

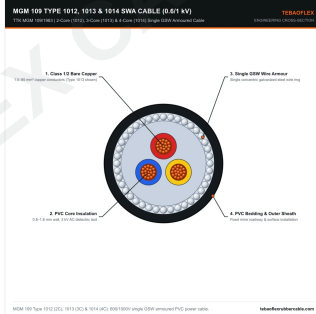
MGM 109 Type 1012 (2C), Type 1013 (3C) & Type 1014 (4C) SWA Mining Cable (600/1000V)

MGM 109 Type 1012 (2-core), Type 1013 (3-core), and Type 1014 (4-core) are 600/1000 V single galvanized steel wire armoured (SWA) PVC cables engineered under Turkish TTK MGM 109/1983 for fixed low-voltage power distribution, roadway lighting, conveyors, and auxiliary machinery in underground mines.

1. CABLE CONSTRUCTION

1. Conductor	Electrolytic annealed bare copper wire per IEC 60228 Class 1 (solid, 1.5–2.5 mm ²) or Class 2 (circular stranded, up to 95 mm ²).
2. Core Insulation	Flame-retardant PVC dielectric compound (0.8 mm to 1.6 mm radial wall thickness) laid up in close contact.
3. Inner Bedding	Extruded PVC-based inner sheath (0.8 mm to 1.2 mm radial wall) providing a uniform circular bedding under the steel wires.
4. Single GSW Armour (SWA)	Single concentric helical layer of galvanized steel round wires (0.9 mm, 1.25 mm, 1.60 mm, 1.80 mm, or 2.0 mm diameter), with optional galvanized steel binder tape.
5. Outer Sheath	Black special flame-retardant PVC outer sheath (1.3 mm to 2.2 mm radial thickness) resistant to underground humidity, oils, and abrasion.

Cross-Section Anatomy



MGM 109 Type 1013 Cross-Section (3-Core Shown): Unscreened Class 1/2 bare copper PVC cores, extruded PVC inner bedding, single-layer GSW wire armour, and special PVC outer sheath.

2. ELECTRICAL, MECHANICAL & STANDARD DATA

Reference Standard	Turkish Hard Coal Enterprises TTK MGM 109/1983 & IEC 60228 Class 1/2
Rated Voltage (Uo/U)	600 / 1000 V
Routine AC Test Voltage	3 kV AC
Size Range by Family	Type 1012: 2x1.5–2x16 mm ² Type 1013: 3x1.5–3x95 mm ² Type 1014: 4x1.5–4x95 mm ²
Continuous Current (25°C)	18 A (1.5 mm ²) up to 250 A (95 mm ²)
Minimum Bending Radius	Approx. 9 x maximum overall cable diameter (124 mm to 448 mm)
Conductor DC Resistance	12.1 Ω/km (1.5 mm ²) down to 0.193 Ω/km (95 mm ²) at 20°C
Installation Scope	Fixed horizontal galleries, pump stations, underground workshops, and surface coal washeries

TEBAOFLEX CABLE

MGM 109 Type 1012 (2C), Type 1013 (3C) & Type 1014 (4C) SWA Mining Cable (600/1000V) — Dimensional, Weight & Electrical Schedule

SKU: MGM-109-T1012-1014

https://tebaoflexrubbercable.com/

3. DIMENSIONAL, ARMOUR & ELECTRICAL SPECIFICATIONS

MGM 109 Type 1012 (2-Core, 600/1000V) — Single-Armoured Schedule (2x1.5 to 2x16 mm²)												
Cable Type	Insul. (mm)	Inner Sheath (mm)	Inner Dia. (mm)	SWA Wire (mm)	Outer Sheath (mm)	Min. OD (mm)	Max. OD (mm)	Min. Bend (mm)	Current 25°C (A)	Cond. R (Ω/km)	Cu Wt. (kg/km)	Cable Wt. (kg/km)
2x1.5	0.8	0.8	7.0	1.0 x 0.9	1.3	9.7	13.7	124	18	12.1	30	320
2x2.5	0.8	0.8	8.2	1.0 x 0.9	1.4	11.1	15.1	136	26	7.41	50	395
2x4	0.8	0.8	10.2	1.0 x 0.9	1.4	13.1	17.1	154	34	4.61	80	480
2x6	0.8	0.8	11.3	1.0 x 0.9	1.5	14.5	18.5	167	44	3.08	120	620
2x10	1.0	0.8	14.0	1.0 x 1.25	1.6	18.1	22.1	199	61	1.83	220	950
2x16	1.0	0.8	15.8	1.0 x 1.25	1.6	19.9	23.9	216	82	1.15	380	1280

MGM 109 Type 1013 (3-Core, 600/1000V) — Single-Armoured Schedule (3x1.5 to 3x95 mm²)												
Cable Type	Insul. (mm)	Inner Sheath (mm)	Inner Dia. (mm)	SWA Wire (mm)	Outer Sheath (mm)	Min. OD (mm)	Max. OD (mm)	Min. Bend (mm)	Current 25°C (A)	Cond. R (Ω/km)	Cu Wt. (kg/km)	Cable Wt. (kg/km)
3x1.5	0.8	0.8	7.4	1.0 x 0.9	1.4	9.7	13.7	124	18	12.1	45	350
3x2.5	0.8	0.8	8.8	1.0 x 0.9	1.4	11.1	15.1	136	26	7.41	75	420
3x4	0.8	0.8	10.9	1.0 x 0.9	1.4	13.1	17.1	154	34	4.61	120	560
3x6	0.8	0.8	12.0	1.0 x 1.25	1.5	14.5	18.5	167	44	3.08	190	780
3x10	1.0	0.8	15.0	1.0 x 1.25	1.6	18.1	22.1	199	61	1.83	310	1120
3x16	1.0	0.8	16.6	1.0 x 1.25	1.6	20.7	24.7	223	82	1.15	530	1400
3x25	1.2	1.0	20.3	1.0 x 1.60	1.7	25.3	29.3	264	108	0.727	810	2150
3x35	1.2	1.0	22.5	1.0 x 1.60	1.8	27.9	31.9	288	135	0.524	1160	2450
3x50	1.4	1.0	26.2	1.0 x 1.80	1.9	32.2	36.2	326	168	0.387	1720	3400
3x70	1.4	1.2	30.0	1.0 x 2.0	2.0	36.4	40.4	364	207	0.268	2340	4420
3x95	1.6	1.2	34.8	1.0 x 2.0	2.1	41.6	45.6	411	250	0.193	3200	5800

MGM 109 Type 1014 (4-Core, 600/1000V) — Single-Armoured Schedule (4x1.5 to 4x95 mm²)													
Cable Type	Insul. (mm)	Inner Sheath (mm)	Inner Dia. (mm)	SWA Wire (mm)	Outer Sheath (mm)	Min. OD (mm)	Max. OD (mm)	Min. Bend (mm)	Current 25°C (A)	Cond. R (Ω/km)	Armour R (Ω/km)	Cu Wt. (kg/km)	Cable Wt. (kg/km)
4x1.5	0.8	0.8	8.1	1.0 x 0.9	1.4	11.0	15.0	135	18	12.1	20.17	60	420
4x2.5	0.8	0.8	9.5	1.0 x 0.9	1.4	12.5	16.5	149	26	7.41	12.30	100	500
4x4	0.8	0.8	11.9	1.0 x 1.25	1.5	15.8	19.8	179	34	4.61	7.68	160	750
4x6	0.8	0.8	13.2	1.0 x 1.25	1.5	17.2	21.2	191	44	3.08	5.13	240	820
4x10	1.0	0.8	16.5	1.0 x 1.25	1.6	20.8	24.8	224	61	1.83	3.05	400	1350
4x16	1.0	1.0	18.7	1.0 x 1.60	1.7	23.9	27.9	252	82	1.15	1.92	660	1900
4x25	1.2	1.0	22.6	1.0 x 1.60	1.8	28.0	32.0	288	108	0.727	1.21	1050	2610
4x35	1.2	1.0	25.0	1.0 x 1.60	1.9	30.6	34.6	312	135	0.524	0.873	1460	3100
4x50	1.4	1.2	29.6	1.0 x 2.0	2.0	36.2	40.2	362	168	0.387	0.645	2090	4300
4x70	1.4	1.2	33.4	1.0 x 2.0	2.1	40.2	44.2	398	207	0.268	0.447	3010	5400
4x95	1.6	1.2	38.7	1.0 x 2.0	2.2	45.7	49.7	448	250	0.193	0.322	4100	7000

Larger Cross-Sections (120–240 mm²): Custom 3-core and 4-core MGM 109 low-voltage armoured cables above 95 mm² are manufactured on request.