



AEIC

The Association of Edison Illuminating Companies – AEIC – is comprised primarily of engineers affiliated with investor owned utilities. AEIC is most widely known in our industry for their Paper-Lead cable specifications. The success of this group in drafting meaningful cable specifications is reflected in the excellent service record and reliability of Paper-Lead cable.

However, utilities are turning to solid dielectric cables, through 35 Kv, in applications that were traditionally serviced by Paper-Lead cable. Consistent with this trend the AEIC has developed specifications for solid dielectric cables that will insure the same reliability as Paper-Lead cable. Both the IPCEA and cable manufacturers were invited to offer constructive criticism and recommendations. Although perfect agreement was not reached, what did emerge was a specification that most engineers agree will guarantee cables of much higher quality than ever before.

Basically, AEIC 5-69 provides added quality assurance, through testing, by supplementing what is required by IPCEA. The following new tests have been instituted to fulfill this purpose:

1. STRUCTURAL STABILITY TEST – A short term cyclic aging test.
2. HIGH VOLTAGE TIME TEST – To establish minimum acceptable 6-hour withstand voltage.
3. DIMENSIONAL STABILITY – To judge the shrink-back characteristics of the insulations.
4. INCREASED AC-DC VOLTAGE TESTING – Up to 150 volts per mil AC and 450 volts per mil DC from the IPCEA levels of 125 vpm and 375 vpm respectively.
5. TEST FOR ADHESION BETWEEN EXTRUDED INSULATION SHIELDS AND INSULATION – This test, for the first time, established quantitative criterion for judging adhesion limits of insulation shields.
6. SHIELD VOLUME RESISTIVITY TEST – To set a minimum level of conductivity for semi-conducting materials.
7. MEASUREMENT OF APPARENT DISCHARGE CHARACTERISTIC – Also known as Corona Factor Test, it establishes requirements for corona levels at various test voltages.
8. VOID AND CONTAMINANT DETERMINATION TEST – A visual exam, sets standards for size and number of voids and contaminants within an insulation.

Becoming as thoroughly familiar with this specification as you are with IPCEA specs will be very beneficial, especially for those of you who communicate ideas and product knowledge to utility customers.

R. S. Sinatra