

# The Difference Between Tpu Hot Melt Adhesive Film and Pur Hot Melt Adhesive

Detail Introduction :

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Thermoplastic polyurethane hot-melt adhesive is also known as hot-melt polyurethane hot-melt adhesive (TPU). The hot-melt adhesive film made of thermoplastic polyurethane hot-melt adhesive particles is melt adhesive film, which is often referred to as the TPU hot-melt adhesive film. People often say the also a polyurethane system, so customers who usually do not know the truth will confuse them.

Polyurethane systems can be divided into two categories according to their chemical properties: thermoplastic polyurethane hot-melt adhesive (TPU hot-melt adhesive) and the other is reactive polyurethane hot-melt adhesive. The former is heated and then hardened by cooling to form a bond, and the latter is heated and then cross-linked and solidified by the reaction of cooling and moisture to produce a bond. PUR adhesive is a molecular structure containing polar and chemically active urethane group ( $\text{-NHCO}$ ) and isocyanate group ( $\text{-NCO}$ ), and materials containing active hydrogens, such as wood, leather, fabric, paper, ceramics and other porous materials. It has excellent adhesion to plastic, metal, glass, rubber and other surface smooth materials.

In the sizing process, the PUR hot-melt adhesive is heated and melted into a fluid under the condition of inhibiting the chemical reaction so as to facilitate coating; the two adherents are bonded and cooled, the adhesive layer condenses to play a bonding role; The existing moisture and the moisture attached to the surface of the adherend react with it and extend the chain to form a high cohesive polymer, which significantly improves the adhesion, heat resistance and low-temperature resistance. Due to its extremely high reactivity, it exhibits excellent adhesion to a variety of materials.

Compared with other types of adhesive products, PUR has the following advantages:

1. No solvent. Since PUR hot melt adhesive has no solvent, there is no need to wait for the solvent to evaporate. It will not pollute the environment by emitting volatile gases to meet the requirements of environmental protection.

Unlike solvent-based adhesives, which require a drying process, there are no environmental pollution and poisoning problems caused by solvents, and it meets environmental protection requirements. The bonding process is simple, and sizing methods such as roller coating or spraying can be used.

2. Good operability. The bonding process of PUR hot melt adhesive is simple and can be applied by roller coating or spraying. A strong bond can be formed in a short period of time, which is convenient for improving work efficiency.

3. Strong weather resistance. PUR hot melt adhesive has excellent heat resistance, cold resistance, water vapour resistance, chemical resistance and solvent resistance. Since it is a reactive adhesive, the cross-linked structure formed by it can form a strong bonding strength and can also meet many performance requirements.

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