

What Should I Do if the Material Warps and Detaches After the Hot Melt Adhesive Film is Hot Pressed?

Detail Introduction :

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Hot melt adhesive films usually prevent composite bonding of flexible materials such as fabrics, leather, and aluminum foils. Still, as the material industry gradually accepts hot melt adhesive films, more and more material developers have begun to recognize and use heat—melt film products. For example, in some traditional flexible material composite bonding, people will also try to use hot melt adhesive film products for bonding.

There is usually a problem when bonding non-flexible materials; thermal stress is often released during pressing, resulting in a deformation phenomenon after the pressure is released. What effect will this deformation have on the bonding of the hot melt adhesive film? Let's talk about it.

The hot pressing process of traditional thermosetting adhesives and hot melt adhesive films is different. Thermosetting adhesives are cured when they are hot-pressed. Curing means that the glue in the liquid state turns into a solid-state through a chemical reaction. Moreover, the curing of thermosetting adhesives is irreversible, and the adhesives that become solid will not become liquid again, so a permanent bond is formed between the adhered materials.

But the hot melt adhesive film is different. The hot melt adhesive film melts the glue when heated and hardens the glue after cooling, thus forming a firm bond between the adhesive layer and the adhered materials. When we hot-press flexible materials, there is no release of thermal stress, and the adhesive layer between the adherents can slowly harden without degumming.

When we hot-press non-flexible materials, due to the thermal stress of the material itself, the hot-melt adhesive film melts into a liquid state under heating, and when the pressure is removed, the glue liquid has no time to harden into a solid-state. Therefore, a good bond is not formed between the adhered materials, but the thermal stress of the material itself needs to be released. At this time, the adhered material is warped and deformed so that the adhesive layer is detached.

So, can this problem be solved? How should this problem be solved?

We only need to add a process to the process, that is, add a cold-pressing process after the material is hot-pressed. Because only after cold pressing, after the glue of the hot melt adhesive film is completely hardened,

and a firm bond is formed between the materials, there is no need to fear that the adhesive layer will pull apart due to the release of thermal stress.

When the hot melt adhesive film is used to bond non-flexible materials and flexible materials, we need to pay attention to this difference. Do you understand?

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