Chapter 6
Insulator Testing

6.12 Insulator Porosity Test

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According to IEC 60383 standard, porcelain insulator need to do insulator porosity test.

**What is the insulator porosity?**
Freshly broken pieces of porcelain shall show no dye penetration after having been immersed for 24 hours in an alcoholic mixture of fushing at a pressure of 2000 p.s.i.

**Porosity test on porcelain insulators**

- **The test procedure for insulator porosity test**
  Ceramic fragments from the insulators or, by agreement, from representative pieces of ceramic fired adjacent to the insulators, shall be immersed in a 1% alcohol solution of fuchsin (1 g fuchsin in 100g methylated spirit) under a pressure of not less than $15 \times 10^6$ N/m² for a time such that the product of the test duration in hours and the test pressure in newtons per square meter is less than $180 \times 10^6$.

- **Acceptance criteria for insulator porosity test**
  Examination with naked eye of the freshly broken surfaces shall not reveal any dye penetration. Penetration into small cracks formed during the initial breaking shall be neglected. The re-test procedure in subclause 8.3 applies to this test.

**Porosity test usage**
Porosity test is one of sample tests. It can inspect the material anti-penetration.