

# Medium Voltage Cables



\* Front page: rendering of Hellenic Cables' new facility in Baltimore, Maryland. Currently under construction.

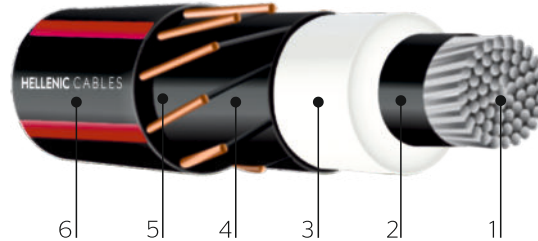
➤ [www.hellenic-cables.com](http://www.hellenic-cables.com)



## Medium Voltage Cables with TRXLPE insulation

Cable type CU or AL TRXLPE (100% or 133%) CN LLDPE 15 kV, 25 kV, 35 kV

Standards ANSI/ICEA S-94-649, AEIC CS-8



### Construction:

1. **Conductor:** Concentric lay stranded Copper or Aluminum class B round compressed or compacted
2. **Conductor Shield:** Extruded semiconducting compound
3. **Insulation:** Tree Retardant Cross Linked Polyethylene (TRXLPE)
4. **Insulation Shield:** Extruded semiconducting compound strippable with insulation shield marking
5. **Concentric Neutral:** Annealed round coppers wires helically applied over insulation shield
6. **Jacket:** LLDPE extruded to fill spaces between copper wires

### Application:

Cables are designed for transfer of electrical energy for use in dry or wet locations in MV grids with rated voltage 15kV, 25kV or 35kV. Dedicated for fixed installation directly in ground, in concrete, in cable channel, in ducts or conduits made of non-magnetic material and directly in air.

<b>Rated voltage</b>	15kV, 25kV, 35kV
<b>Conductor Sizes</b>	2 AWG - 2000 KCMIL
<b>Maximum conductor temperature (°C)</b> <b>Normal Operation/ Emergency Overload</b>	90/130
<b>Maximum short-circuit temperature (°C)</b>	250
<b>Frequency (Hz)</b>	60
<b>Insulation Level</b>	100% or 133%
<b>Minimum/Maximum ambient temperature during installation (°C)</b>	-10/70
<b>Jacket Color</b>	Black with three longitudinal red stripes or Black or Other upon request

### Alternative designs:

The cables can also be designed with:

1. Round solid Aluminum conductors
2. Conductor center strand identification
3. Filled Strand conductors tested in accordance with ICEA T-31-610
4. Full or 1/3 or other concentric neutral  
The concentric neutral can be designed to fit the customer's fault current and time duration requirements.
5. Longitudinally waterblocked concentric neutral tested in accordance with ICEA T-34-664
6. SCPE jacket black colored
7. Overlaying jacket

The cables can be provided in triplex or parallel assembly, as well.

15kV 133% Ins. Level - Aluminum Conductor

Cable Design Code <sup>(1)</sup>	Conductor Material	Conductor Shape	Conductor cross-section (AWG or KCMIL) <sup>2</sup>	Nominal Conductor Diameter (in)	Concentric Neutral Size	Concentric Neutral (No. x AWG) <sup>(3)</sup>	Insulation nominal thickness (mils)	Approx. Insulation Diameter (in) <sup>(4)</sup>	Approx. Insulation Shield Diameter (in) <sup>(5)</sup>	Sheath minimum thickness (mils)	Approx. Overall Jacket diameter (in) <sup>(6)</sup>	Approx. cable weight (Lbs/1000ft) <sup>(4)</sup>
FC_5526_0013	AL	STR Compressed	2	0.283	1/3	6 x #16	220	0.81	0.89	45	1.08	457
FC_5526_0027	AL	STR Compacted	2	0.268	1/3	6 x #16	220	0.79	0.87	45	1.07	450
FC_5526_0009	AL	STR Compressed	1/0	0.362	1/3	9 x #16	220	0.89	0.96	45	1.16	557
FC_5526_0023	AL	STR Compacted	1/0	0.336	1/3	9 x #16	220	0.85	0.94	45	1.14	547
FC_5526_0011	AL	STR Compressed	4/0	0.512	1/3	17 x #16	220	1.02	1.10	45	1.32	796
FC_5526_0025	AL	STR Compacted	4/0	0.475	1/3	17 x #16	220	1.00	1.08	45	1.28	790
FC_5526_0015	AL	STR Compressed	350	0.661	1/3	28 x #16	220	1.18	1.28	45	1.18	1122
FC_5526_0029	AL	STR Compacted	350	0.616	1/3	28 x #16	220	1.14	1.24	45	1.44	1122
FC_5526_0017	AL	STR Compressed	500	0.789	1/3	25 x #14	220	1.30	1.42	45	1.63	1464
FC_5526_0031	AL	STR Compacted	500	0.736	1/3	25 x #14	220	1.26	1.36	45	1.59	1461
FC_5526_0019	AL	STR Compressed	750	0.968	1/3	24 x #12	220	1.50	1.59	70	1.91	2123
FC_5526_0033	AL	STR Compacted	750	0.908	1/3	24 x #12	220	1.44	1.54	70	1.85	2090
FC_5526_0021	AL	STR Compressed	1000	1.117	1/3	32 x #12	220	1.65	1.77	70	2.09	2638
FC_5526_0035	AL	STR Compacted	1000	1.060	1/3	32 x #12	220	1.57	1.71	70	2.03	2603

15kV 133% Ins. Level - Copper Conductor

Cable Design Code <sup>(1)</sup>	Conductor Material	Conductor Shape	Conductor cross-section (AWG or KCMIL) <sup>2</sup>	Nominal Conductor Diameter (in)	Concentric Neutral Size	Concentric Neutral (No. x AWG) <sup>(3)</sup>	Insulation nominal thickness (mils)	Approx. Insulation Diameter (in) <sup>(4)</sup>	Approx. Insulation Shield Diameter (in) <sup>(5)</sup>	Sheath minimum thickness (mils)	Approx. Overall Jacket diameter (in) <sup>(6)</sup>	Approx. cable weight (Lbs/1000ft) <sup>(4)</sup>
FC_5526_0014	CU	STR Compressed	2	0.283	1/3	9 x #16	220	0.81	0.89	45	1.08	624
FC_5526_0028	CU	STR Compacted	2	0.268	1/3	9 x #16	220	0.79	0.87	45	1.07	617
FC_5526_0010	CU	STR Compressed	1/0	0.362	1/3	14 x #16	220	0.89	0.96	45	1.16	828
FC_5526_0024	CU	STR Compacted	1/0	0.336	1/3	14 x #16	220	0.85	0.94	45	1.14	815
FC_5526_0012	CU	STR Compressed	4/0	0.512	1/3	28 x #16	220	1.02	1.10	45	1.32	1323
FC_5526_0026	CU	STR Compacted	4/0	0.475	1/3	28 x #16	220	1.00	1.08	45	1.28	1335
FC_5526_0016	CU	STR Compressed	350	0.661	1/3	29 x #14	220	1.18	1.28	45	1.52	2074
FC_5526_0030	CU	STR Compacted	350	0.616	1/3	29 x #14	220	1.14	1.24	45	1.48	2048
FC_5526_0018	CU	STR Compressed	500	0.789	1/3	26 x #12	220	1.30	1.42	45	1.67	2816
FC_5526_0032	CU	STR Compacted	500	0.736	1/3	26 x #12	220	1.26	1.36	45	1.61	2788
FC_5526_0020	CU	STR Compressed	750	0.968	1/3	24 x #10	220	1.50	1.59	70	1.97	4093
FC_5526_0034	CU	STR Compacted	750	0.908	1/3	24 x #10	220	1.44	1.54	70	1.89	4057
FC_5526_0022	CU	STR Compressed	1000	1.117	1/3	33 x #10	220	1.65	1.77	70	2.15	5294
FC_5526_0036	CU	STR Compacted	1000	1.060	1/3	33 x #10	220	1.57	1.71	70	2.09	5279

25kV 100% Ins. Level - Aluminum Conductor

Cable Design Code <sup>(1)</sup>	Conductor Material	Conductor Shape	Conductor cross-section (AWG or KCMIL) <sup>(2)</sup>	Nominal Conductor Diameter (in)	Concentric Neutral Size	Concentric Neutral (No. x AWG) <sup>(3)</sup>	Insulation nominal thickness (mils)	Approx. Insulation Diameter (in) <sup>(4)</sup>	Approx. Insulation Shield Diameter (in) <sup>(5)</sup>	Sheath minimum thickness (mils)	Approx. Overall Jacket diameter (in) <sup>(6)</sup>	Approx. cable weight (Lbs/1000ft) <sup>(6)</sup>
FC_0374_0006	AL	STR Compressed	2	0.283	1/3	6 x #16	260	0.87	0.94	45	1.16	505
FC_0374_0016	AL	STR Compacted	2	0.268	1/3	6 x #16	260	0.85	0.93	45	1.14	497
FC_0374_0002	AL	STR Compressed	1/0	0.362	1/3	9 x #16	260	0.94	1.04	45	1.24	610
FC_0374_0012	AL	STR Compacted	1/0	0.336	1/3	9 x #16	260	0.93	1.00	45	1.22	598
FC_0374_0004	AL	STR Compressed	4/0	0.512	1/3	17 x #16	260	1.10	1.20	45	1.40	876
FC_0374_0014	AL	STR Compacted	4/0	0.475	1/3	17 x #16	260	1.06	1.14	45	1.26	848
FC_0374_0008	AL	STR Compressed	750	0.968	1/3	24 x #12	260	1.56	1.65	70	1.97	2208
FC_0374_0018	AL	STR Compacted	750	0.908	1/3	24 x #12	260	1.50	1.61	70	1.93	2174
FC_0374_0010	AL	STR Compressed	1000	1.117	1/3	32 x #12	260	1.71	1.85	70	2.15	2733
FC_0374_0020	AL	STR Compacted	1000	1.060	1/3	32 x #12	260	1.65	1.79	70	2.11	2694

25kV 100% Ins. Level - Copper Conductor

Cable Design Code <sup>(1)</sup>	Conductor Material	Conductor Shape	Conductor cross-section (AWG or KCMIL) <sup>(2)</sup>	Nominal Conductor Diameter (in)	Concentric Neutral Size	Concentric Neutral (No. x AWG) <sup>(3)</sup>	Insulation nominal thickness (mils)	Approx. Insulation Diameter (in) <sup>(4)</sup>	Approx. Insulation Shield Diameter (in) <sup>(5)</sup>	Sheath minimum thickness (mils)	Approx. Overall Jacket diameter (in) <sup>(6)</sup>	Approx. cable weight (Lbs/1000ft) <sup>(6)</sup>
FC_0374_0007	CU	STR Compressed	2	0.283	1/3	9 x #16	260	0.87	0.94	45	1.16	672
FC_0374_0017	CU	STR Compacted	2	0.268	1/3	9 x #16	260	0.85	0.93	45	1.14	664
FC_0374_0003	CU	STR Compressed	1/0	0.362	1/3	14 x #16	260	0.94	1.04	45	1.24	880
FC_0374_0013	CU	STR Compacted	1/0	0.336	1/3	14x #16	260	0.93	1.00	45	1.22	867
FC_0374_0005	CU	STR Compressed	4/0	0.512	1/3	28 x #16	260	1.10	1.20	45	1.40	1403
FC_0374_0015	CU	STR Compacted	4/0	0.475	1/3	28 x #16	260	1.06	1.14	45	1.36	1392
FC_0374_0009	CU	STR Compressed	750	0.968	1/3	24 x #10	260	1.56	1.65	70	2.03	4182
FC_0374_0019	CU	STR Compacted	750	0.908	1/3	24 x #10	260	1.50	1.61	70	1.97	4142
FC_0374_0011	CU	STR Compressed	1000	1.117	1/3	33 x #10	260	1.71	1.85	70	2.20	5391
FC_0374_0021	CU	STR Compacted	1000	1.060	1/3	33 x #10	260	1.65	1.79	70	2.15	5374

35kV 100% Ins. Level - Aluminum Conductor

Cable Design Code <sup>(1)</sup>	Conductor Material	Conductor Shape	Conductor cross-section (AWG or KCMIL) <sup>(2)</sup>	Nominal Conductor Diameter (in)	Concentric Neutral Size	Concentric Neutral (No. x AWG) <sup>(3)</sup>	Insulation nominal thickness (mils)	Approx. Insulation Diameter (in) <sup>(4)</sup>	Approx. Insulation Shield Diameter (in) <sup>(4)</sup>	Sheath minimum thickness (mils)	Approx. Overall Jacket diameter (in) <sup>(4)</sup>	Approx. cable weight (Lbs/1000ft) <sup>(4)</sup>
FC_5135_0007	AL	STR Compressed	2	0.283	1/3	6 x #16	345	1.04	1.12	45	1.34	636
FC_5135_0022	AL	STR Compacted	2	0.268	1/3	6 x #16	345	1.02	1.10	45	1.32	627
FC_5135_0003	AL	STR Compressed	1/0	0.362	1/3	9 x #16	345	1.12	1.22	45	1.44	772
FC_5135_0018	AL	STR Compacted	1/0	0.336	1/3	9x #16	345	1.10	1.20	45	1.40	756
FC_5135_0005	AL	STR Compressed	4/0	0.512	1/3	17 x #16	345	1.26	1.38	45	1.57	1034
FC_5135_0020	AL	STR Compacted	4/0	0.475	1/3	17 x #16	345	1.24	1.34	45	1.54	1023
FC_5135_0009	AL	STR Compressed	750	0.968	1/3	24 x #12	345	1.73	1.87	70	2.19	2480
FC_5135_0024	AL	STR Compacted	750	0.908	1/3	24 x #12	345	1.67	1.81	70	2.13	2440
FC_5135_0011	AL	STR Compressed	1000	1.117	1/3	33 x #12	345	1.89	2.01	70	2.32	2974
FC_5135_0026	AL	STR Compacted	1000	1.060	1/3	33 x #12	345	1.83	1.95	70	2.28	2931

35kV 100% Ins. Level - Copper Conductor

Cable Design Code <sup>(1)</sup>	Conductor Material	Conductor Shape	Conductor cross-section (AWG or KCMIL) <sup>(2)</sup>	Nominal Conductor Diameter (in)	Concentric Neutral Size	Concentric Neutral (No. x AWG) <sup>(3)</sup>	Insulation nominal thickness (mils)	Approx. Insulation Diameter (in) <sup>(4)</sup>	Approx. Insulation Shield Diameter (in) <sup>(4)</sup>	Sheath minimum thickness (mils)	Approx. Overall Jacket diameter (in) <sup>(4)</sup>	Approx. cable weight (Lbs/1000ft) <sup>(4)</sup>
FC_5135_0008	CU	STR Compressed	2	0.283	1/3	9 x #16	345	1.04	1.12	45	1.34	803
FC_5135_0023	CU	STR Compacted	2	0.268	1/3	9 x #16	345	1.02	1.10	45	1.32	794
FC_5135_0004	CU	STR Compressed	1/0	0.362	1/3	14 x #16	345	1.12	1.22	45	1.44	1042
FC_5135_0019	CU	STR Compacted	1/0	0.336	1/3	14 x #16	345	1.10	1.20	45	1.40	4024
FC_5135_0006	CU	STR Compressed	4/0	0.512	1/3	28 x #16	345	1.26	1.38	45	1.57	1560
FC_5135_0021	CU	STR Compacted	4/0	0.475	1/3	28 x #16	345	1.24	1.34	45	1.54	1567
FC_5135_0010	CU	STR Compressed	750	0.968	1/3	24 x #10	345	1.73	1.87	70	2.22	4461
FC_5135_0025	CU	STR Compacted	750	0.908	1/3	24 x #10	345	1.67	1.81	70	2.17	4415
FC_5135_0012	CU	STR Compressed	1000	1.117	1/3	33 x #10	345	1.89	2.01	70	2.38	5639
FC_5135_0027	CU	STR Compacted	1000	1.060	1/3	33 x #10	345	1.83	1.95	70	2.32	5615

- Notes:
- (1) The cables are designed with filled strand conductors and longitudinally waterblocked concentric neutral.
  - (2) Any conductor cross-section between 2 AWG and 2000 KCMIL can be offered upon request.
  - (3) Concentric neutral wire size and number of wires may vary. The resulting combination meets the concentric neutral size requirement.
  - (4) The above values are approximate and subject to normal manufacturing tolerances.

Notes

A series of horizontal dotted lines for taking notes, starting below the 'Notes' header and extending across the width of the page.





**HELLENIC  
CABLES**

Member of CENERGY HOLDINGS



www.hellenic-cables.com

#### **PRODUCTION PLANTS:**

##### **Baltimore Plant**

3901 Asiatic Ave,  
Baltimore,  
MD 21226  
T.: +1 (281) 752-7333  
dkolaitis@hellenic-cables.com  
alabbe@hellenic-cables.com

##### **Corinth**

###### **Submarine Cables**

Soussaki, P.O. 11, 201 00  
Corinth, GREECE  
Tel.: +30 27410 48401  
Fax: +30 27410 48392

##### **Thiva**

###### **MV & HV Cables**

69th km Athens-Thiva  
Old National Road,  
Agios Tryphonas, 32 200  
Thiva, GREECE  
Tel.: +30 22620 86616  
Fax: +30 22620 86606

##### **Bucharest**

###### **MV & LV Cables**

42, Drumul intre  
Tarlale Str. 3rd sector,  
032982, Bucharest, ROMANIA  
Tel.: +40 21 2090200  
Fax: +40 21 2561476

#### **HEAD OFFICE:**

33, Amaroussiou - Halandriou Str., 151 25 Maroussi,  
Athens, GREECE  
Tel.: +30 210 6787 416, +30 210 6787 900  
Fax: +30 210 6787 406  
✉ e-mail: info@hellenic-cables.com