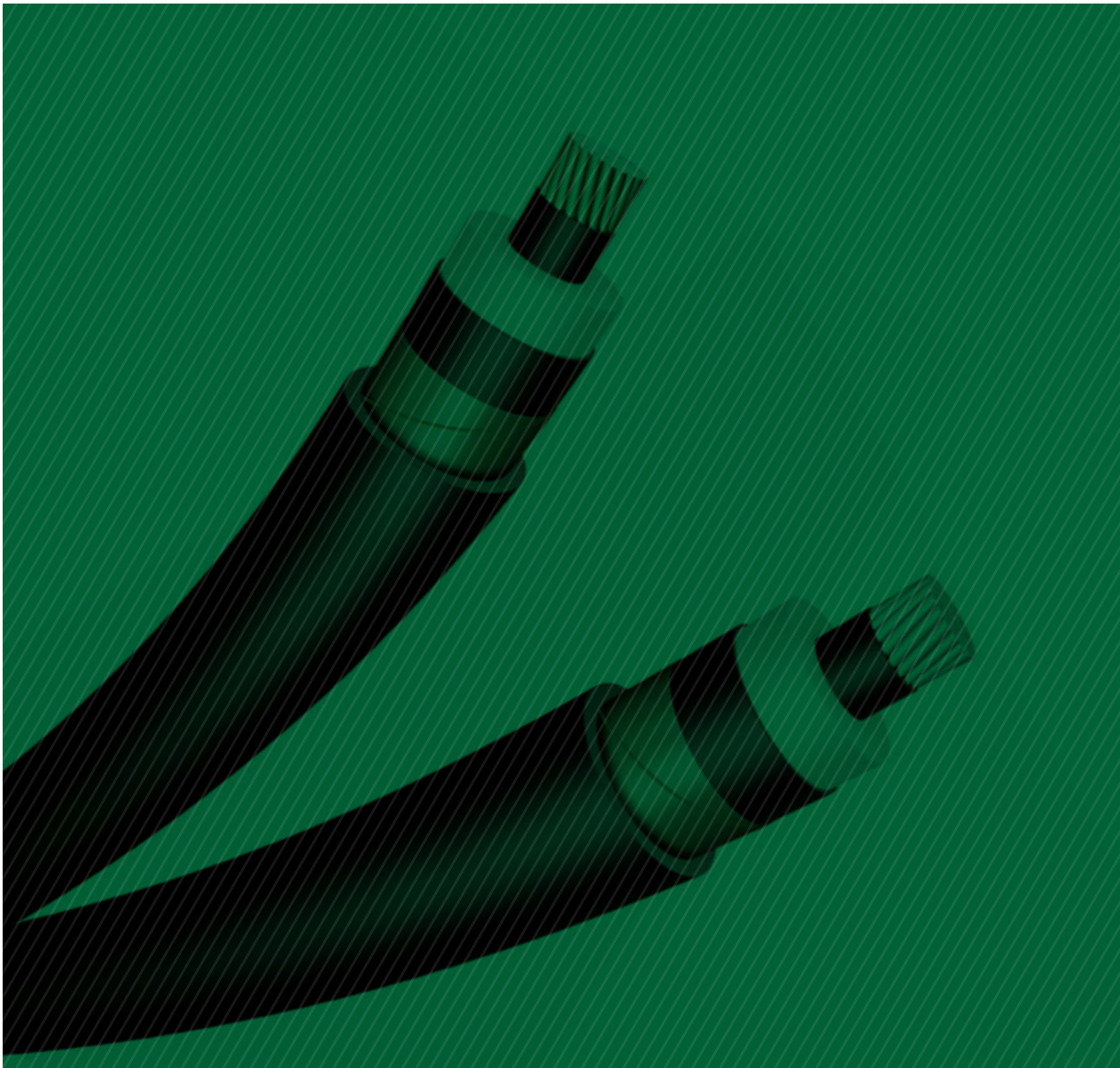
TFKable

Connecting globally



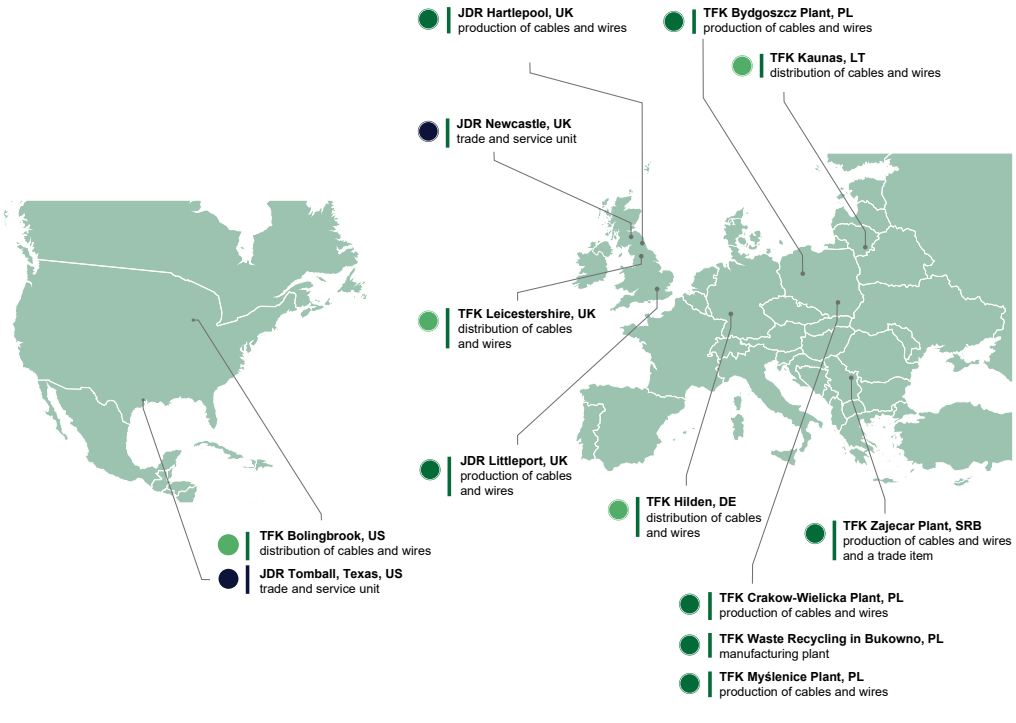
MV-105 Power Cables 5kV-35kV

TELE-FONIKA Kable

TELE-FONIKA Kable SA, a privately held wire and cable manufacturer headquartered in Myślenice, Poland, is one of the largest wire and cable companies in the world. TF operates 8 plants in Central and Eastern Europe with a distribution network stretching 90 countries. Formed through a series of acquisitions and mergers, TFKable has developed world-class technology centers of excellence with state of the art manufacturing operations. Founded in 1992, TFKable grew rapidly and the operations today are a result of internal development projects supported by strategic investments.

TF is the leading medium and high voltage cable manufacturer in Europe with significant market share in rubber insulated portable power cables used by HEAVY INDUSTRY & MINING. Additionally, the company manufactures products for the TELECOMMUNICATION, SHIP BUILDING, ELECTRONIC and ENERGY sectors.

All manufacturing facilities are ISO 9001 and ISO 14001 certified. All products are manufactured to public, utility and industrial standards including ICEA, IEEE, and ASTM. TELE-FONIKA has over 380 individual certificates issued by more than 30 certication bodies which include UL, CSA, MSHA, SABS, VDE etc.



TELE-FONIKA Cable Americas

TELE-FONIKA Cable AMERICAS (TFCA) is a U.S. corporation with offices and main warehouse located in Bolingbrook, Illinois. TFCA is a wholly owned subsidiary of TELE-FONIKA Kable (TFK) with responsibility for North and South American markets. TFK, one of the largest manufacturers of wire and cable in Europe, is a fully integrated manufacturer, recognized by the industry as a world-class producer of wire and cable products. The company specializes in products for heavy industry, mining, and utility applications. The company is a recognized global supplier of Portable Power Cords, Mining Cable, and Medium and High Voltage Utility Cables. TFKable has been active in the Americas since 1987, providing products through a network of authorized distributors, international agents, and domestic sales representatives. TFKable markets include utility power distribution, alternative energy, entertainment, portable power, mass transit, military, and a number of other commercial applications.

TELE-FONIKA Kable GROUP KEY STATISTICS

- 1 billion USD in annual turnover
- 3rd largest wire and cable supplier in Europe and one of the TOP global producers
- No. 1 European POWER CABLE SUPPLIER
- 3000 Group Employees
- 15 Global Facilities
- 25,000 Different types of wire and cable constructions
- Sales & Distribution network stretching 90 countries

TFKable IS THE MEDIUM POWER SOLUTION

APPLICATIONS

- Chemical Plants
- Pertrochemical Plants
- Electrical Utility Planta
- Water Treatment Facilities
- Textile Mills
- Steel Mills
- Paper Mills
- Airports
- Shopping Malls
- Military Bases
- Medical Facilities
- Sports Stadiums

INSTALLATIONS

- In Cable Tray
- Conduit in Air
- Aerial with Messenger Supported
- Direct Buried
- Underground Duct
- Wet and Dry Locations

BENEFITS AND FEATURES

- Durable construcions allows for installations inpractically any environment
- 105°C insulation rating allows for higher ampacity rating of a cable
- Continuous Conductor Operating Temperature 105°C
- Short Circuit Rating 250°C
- UL listed as Type MV-105
- Oil and sunlight resistant
- Flame retardant PVC jacket
- Listed for CT use for sizes 1/0 AWG and larger

100% Insulation Level

- Used for cables installed in grounded systems and systems equipped with a protective device that will clear ground faults within 1 minute

133% Insulation Level

- Used for cables installed in ungrounded systems and systems where faults will be de-energized within 1 hour but not quicker than 1 minute

Standard Construction

CONDUCTOR
A compressed-stranded copper or aluminum conductor. Cable element that allows for the of electrial current.

CONDUCTOR SHIELD
The semiconducting thermoset extruded layer equalizes electrical charge across the conductor surface. It also minimizes electrical stresses should the conductor surface become uneven due to voids between conductor and insulation. The semiconducting layer eliminates potential for corona discharge by reduction of air voids between the conductor and the insulation. This greatly improves insulation life expectancy.

INSULATION
Thermoset extruded EPR layer whose main function is to contain electricity and resist leakage of electrical charges. Insulation also serves as a protective layer

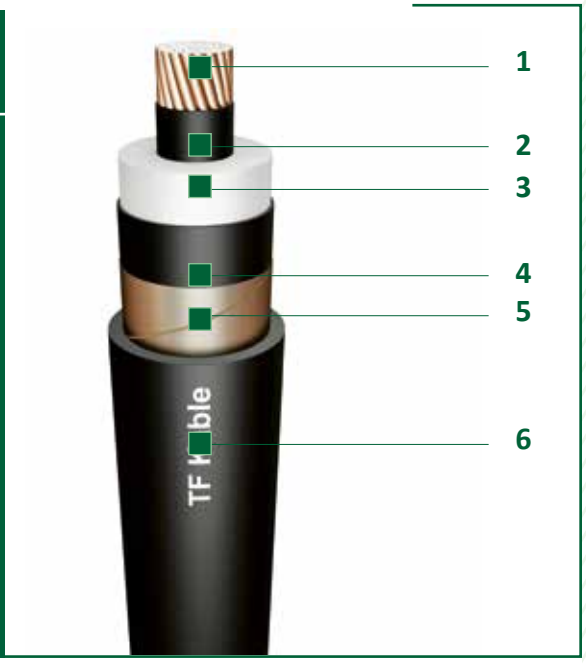
INSULATION SHIELD
The semiconducting thermoset extruded layer transfer insulation charging current to the metallic shield. It provides symmetrical distribution of voltage stress within insulation. Its function ia also to restrict the electric field within the insulation

METALLIC SHIELD
The bare copper tape reduces the risk of shock to personnel by safely carrying and transferring leaked current in case of a cable fault. The metallic shield provides additional mechanical damage protection for the cable core.

JACKET
External layer of extruded thermoplastic PVC provides protection for all internal cable elements from any mechanical, chemical or thermal abuse it may experience during cable installation and operation.

MV-105

1. CONDUCTOR - compressed stranded class B per ASTM (Copper or Aluminum)
2. CONDUCTOR SHIELD - semiconducting thermoset layer
3. INSULATION - EPR (Ethylene Propylene Rubber)
4. INSULATION SHIELD - semiconducting thermoset layer
5. METALLIC SHIELD - 5 mil bare cooper tape shield with a 25% overlap
6. JACKET - sunlight resistant PVC (Polyvinyl Chloride)



MV-105 5kV, 15kV, 25kV, 35kV (Compressed copper)

UL 1072, IEEE 1202, ASTM B-8, AEIC CS8, ICEA S-97-682, ICEA S-93-639 /NEMA WC 74

Medium Voltage 5kV, 15kV, 25kV, 35kV 133% Copper Conductor, Copper Tape Shielded Power Cable

APPLICATIONS

INDUSTRIAL AND COMMERCIAL
- Chemical Plants
- Petrochemical Plants
- Electrical Utility Plants
- Water Treatment Facilities
- Textile Mills
- Steel Mills
- Paper Mills
- Airports
- Shopping Malls
- Military Bases
- Medical Facilities
- Sports Stadiums

INSTALLATIONS
- In Cable Tray
- Conduit in Air
- Aerial with Messenger Supported
- Direct Buried
- Underground Duct
- Wet and Dry Locations

Conductor	Class B compressed annealed uncoated copper
Conductor shield	Extruded layer of semiconducting compound applied under simultaneous triple extrusion process
Insulation	Extruded layer of 105°C rated Ethylene Propylene Rubber (EPR)
Insulation shield	Extruded layer of semiconducting compound applied by triple extrusion process
Metallic shield	5 mil bare copper tape applied helically with a 25% overlap.
Jacket	Extruded layer of black sunlight resistant Polyvinyl Chloride (PVC)

Characteristic

Maximum conductor operating temperature:	+105°C
Maximum emergency overload temperature:	+140°C
Maximum short-circuit conductor temperature:	+250°C
Maximum sidewall pressure:	1000lbs/FT
Lowest ambient temperature for fixed installation:	-40°C
Lowest installation temperature:	-5°C
Minimum bending radius:	12xD (D-overall diameter of cable)

- Flame Retardant PVC jacket
- Listed for CT use for sizes 1/0 AWG and larger

Approvals

(UL) E231073

5kV 133% INSULATION LEVEL

Part Number	Conductor Size	Insulation Thickness	Diameter over Insulation	Jacket Thickness	Outer Diameter	Cable Weight	Ampacities *		
							Isolated in Air	Direct Buried	Underground Duct
	AWG / MCM	**mils**	**inches**	**mils**	**inches**	**lbs /kft**	**A**		
MV105-5kV2-1	2 AWG		0.57	60	0.82	518	215	250	155
MV105-5kV1-1	1 AWG		0.61		0.84	584	250	280	180
MV105-5kV1/0-1	1/0 AWG		0.63		0.89	678	290	320	210
MV105-5kV2/0-1	2/0 AWG		0.67		0.94	792	330	365	235
MV105-5kV3/0-1	3/0 AWG		0.72		0.98	925	385	415	270
MV105-5kV4/0-1	4/0 AWG	115	0.78	80	1.04	1093	445	465	310
MV105-5kV250-1	250 MCM		0.83		1.10	1242	495	510	345
MV105-5kV350-1	350 MCM		0.94		1.22	1624	615	615	415
MV105-5kV500-1	500 MCM		1.07		1.36	2185	775	745	505
MV105-5kV750-1	750 MCM		1.26		1.57	3102	1000	910	630
MV105-5kV1000-1	1000 MCM		1.42	110	1.77	4068	1200	1055	720

15kV 133% INSULATION LEVEL

Part Number	Conductor Size	Insulation Thickness	Diameter over Insulation	Jacket Thickness	Outer Diameter	Cable Weight	Ampacities *		
							Isolated in Air	Direct Buried	Underground Duct
	AWG / MCM	**mils**	**inches**	**mils**	**inches**	**lbs /kft**	**A**		
MV105-15kV2-1	2 AWG		0.76		1.03	700	215	225	165
MV105-15kV1-1	1 AWG		0.80		1.07	790	250	260	185
MV105-15kV1/0-1	1/0 AWG		0.84		1.10	867	290	295	215
MV105-15kV2/0-1	2/0 AWG		0.89		1.15	994	335	335	245
MV105-15kV3/0-1	3/0 AWG		0.93	80	1.19	1135	385	380	275
MV105-15kV4/0-1	4/0 AWG	220	0.99		1.25	1314	445	435	315
MV105-15kV250-1	250 MCM		1.05		1.31	1471	495	475	345
MV105-15kV350-1	350 MCM		1.16		1.45	1901	610	575	415
MV105-15kV500-1	500 MCM		1.28		1.57	2459	765	700	500
MV105-15kV750-1	750 MCM		1.46	110	1.81	3471	990	865	610
MV105-15kV1000-1	1000 MCM		1.63		1.98	4404	1185	1005	690

25kV 133% INSULATION LEVEL

Part Number	Conductor Size	Insulation Thickness	Diameter over Insulation	Jacket Thickness	Outer Diameter	Cable Weight	Ampacities *		
							Isolated in Air	Direct Buried	Underground Duct
	AWG / MCM	**mils**	**inches**	**mils**	**inches**	**lbs /kft**	**A**		
MV 105-25kV2-1	2		0.95		1.25	1010	-	225	165
MV 105-25kV1-1	1		1.00		1.30	1100	250	260	185
MV 105-25kV1/0-1	1/0		1.05		1.35	1210	290	295	215
MV 105-25kV2/0-1	2/0		1.10		1.40	1350	330	335	245
MV 105-25kV3/0-1	3/0		1.15	70	1.45	1500	380	380	275
MV 105-25kV4/0-1	4/0	320	1.20		1.50	1710	445	435	315
MV 105-25kV250-1	250		1.25		1.55	1880	490	475	345
MV 105-25kV350-1	350		1.35		1.65	2162	605	575	415
MV 105-25kV500-1	500		1.50		1.85	3060	755	700	500
MV 105-25kV750-1	750		1.65	100	2.00	4080	970	865	610
MV 105-25kV1000-1	1000		1.80		2.15	5060	1160	1005	690

35kV 133% INSULATION LEVEL

Part Number	Conductor Size	Insulation Thickness	Diameter over Insulation	Jacket Thickness	Outer Diameter	Cable Weight	Ampacities *		
							Isolated in Air	Direct Buried	Underground Duct
	AWG / MCM	**mils**	**inches**	**mils**	**inches**	**lbs /kft**	**A**		
MV 105-35kV2-1	2		1.15		1.45	1200	-	225	165
MV 105-35kV1-1	1		1.20		1.50	1300	250	260	185
MV 105-35kV1/0-1	1/0		1.25		1.55	1378	290	295	215
MV 105-35kV2/0-1	2/0		1.30	70	1.60	1498	330	335	245
MV 105-35kV3/0-1	3/0		1.35		1.65	1650	380	380	275
MV 105-35kV4/0-1	4/0	420	1.40		1.70	1850	445	435	315
MV 105-35kV250-1	250		1.45		1.75	2050	490	475	345
MV 105-35kV350-1	350		1.55		1.90	2565	605	575	415
MV 105-35kV500-1	500		1.70	100	2.05	3172	755	700	500
MV 105-35kV750-1	750		1.90		2.25	4143	970	865	610
MV 105-35kV1000-1	1000		2.00		2.40	5100	1160	1005	690

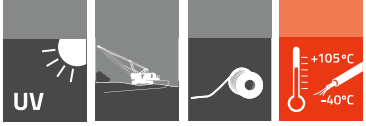
** Ampacities „Underground Duct" per NEC 2023 Table 315.60(C)(11). Ampacities „Isolated in Air" per NEC 2023 Table 315.60(C)(3). Ampacities „Direct Buried" per NEC 2023 Table 315.60(C)(15).*

INSTALLATION DATA

Conductor Size	Max. Pull Tension	Min. Bending Radius	Min. Bending Radius	Min. Bending Radius	Min. Bending Radius
		5kV	15kV	25kV	35kV
AWG kcmil	**lbs**	**inches**	**inches**	**inches**	**inches**
2	530	9.83	12.3	15.0	17.0
1	670	10.1	12.9	15.5	18.0
1/0	845	10.7	13.2	16.0	18.5
2/0	1065	11.2	13.8	16.5	19.2
3/0	1345	11.8	14.3	17.0	19.8
4/0	1695	12.5	15.0	17.8	20.4
250	2000	13.2	15.7	18.3	21.0
350	2800	14.7	17.4	19.6	22.8
500	4000	16.3	18.8	21.8	24.6
750	6000	18.8	21.8	24.0	27.0
1000	6000	21.3	23.8	25.8	28.8

Standard print legend:

TF Cable (VOLTAGE) (SIm105 SHIELDED COPPER EPR 133% INS LEVEL SUN RES FOR CT USE DIRECT BURIAL (UL) E231073



MV-105 5kV, 15kV, 25kV, 35kV (Compacted copper)

UL 1072, IEEE 1202, ASTM B-496, AEIC CS8, ICEA S-97-682, ICEA S-93-639 /NEMA WC 74

Medium Voltage 5kV, 15kV, 25kV, 35kV 133% Copper Conductor, Copper Tape Shielded Power Cable

APPLICATIONS

INDUSTRIAL AND COMMERCIAL
- Chemical Plants
- Petrochemical Plants
- Electrical Utility Plants
- Water Treatment Facilities
- Textile Mills
- Steel Mills
- Paper Mills
- Airports
- Shopping Malls
- Military Bases
- Medical Facilities
- Sports Stadiums

INSTALLATIONS
- In Cable Tray
- Conduit in Air
- Aerial with Messenger Supported
- Direct Buried
- Underground Duct
- Wet and Dry Locations

CONSTRUCTION

Conductor	Class B compacted annealed uncoated copper
Conductor shield	Extruded layer of semiconducting compound applied under simultaneous triple extrusion process
Insulation	Extruded layer of 105°C rated Ethylene Propylene Rubber (EPR)
Insulation shield	Extruded layer of semiconducting compound applied by triple extrusion process
Metallic shield	5 mil bare copper tape applied helically with a 25% overlap.
Jacket	Extruded layer of black sunlight resistant Polyvinyl Chloride (PVC)

Characteristic

Maximum conductor operating temperature:	+105°C
Maximum emergency overload temperature:	+140°C
Maximum short-circuit conductor temperature:	+250°C
Maximum sidewall pressure:	1000lbs/FT
Lowest ambient temperature for fixed installation:	-40°C
Lowest installation temperature:	-5°C
Minimum bending radius:	12xD (D-overall diameter of cable)

- Flame Retardant PVC jacket
- Listed for CT use for sizes 1/0 AWG and larger

Approvals

(UL) E231073

5kV 133% INSULATION LEVEL

Part Number	Conductor Size	Insulation Thickness	Diameter over Insulation	Jacket Thickness	Outer Diameter	Cable Weight	Ampacities *		
							Isolated in Air	Direct Buried	Underground Duct
	AWG / MCM	**mils**	**inches**	**mils**	**inches**	**lbs /kft**	**A**		
MV105-5kV2-1	2 AWG		0.55		0.80	509	215	250	155
MV105-5kV1-1	1 AWG		0.58	60	0.83	579	250	280	180
MV105-5kV1/0-1	1/0 AWG		0.62		0.89	693	290	320	210
MV105-5kV2/0-1	2/0 AWG		0.66		0.93	799	330	365	235
MV105-5kV3/0-1	3/0 AWG		0.70		0.98	935	385	415	270
MV105-5kV4/0-1	4/0 AWG	115	0.76		1.03	1099	445	465	310
MV105-5kV250-1	250 MCM		0.80	80	1.08	1246	495	510	345
MV105-5kV350-1	350 MCM		0.92		1.21	1651	615	615	415
MV105-5kV500-1	500 MCM		1.03		1.33	2187	775	745	505
MV105-5kV750-1	750 MCM		1.20		1.49	3059	1000	910	630
MV105-5kV1000-1	1000 MCM		1.37		1.66	3929	1200	1055	720

15kV 133% INSULATION LEVEL

Part Number	Conductor Size	Insulation Thickness	Diameter over Insulation	Jacket Thickness	Outer Diameter	Cable Weight	Ampacities *		
							Isolated in Air	Direct Buried	Underground Duct
	AWG / MCM	**mils**	**inches**	**mils**	**inches**	**lbs /kft**	**A**		
MV105-15kV2-1	2 AWG		0.75		1.03	707	215	225	165
MV105-15kV1-1	1 AWG		0.78		1.06	783	250	260	185
MV105-15kV1/0-1	1/0 AWG		0.82		1.09	878	290	295	215
MV105-15kV2/0-1	2/0 AWG		0.86		1.13	992	335	335	245
MV105-15kV3/0-1	3/0 AWG		0.91	80	1.18	1134	385	380	275
MV105-15kV4/0-1	4/0 AWG	220	0.96		1.23	1307	445	435	315
MV105-15kV250-1	250 MCM		1.0		1.28	1461	495	475	345
MV105-15kV350-1	350 MCM		1.12		1.41	1888	610	575	415
MV105-15kV500-1	500 MCM		1.23		1.53	2442	765	700	500
MV105-15kV750-1	750 MCM		1.40	110	1.75	3438	990	865	610
MV105-15kV1000-1	1000 MCM		1.57		1.92	4351	1185	1005	690

** Ampacities „Underground Duct" per NEC 2023 Table 315.60(C)(11). Ampacities „Isolated in Air" per NEC 2023 Table 315.60(C)(3). Ampacities „Direct Buried" per NEC 2023 Table 315.60(C)(15).*

25kV 133% INSULATION LEVEL

Part Number	Conductor Size	Insulation Thickness	Diameter over Insulation	Jacket Thickness	Outer Diameter	Cable Weight	Ampacities *		
							Isolated in Air	Direct Buried	Underground Duct
	AWG / MCM	**mils**	**inches**	**mils**	**inches**	**lbs /kft**	**A**		
MV 105-25kV2-1	2	320	0.96	70	1.24	925	-	225	165
MV 105-25kV1-1	1		0.99		1.27	1007	250	260	185
MV 105-25kV1/0-1	1/0		1.03		1.31	1108	290	295	215
MV 105-25kV2/0-1	2/0		1.07		1.35	1229	330	335	245
MV 105-25kV3/0-1	3/0		1.11		1.40	1380	380	380	275
MV 105-25kV4/0-1	4/0		1.17		1.45	1561	445	435	315
MV 105-25kV250-1	250		1.22		1.50	1733	490	475	345
MV 105-25kV350-1	350		1.32		1.60	2134	605	575	415
MV 105-25kV500-1	500		1.43	100	1.77	2802	755	700	500
MV 105-25kV750-1	750		1.61		1.95	3754	970	865	610
MV 105-25kV1000-1	1000		1.77		2.11	4680	1160	1005	690

35kV 133% INSULATION LEVEL

Part Number	Conductor Size	Insulation Thickness	Diameter over Insulation	Jacket Thickness	Outer Diameter	Cable Weight	Ampacities *		
							Isolated in Air	Direct Buried	Underground Duct
	AWG / MCM	**mils**	**inches**	**mils**	**inches**	**lbs /kft**	**A**		
MV 105-35kV2-1	2	420	1.15	70	1.43	1156	-	225	165
MV 105-35kV1-1	1		1.18		1.46	1244	250	260	185
MV 105-35kV1/0-1	1/0		1.22		1.50	1350	290	295	215
MV 105-35kV2/0-1	2/0		1.26		1.54	1478	330	335	245
MV 105-35kV3/0-1	3/0		1.31		1.59	1636	380	380	275
MV 105-35kV4/0-1	4/0		1.36		1.64	1825	445	435	315
MV 105-35kV250-1	250		1.40		1.69	1994	490	475	345
MV 105-35kV350-1	350		1.50	100	1.85	2517	605	575	415
MV 105-35kV500-1	500		1.61		1.96	3105	755	700	500
MV 105-35kV750-1	750		1.78		2.13	4070	970	865	610
MV 105-35kV1000-1	1000		1.94		2.29	5019	1160	1005	690

** Ampacities „Underground Duct" per NEC 2023 Table 315.60(C)(11). Ampacities „Isolated in Air" per NEC 2023 Table 315.60(C)(3). Ampacities „Direct Buried" per NEC 2023 Table 315.60(C)(15).*

INSTALLATION DATA

Conductor Size	Max. Pull Tension	Min. Bending Radius	Min. Bending Radius	Min. Bending Radius	Min. Bending Radius
		5kV	15kV	25kV	35kV
AWG kcmil	**lbs**	**inches**	**inches**	**inches**	**inches**
2	530	9.83	12.3	14.9	17.2
1	670	10.1	12.9	15.3	17.6
1/0	845	10.7	13.2	15.7	18.0
2/0	1065	11.2	13.8	16.2	18.5
3/0	1345	11.8	14.3	16.8	19.1
4/0	1695	12.5	15.0	17.4	19.7
250	2000	13.2	15.7	18.0	20.2
350	2800	14.7	17.4	19.2	22.1
500	4000	16.3	18.8	21.3	23.5
750	6000	18.8	21.8	23.4	25.5
1000	6000	21.3	23.8	25.3	27.4

Standard print legend:

TF Cable (VOLTAGE) (SIZE) TYPE MV-105 SHIELDED COMPACT COPPER EPR 133% INS LEVEL SUN RES FOR CT USE DIRECT BURIAL (UL) E231073

TELE-FONIKA Cable Americas
555 Remington Blvd., Suite A
Bolingbrook, Illinois 60440
(630)406-9000 phone
(630)406-6574 fax
www.tfcable.com

TELE-FONIKA Kable S.A.
ul. Hipolita Cegielskiego 1
32-400 Myślenice, Poland
T. (+48) 12 652 5000
F. (+48) 12 652 5156

info@tfkable.com

www.tfkable.com