Rubber composition and characteristics and application of rubber products

1. Composition of rubber

The rubber product is composed of a proper amount of a compounding agent based on the raw rubber.

(1) Raw rubber without added compounding agent or unvulcanized natural or synthetic rubber is collectively referred to as raw rubber. Natural rubber has good comprehensive performance, but the output cannot meet the needs of the industry, and it can not meet certain special performance requirements. Therefore, synthetic rubber is used more.

(2) A compound to be added in order to improve and improve various properties of a rubber product is called a compounding agent. The compounding agent mainly includes a vulcanized thorn, a filler, a vulcanization accelerator, a plasticizer, an anti-aging agent and a foaming agent.

1 vulcanizing agent acts similarly to the curing agent in thermosetting plastics, which forms a transverse chain between the rubber molecular chains, and is properly crosslinked to become a network structure, thereby improving the mechanical properties and physical properties of the rubber. Commonly used sulfides are sulfur and sulfide.

2 filler is to improve the mechanical properties of rubber, such as strength, hardness, wear resistance and rigidity. The most common fillers used are carbon black and textiles, fibers, or even wire or metal braids as a framework material. The addition of fillers can also reduce the amount of raw rubber and reduce the cost of rubber.

3 Other compounding agents vulcanization promoting jing can accelerate the vulcanization process and improve the vulcanization effect; plasticizers are used to increase rubber plasticity and improve the molding process performance; anti-aging agents (antioxidants) are used to prevent or delay rubber aging.

2. Characteristics and application of rubber products

Rubber products have high elasticity, high resilience, high strength and high wear resistance. Its elastic modulus is very low, only 1-10MPa, the amount of elastic deformation is very large, up to 100% ~ 1000%, with excellent flexibility and ability to store energy. In addition, there is good wear resistance, sound insulation, damping and insulation. However, the rubber has poor heat resistance and cold resistance (cursive at high temperature, cold and brittle), and dissolves in the solvent.

In the industry, rubber can be used to make tires, dynamic and static seals, vibration and vibration-proof parts, transmission belts, conveyor belts and pipes, wires, cables and electrical insulation materials and brakes.