

Tape, Semiconducting, Electrical



1. Scope

This standard covers the requirements for self amalgamating, electrical semiconducting tape. Self amalgamating means self bonding or non- vulcanized.

This standard applies to the following Seattle City Light stock numbers:

Stock Number	Description
736670	3/4 in x 15 ft roll
736671	1 in x 15 ft roll
010451	1-1/2 in x 15 ft roll

2. Applications

Semiconducting tape is a highly conformable, semi-conducting EPR (Ethylene Propylene Rubber) based high-voltage splicing tape. It elongates easily to conform to irregular shapes and retains its conductivity when stretched.

Semiconducting tape is intended for the following applications:

- To electrically round out high-voltage connectors and to bond to insulating materials to minimize electrical stresses
- Continue semi-conducting strand shielding found in solid dielectric (polyethylene, XLP, EPR, etc.) cables at 5 kV and above
- Provide shielding for cable joints on solid dielectric insulated power cables (shielded or concentric neutral)

- Replace semi-conducting layer beneath metallic shield of similar cables in case of damage (screening)
- Make conductive portion of stress cone of power cable termination on solid dielectric insulated power cables
- Maintain positive connection between concentric neutral semi-conducting jackets of power cables and semi-conducting surfaces of plug-in units
- Establish a more positive contact between concentric neutral wires and pre-molded devices already installed with too much jacket exposed
- Round out bolted connections on insulated bus bars

Semiconducting tape is not oil resistant. It should not be used in splicing and terminating cables which contain oil or slippery compounds as part of dielectric such as PILC.

For best ultraviolet light (UV) protection, overwrap with a high-quality, vinyl electrical tape.

3. Properties (nominal)

Material	Self amalgamating, semi-conducting, ethylene propylene rubber (EPR)
Material thickness	30 mil
Color	black
Temperature, rating	
Continuous	90° C (194° F)
Short-Term	130° C (266° F)
Breaking strength	6 lb/in (of width)
Core diameter	1-1/2 in
Shelf life (inside storage)	5 years from the date of manufacture

Semiconducting tape shall be:

- Self amalgamating.
- Printed with identifying words to ensure it is not confused in the field with insulating tape.
- Provided with a separator/liner to prevent the product from sticking to itself.
- RoHS (European Union Directive 2002/95/EC for Restriction of Hazardous Substance) compliant.

4. Testing

Test data that confirms the properties cited in the manufacturer's literature and this material standard shall be provided upon request.

5. Packaging

Each roll of tape shall be individually packaged in cellophane, plastic, or metal containers to prevent damage during shipping, storage, and casual handling prior to use.

Each roll of tape shall be legibly marked with the following information:

- Manufacturer's name
- Manufacturer's catalog number
- Product description

Number of rolls of tape per case shall be according to Section 7.

Each shipping container shall be marked with Seattle City Light's Purchase Order Number.

6. Issuance

RL

7. Approved Manufacturers

Stock Number	736670
Description:	3/4 inch x 15 ft roll
Manufacturer	3M
Product:	13
ID:	HT-0020-0032-7
UPC:	00-054007-15017-6
Case Quality:	50 rolls
Manufacturer	Plymouth (formerly Bishop)
Product:	17 Plyshield
ID:	2104
Case Quality:	50 rolls
Stock Number	736671
Description:	1 inch x 15 ft roll
Manufacturer	3M
Product:	13
ID:	HT-0020-121-8
UPC:	00-054007-15017-6
Case Quality:	50 rolls

Stock Number	736671 (continued)
Description:	1 inch x 15 ft roll
Manufacturer	Plymouth (formerly Bishop)
Product:	17 Plyshield
ID:	2107
Case Quality:	50 rolls
Stock Number	010451
Description:	1-1/2 inch x 15 ft roll
Manufacturer	3M
Product:	13
ID:	HT-0020-0031-9
UPC:	00-054007-15017-6
Case Quality:	50 rolls
Manufacturer	Plymouth (formerly Bishop)
Product:	17 Plyshield
ID:	2156
Case Quality:	50 rolls

8. References

7366.6 (canceled); Tape, Semiconducting, Electrical

Shipek, John; Standards engineer and originator of 7365.54.

3M Scotch Electrical Semi-Conducting Tape 13, Data Sheet, September 2012, 78-8141-5624-2

3M Electrical Products catalog, 80-6016-0382-4, 2011

www.3m.com/electrical

Plymouth Electrical & Utility Products online catalog, undated, downloaded June 10, 2013

www.plymouthrubber.com/catalogo.php