

11.5 The impregnating compound shall retain its initial qualities during the life of the wire and shall not develop any damaging chemical action within itself or with any other component of the finished wire.

11.6 The insulation on a specimen of finished conductor is to be inspected visually to determine whether or not it complies with the requirements in paragraphs 11.1-11.5 with respect to general construction. The thickness of the insulation is to be determined in accordance with paragraph 15.4.

11.7 The insulation, after removal of any exterior material other than asbestos, shall comply with the requirements in paragraphs 23.1, 23.1A-23.1F, 23.2, 25.1-25.4, and 27.2-27.5.

Paragraph 11.7 revised September 4, 1981

Asbestos Content

11.8 STRAIGHT ASBESTOS - If reinforcing glass-fiber threads are not employed, Class A asbestos, after the impregnating compounds have been removed from the insulation, shall contain not less than 80 percent by weight of asbestos.

11.9 To obtain representative material for the test, the asbestos is to be removed from a 3-4-ft or 900-1200-mm length of conductor and cut into short sections about 1/8 inch or 3 mm in length. Reinforcing cotton threads and cotton binder threads are not to be removed even if such threads serve as an identifying marker. These pieces are to be well mixed and the impregnating compounds are then to be removed with an organic solvent.

11.10 A specimen of the asbestos (with the impregnating compounds removed) weighing approximately 5 gm is to be dried to a constant weight W_1 in a weighed crucible at a temperature of $110 \pm 5^\circ\text{C}$ ($230 \pm 9^\circ\text{F}$), ignited in an electric furnace at a temperature of $800 \pm 20^\circ\text{C}$ ($1472 \pm 36^\circ\text{F}$) for 60 minutes, cooled to room temperature in a desiccator, and then weighed again W_2 . The percentage of asbestos in the specimen is then to be calculated by means of the formula

$$X = \frac{100 W_2}{0.86 W_1}$$

in which X is the percentage of asbestos, W_1 is the weight of the dried specimen before ignition, W_2 is the weight after ignition and drying, and 0.86 is a multiplying factor reflecting the fact that chrysotile asbestos usually contains about 14 percent water of crystallization.

11.11 If the asbestos insulation is known to have more or less than 14 percent of water crystallization, the factor 0.86 in the formula in paragraph 11.10 is to be adjusted accordingly.

11.12 ASBESTOS AND GLASS - If reinforcing glass-fiber threads are employed, Class A asbestos tape, after the impregnating compounds have been removed from the insulation, shall not contain less than 30 percent by weight of asbestos.

11.13 Insulation consisting of asbestos and glass shall not show a loss in weight of more than 30 percent after ignition at a temperature that eliminates all combustible material and water of crystallization in the asbestos.

11.14 Specimens of the insulation are to be prepared and ignited as indicated in paragraphs 11.9 and 11.10. After ignition, the weight W_2 is not to be less than 70 percent of W_1 .

11.15 Insulation consisting of asbestos and glass shall not contain more than 9 percent by weight of carbon (corresponding to a maximum content of 20 percent by weight of combustible material).

11.16 The carbon content is to be determined from insulation from which the impregnating compounds have been removed as indicated in paragraph 11.9. A sample weighing approximately 1 gm is to be dried to constant weight at $110 \pm 5^\circ\text{C}$ ($230 \pm 9^\circ\text{F}$) and then ignited in a stream of oxygen at $900 \pm 20^\circ\text{C}$ ($1652 \pm 36^\circ\text{F}$). The evolved carbon dioxide is to be absorbed in an acceptable medium, and the carbon content is to be calculated from the increase in weight of the medium.

*Replaces page 17 dated June 1, 1981