



CPRI participation in MEE 2009

CPRI participated in the Middle East Electricity (MEE) Exhibition 2009, held in Dubai, from 8th-10th February 2009. CPRI stall attracted more than 3,000 business visitors. The facilities of CPRI covering Testing and Certification Services, INTERTEK-ASTA Testing and Certification, Field Testing and Diagnostic Services, were displayed during the exhibition.

Fire Safety Assessment of Cables/Wires

Polymeric cables and materials are in use for various applications. But these materials produce highly corrosive gases during combustion which cause problems of corrosion to electrical apparatus and metallic structures even months after the fire.

Cables rarely cause fire, but in the event of fire can act as pathway along which fire can travel and spread. Thus the classification of the fire hazard poses a challenging problem for building services installation and design.

Fire Safety Evaluation Techniques

Some of the important fire test facilities available in the laboratories of CPRI include HRR measurements on cables and wires using cone calorimeter (ASTM 1354/ ISO 5660); Wire/cable bunch flame propagation (IEC 332-3/IEEE 383/IS 10810 (P-62); Smoke density of wire/cable (IEC 1034 (1,2)/IS 10810(P-63); ASTM 2843 for smoke density from the burning or decomposition of plastics; Toxicity index test as per NES 713/NCD 1409 / IEC 754 part 1 & 2; UL 94 for flammability of plastics and Fire survival test, etc.

Some important test methods are described below.

Flame resistance test on Bunched Cables

In this test behavior of polymeric materials and their fire resistance characteristics in full scale model related to Bunched cables is checked. The cable samples selected under categories AF,BF,CF,DF are mounted in a vertical tray and exposed to a high intensity flame for 20-40 mts. using a special type burner.

Fire Resistance test

In this, the cable length of 1200 mm is arranged horizontally. The cable is electrically stressed and is subjected to the flame at a specific temperature of, 650°C, 750°C & 950°C for category A, B & C cables for 3 hours. A short circuit prior to the test time indicated a failure.

Advanced Testing Methods

In recent times real scale tests to determine the heat release measurements, time to ignition, smoke production rate, toxic gases Carbon dioxide and Carbon monoxide yields and determination of fire gases during combustion are gaining importance.

Evaluation of Toxic index of combustible gases

The toxicity Index is defined as the numerical summation of the toxicity factors of selected gases produced by complete combustion of the material in air. This test explores the toxicity of the products of combustion in terms of small molecular species arising when a small sample of a material is completely burnt in excess air under specified conditions.

Cone Calorimeter

The cone calorimeter method, ASTM E1354, is the best laboratory apparatus currently available for the evaluation of certain fire properties of materials and products. With appropriate selection of the test parameters, it is also suitable for use as a regulatory tool for evaluating relative flammability of finished products or their components.

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One year Course on Testing and Maintenance of Electrical Equipment				
SI No.	Schedule/Duration	Activities	Practical Training	
Module -1	April 2009 - September 2009	Initiation Programme at CPRI Self Study Contact Classes at CPRI Examination	One Week 20 Weeks 2 Weeks 3 Days	Visit to laboratories
Module -2	October 2009 - March 2009	Initiation Programme at CPRI Self study Contact Classes at CPRI Comprehensive Training Programme in CPRI laboratories Examination	One Week 20 Weeks 2 Weeks 4 Weeks 3 Days	Field visits