

Wire, Solid Bare Copper, Dead-Soft-Annealed



1. Scope

This standard covers the requirements for dead-soft-annealed, solid bare copper wire.

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

Stock No.	Size (AWG)
610208	4
610210	6
610218	14
610222	18

2. Application

The larger sizes of dead-soft-annealed wire are used for hand tying copper primary conductor to pin insulators and making jumpers.

Dead-soft-annealed wire falls between soft-drawn and dead-soft-drawn in hardness.

The hardness of copper wire is determined by stretching a ten-inch-long sample until it breaks and then measuring the length of the sample. The percent of stretch is called elongation. Dead-soft-drawn has an elongation of 40%. Dead-soft-annealed (this standard) has an elongation of 35%. The elongation of soft-drawn ranges between 15 and 35%. The elongation of medium- and hard-drawn ranges between 1.0 and 1.9%. The practical, upper limit of softness for copper wire is about 48%. Annealing past this point significantly compromises tensile strength.

3. Industry Standards

Wire shall meet the applicable requirements of the following industry standard:

ASTM B3-2001 (2007) - Standard Specification for Soft or Annealed Copper Wire

4. Requirements

Wire shall meet the applicable requirements of ASTM B3 and this standard with the following clarification: elongation shall be 35% or greater (dead-soft-annealed).

Table 4. Requirements

Stock No.	Size (AWG)	Diameter (in)	Weight (lb per 100 ft)
610208	4	0.2043	12.64
610210	6	0.1620	7.95
610218	14	0.0641	1.24
610222	18	0.0403	0.492

5. Packaging

Wire shall be packaged to prevent damage during shipping, handling, and storage.

Wire shall be packaged according to Table 5.

Table 5. Packaging

Stock No.	Size (AWG)	Standard Package	Length, Nominal (ft per standard package)	Weight, Nominal (lb per standard package)
610208	4	Spool	200	25.0
610210	6	Spool	315	25.0
610218	14	Spool	100	1.3
610222	18	Spool	100	0.5

Each package shall be marked with:

- Length of wire
- Manufacturer name and address
- Seattle City Light stock number

Each shipping container shall be marked with:

- Seattle City Light purchase order number

6. Issuance

Stock Unit: FT

7. Approved Manufacturers

Kris-Tech Wire Company
Nehring Electrical Works Company
Service Wire Company
Southwire

8. References

SCL Material Standard 6102.2; "Wire, Soft, Round, Bare Copper" (renumbered)

Shipek, John; SCL Standards Supervisor and subject matter expert and originator of 6102.20 (john.shipek@seattle.gov)

Standard Handbook for Electrical Engineers; 8th Edition; A.E. Knowlton, McGraw Hill Book Company, Inc., 1949