How ANNKE UL-Certified Cables Pass All Indispensable Tests

ANNKE cables have passed all the following tests to make sure the cables are 100% UL-certified, durable and safe to use.

Please check the below tests of ANNKE cables.

1. Tensile Strength and Elongation

It is a test method for evaluating the plastic deformation and permanent deformation of rubber insulation and plastic insulation materials under the impact of heat and load.

The wires are tested in a test temperature (much higher than the actual working temperature) and under a certain load. After a certain time, the test team will check the aging elongation of the wires to reflect plastic deformation and permanent deformation

In the 105° environment, there is a 100% increase in elongation compared with the wire before aging. In the 136° environment and the 1500 ibf/m^2 tensile length (after 7 days), there is a 35% decrease in elongation and a 15% decrease in tensile length of the aging wires compared with the previous wires without aging.

2. Insulation Flexibility After Aging (Tested in an Oven)

This test method mainly tests the thermal deformation performance of thermoplastic materials.

The test team puts the wire into the oven and heat it up with a high temperature. After a short time, the staff close the oven and then wait till the temperature decreases (back to the normal state).

After that, they will check if the cable can recover back to the original shape without any external force after being heated up in the oven. The insulation flexibility (tested in the oven) is the cable's thermoplastic insulation.

3. Cold Bending Test of Insulation

The team places the cable in a low-temperature environment for 4 hours and then winds the cable at the specified diameter with specified temperature. The wire's insulation and coating do not crack.

4. Cold Bending Test of the Complete Cable

The staff wind the compete cable at the mandrel and then put it into the freezer with a specified temperature. After 4 hours, the staff confirm that the cable is in good condition without cracks, tears or other damages.

5. Conductor Corrosion Test

This test is to make sure that the conductor and the insulation layer are corrosion resistance. The conductor must wrap the insulation layer.

The staff take the conductor from the aging cable and then confirm if the conductor is corroded. After the test, ANNKE cable is corrosion resistant after aging.

6. Crushing Resistance Test of Insulation

The staff add the corresponding voltage to the cables. The voltage is slowly increased from zero to the rated value within10 s — 60 s and remains for 1 minute. The judging criterion is that the hipot machine circuit alarms during the periods of increasing, reducing and remaining the voltage.

7. Dielectric Withstand Test with Continuity Check

The dielectric withstand test, also known as hipot test, is a non-destructive test that confirms the insulating material is sufficient to withstand instantaneous voltage.

It can also detect possible flaws caused by insufficient leakage distance and electrical clearance during the manufacturing process, etc.

ANNKE cables have passed the severe test to make sure they can withstand the instantaneous voltage.

8. Cable Insulation Shrinkage Test

The cable insulation shrinkage test is conducted to check if the cable's insulation material will shrink within a certain standard value after the test.

The team puts the insulation material (after removing all the shields) into the oven. After that, take it from the oven and wait until it cools down in the room temperature.

The staff confirm that ANNKE cable shrank within 9.5 mm and passed the test.

9. Durability Test of Ink Printing

During the test, ANNKE cable is placed in a fully ventilated oven to make it aging and then put in the room temperature to cool down. The words printed by the ink are clearly visible and cannot be wiped off.

10. Breaking Strength Test

The breaking strength test mainly evaluates the fracture performance of the insulation and shield materials of wire and cable during operation.

Wire and cables have bending and rapid temperature changes during operation. Conductors and insulation, jacket materials have different thermal expansion coefficients.

When the temperature changes suddenly, the insulation and shield would break, which would lead a short circuit.

ANNKE cables adopt the thermoplastic material that can withstand the thermal stress changes without breaking under the bending and rapid temperature changes.

11. FT4/IEEE 1202 Flame Test

The flame test is a vertical bracket burning test used to test the damage value of the cables, and the smoke emission of the cables & the optical cables when placed in the fire source.

The general scorched height is less than 4 feet 11 inches. The staff measure the value from the bottom of the burning device. The total smoke emission is 150 m^2 or less, and the maximum smoke emission rate is 0.40 m^2/s or less.