

## **PVC Insulated Nylon Jacket Cable Extrusion Line**

### **Technology Features**

Since ordinary plastic nylon material has different characteristics, therefore, in the extrusion process presents some unique process requirements. The following main requirements of the production process to make some discussion.



#### **1. The first production process**

The process of insulation and sheath is in a double-layer extrusion head, once completed, using the free adjustable eccentric head. The advantage of this process is that the finished surface smooth and uniform and transparent, no air gap between the insulation and jacket, look for the best, the line speed is also faster. The disadvantage is that the machine, washing machine operation inconvenience, due to the use of non adjustable eccentric head, therefore, the mold processing accuracy requirements, mold cleaning and assembly requirements are very high. Secondly, since a co-extruded double layer of wire pressure, tightly stranded conductors requirements, otherwise it will be twisted backwards or pull off a flower.

Matters to be noted in the process:

A. Should pay attention to temperature control, because nylon 6 having a melting point of about 215 °C, the cold condenses, agglomeration, general heating temperature above 225 °C. The PVC extrusion temperature is about 170 °C, susceptible to thermal decomposition at above 200 °C, so the head is heated to be divided into two sections, a section of the heating insulation, heating a length of nylon, nylon jacket only and is heated to a split ring at the die case mouth, insulated heating zone temperature control should be lower than the conventional 5-8 °C.

B. The move sink in the middle of printing, to solve difficult printing problems.

C. Nylon winter thickness exceeds 0.25mm, nylon cooling tank of the first paragraph apply about 50 °C water cooling, otherwise quench nylon jacket, nylon jacket inner residual stress at the time rewind, and packaging can lead to brittle nylon jacket crack.

D. Before extruded nylon, it should be removed and the screw extruder screw barrel impurities, by means of rotation of the screw with a clear plastic top impurities, the process known as the "before start playing material", it should be noted that the installation of equipment such as the bypass means BYPASS, before starting the screw can be expected to play in the material flowing through the bypass means, such as the device does not install the bypass means, when playing material must hit PVC insulation material, nylon material call, otherwise hit nylon, nylon will be back to the mandrel, the core temperature of about 160-180 °C, Nylon 6 will be in the outer wall of the mandrel is condensed uneven coagulum, resulting in insulation eccentric.



## 2. The second production process

The process of insulation and jacket in the head by two 1 + 1 has a way out, insulated head is adjustable eccentric nose, the nose is a free transfer jacket eccentric head. The advantage of this process is easy to adjust the eccentricity, concentricity is good, smooth surface. Secondly, the use of nylon stretched over a wider range of features, using the same specifications of the mold can squeeze tube extruded products with different specifications, so the operation is relatively simple. The disadvantage is that between the insulation and jacket with a slight gap, line speed limited by distance between the insulation and sheathing the two heads.

Extrusion process considerations: A. Insulated core and sheath head should remain in the same straight line, otherwise it will be scratched or scratched since the insulation is not cooled in the soft state, over jacket extrusion die when the mandrel. B. Note that the production line speed and the distance between

the insulation and sheathing the two heads. Since the insulation after extrusion, surface insulation gases, if the gas does not evaporate directly into the sheath extrusion, will cause a slight insulating jacket and a clear gap, can cause serious jacket out of line, not continuous production. C. After the sheathing extruder head installed vacuum system, the main role is to extract the gas insulated surface, while increasing the tightness between the insulation and sheathing. D. Printing device should be placed between two sinks printing.

### 3. The third production process

The process of insulation and jacket in the head by two 1 + 1 has a way out, insulated head is adjustable eccentric nose, the nose is a free transfer jacket eccentric head. Extruded insulation immersion cooling volatiles can be removed with an insulating gas, and avoid crowded insulating sheath scratches.

Pros: Easy to adjust eccentric insulating sheath concentricity is good, smooth surface. The jacket with a squeeze tube extrusion several lines of similar specifications can be the same size die

without frequent replacement jacket extrusion dies, the operation is relatively simple. Printed on the printing surface of the insulating layer, and in the inside jacket, so indelible.

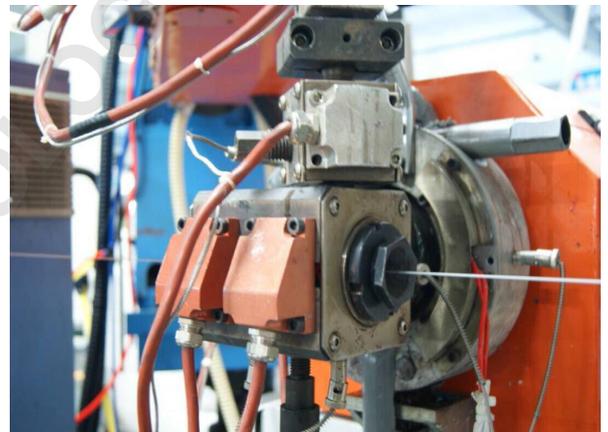
Cons: insulating jacket and a slight air gap. Line speed limited distance between the two heads of insulation and jacketing.

Process Considerations:

A. Note that the production line speed and the distance between the two heads of insulation and sheathing. Extruded insulation cooled by immersing in the water, instead of long cooling tank, about 0.5-1.5m.

B. After installation of the jacket of the extruder head vacuum system, increase the tightness between the insulation and sheathing.

C. Printing device installed between two sinks.



#### 4. Summary

Nylon sheathed wire as a strong, reliable lines, it has unique advantages, and gradually accepted by the majority of users, and gradually replace the ordinary PVC wire in the whole building wire. The building wiring will greatly improve the safety, reliability and applicability.