# Transformer Impulse Test (LI LIC SI)

标题1

Lighting is a common phenomenon in transmission lines because of their tall height. This lightning stroke on the line conductor causes impulse voltage. The terminal equipment of transmission line such as power transformer then experiences this lightning impulse voltage. Again during all kind of online switching operation in the system, there will be switching impulses occur in the network.

标题2

Insulation is one of the most important constituents of a transformer. Any weakness in the insulation may cause failure of transformer. To ensure the effectiveness of the insulation system of a transformer, it must confirm the dielectric test. But the power frequency withstand test can not alone be adequate to demonstrate the dielectric strength of a transformer. That is why impulse test of transformer performed on it. Both lightning impulse test and switching impulse test are included in this category of testing.

Lightning Impulse: Full wave1.2 µs ± 30 % / 50 µs ± 20 %.
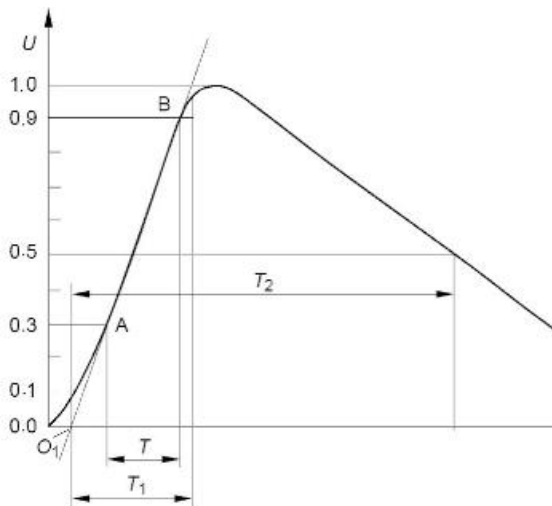
Front time: $T_1 = 1.67 \times T = 1.2$ µs ±30%
Time to half-value: $T_2 = 50$ µs ±20%.

Chopped wave: Having a time to chopping between 2 µs and 6 µs.
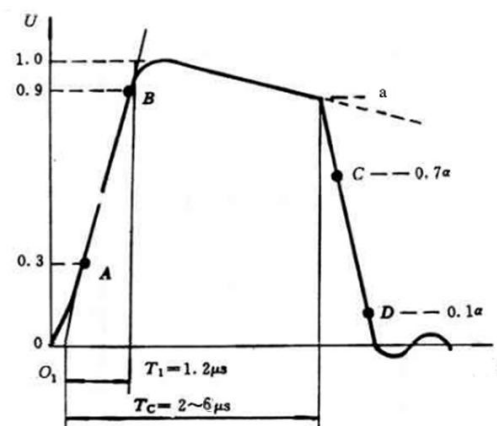
Switching impulse: The voltage impulse shall have a virtual front time of at least 100 μs, a time above 90 % of the specified amplitude of at least 200 μs, and a total duration from the virtual origin to the first zero passage at least 500 μs but preferably 1 000 μs.
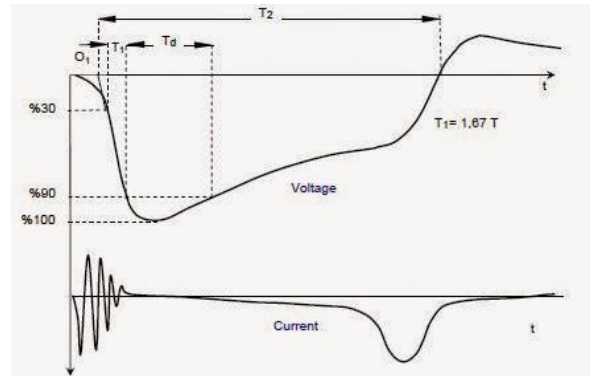
APT provides IVG-series Impulse test system for transformer from 100kV to 3600kV

✓ H-shaped structure for IVG main body, compact & erection easily
✓ High speed sampling & recording
✓ Constant current charging design
✓ Reliable & accurate trigger
✓ Output: lightning impulse: full or chopped waves, switching impulse
✓ Fully protections for Person, Test Object and System
✓ Over-current, Over-voltage Protection
✓ Emergency Stop
✓ Safty grounding device operating automatically
✓ Based on PLC control system