90
	40	38,5	48,5	190	1471,0(150)	0,95
	50	47,5	58,8	245	2451,7(250)	1,17
MG-*-AL MG-*-AL-HL MG-*-AL-† MG-*-AL-ng MG-*-AL-ng-HL MG-*-AL-ng-LS MG-*-AL-ng-LS-HL MG-*-AL-ng-HF MG-*-AL-ng-HF-HL MG-*-AL-ng-LS-HF MG-*-AL-Tng MG-*-AL-ng-LSLTx MG-*-AL-ng-HFLTx	6	5,1	11,3	35	78,4 (8)	0,08
	8	7,8	13,6	50	78,4 (8)	0,10
	10	9,1	15,9	60	117,7 (12)	0,13
	12	10,9	18,3	60	147,1 (15)	0,17
	15	13,9	21,3	85	196,1 (20)	0,20
	16	14,9	21,5	85	196,1 (20)	0,21
	18	16,9	24,3	100	196,1 (20)	0,23
	20	18,7	26,4	100	245,2 (25)	0,25
	22	20,7	27,0	120	294,2 (30)	0,26
	25	23,7	33,2	120	392,3 (40)	0,31
	32	30,4	40,8	140	392,3 (40)	0,46
	35	33,5	43,0	170	392,3 (40)	0,49
	38	36,4	46,8	190	441,3 (45)	0,56
	40	38,5	48,5	220	441,3 (45)	0,61
	50	47,5	58,8	270	490,5 (50)	0,74

* The nominal bore diameter is indicated (for example, MG-15-ng-HL)

Designation for ordering **MG metal conduit**
ST OK KEK-009-2024



Example of designation for ordering	Description of the metal conduit
MG-16-P-ng-HL-S ST OK KEK-009-2024	Hermetically sealed metal conduit made of high-strength galvanized steel, DN=16 mm, in a blue PVC sheath, with reduced flammability and enhanced frost resistance. Operating temperature: -60°...+80°C, installation at temperatures down to -25°C.
MG-22-ng-HF ST OK KEK-009-2024	Hermetically sealed metal conduit made of standard-strength galvanized steel, DN=22 mm, in a sheath of high-hardness polymer composition, halogen-free. Operating temperature: -50°...+70°C, installation at temperatures down to -15°C.

Preferred application areas of **MG metal conduits** considering their design type

Fire safety design type	Preferred application area of the MG metal conduit
- (without designation), HL, t, H	For single installation in structures and industrial premises. Group installation is recommended only in outdoor electrical installations and industrial premises where only periodic presence of maintenance personnel is possible
ng, ng-HL, Tng, Tng-M	For group and single installation in open structures, pipe racks, galleries, and industrial premises
ng-LS, ng-LS-HL	For installation in indoor electrical installations, as well as in buildings, structures, and enclosed cable facilities
ng-HF, ng-HF-M, ng-HF-HL, ng-HF-HL-M	For installation in indoor electrical installations, as well as in buildings and structures with mass occupancy of people, including multifunctional high-rise buildings and building complexes
ng-LSLTx, ng-HFLTx	For installation in buildings of preschool and educational institutions, specialized homes for the elderly and persons with disabilities, hospitals, in dormitory buildings of educational institutions and children’s facilities