

**Transmission & Distribution**  
**Material & Installation Specification**

**Overhead Conductor, Spacer Cable**

**I. Quantity**

The base bid shall include the indicated quantity of spacer cable, 336 MCM and/or 556 MCM furnished and installed as hereinafter specified.

**II. Material**

- A. The cable shall be designed to operate up to 75 degree C under normal conditions and up to 100 degree C under emergency overload conditions.
- B. Industry standards - The cable in this specification shall meet and/or exceed all requirements of the latest editions of the standards listed below. Where this specification differs from the requirements of the below standards, this specification shall take precedence. The cable shall further meet and/or exceed those applicable standards not stated herein but referenced by the below standards.

ANSI C2	National Electrical Safety Code
ASTM B-231	Concentric Lay Stranded, Aluminum 1350 Conductors
ASTM B-400	Compact Round Concentric Lay Stranded Aluminum 1350 Conductors
ASTM B-416	Concentric Lay Stranded Aluminum Clad Steel Conductors
ASTM B-502	Aluminum Clad Steel Core Wire for Aluminum Conductors, Aluminum Clad Steel Reinforced
ASTM B-549	Concentric Lay Stranded Aluminum Conductors, Aluminum Clad Steel Reinforced
ASTM D-1248	Polyethylene Plastics Molding and Extrusion Materials

- ICEA S-61-402 Thermoplastic Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy
- ICEA S-60-547 Weather Resistant Polyolefin Covered Wire and Cable

- C. Conductor - The conductor material shall be compact concentric strand, 1350-H19 aluminum, in accordance with the appropriate standard listed in Part II (B) of this specification. The lay direction for all conductors shall be right hand lay with the strand being either Class A or Class AA. The center strand shall be indent marked with the manufacturer's name and year of manufacture at twelve inch (12") intervals. The conductor shall be sized per the table below:

CITY OF COLUMBUS ID#	CONDUCTOR SIZE	STRANDS	CONDUCTOR SHIELD THCKNESS	FINISHED DIAMETER NOMINAL
19965	336 MCM	19	0.015"	0.933"
19967	556 MCM	19	0.020"	1.120"

- D. Conductor shield - The conductor shield shall be an extruded black semi-conducting polymer meeting the physical requirements of the ICEA S-61-402 standard. The minimum thickness at any point shall not be less than 0.010". The nominal thickness of the conductor shield is shown in the table above.
- E. Jacket - The covering shall consist of two layers, which are thermally bonded to each other and to the conductor shield. The first layer shall be an extruded natural (clear) low-density polyethylene, which shall comply with ASTM 1248 for Type I, Class A, Category 5, Grade E3 material. The outer layer shall be an extruded black track resistant high density polyethylene which shall comply with ASTM 1248 for Type III, Class B, Category 4, Grade E9 or J4 material.
- F. Cable identification - The finished cable shall be identified using surface print with the manufacturers name, conductor size, conductor material, covering material and sequential footage markings.

**III. Installation**

- A. The installation shall be as required by the manufacturers recommendations. Use recommended rollers and pulling grips. Sag shall be according to the manufacture provided charts and the initial tension documented along with temperature read on a

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	SHEET 1 of 2	

certified thermometer. This data shall be provided to DOP for approval before energizing conductors.

- B. All conductors shall be cleaned thoroughly by wire brushing before splicing or installing connectors or clamps. A suitable oxide inhibitor shall be used before splicing or applying connectors over conductors.
- C. Connectors - Aluminum H-Tap compression type sized as appropriate for line and tap conductors.
- D. Tape Insulation - shall be 1.5% insulation thickness 3M #130C high voltage rubber tape with 5 minimum wraps of 3M 88 vinyl outer tape seal.

**IV. Method of measurement**

Shall be based on a completed messenger / conductor "Spacer Cable" system including sag, tension, guy adjustments, spacers, ties, dead end grips, connections, labor, equipment, tools, testing, and supervision required for a complete and operational system.

Measurement shall be from pole to pole with no additional adders for sag or jumpers.

**V. Basis of payment**

Items	Unit	Description
TDMIS-1500	1000 linear foot	Overhead conductor, spacer cable

Example:  
 1,248 LF = 1.284 \* unit price per thousand LF

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	SHEET 2 of 2	