

What Does Hot Melt Adhesive Film Use to Bond Materials Together?

Detail Introduction :

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Adhesive products achieve the bonding of materials; how is the adhesion of adhesives to materials completed, and hot melt adhesive film, as a particular sticky product, uses what force to bond materials together? What about?

In fact, this has been an open question. It's not that there is no theory; it's just that there are different opinions in the scientific community. A group of scientists have proposed many theoretical models to explain this problem, such as glue nail theory, adsorption theory, diffusion theory, electrostatic theory, etc., but so far, these theories have not been agreed upon, nor One theory can explain all adhesive-to-material bonding phenomena. Why is this?

Because the surface properties of materials are often varied, some materials have rough surfaces, some materials have smooth surfaces, some materials have high surface energy and are easy to wet, and some materials have low surface energy and are not easy to wet. But regardless of the surface properties of the material, one seems to be able to find an adhesive that holds it firmly together. The bonding of different material surfaces is just adapted to the support of different theories. For example, rough surfaces with high surface energy can just be explained using the glue nail theory. For smooth surfaces with low surface energy, it may be the right direction to choose adsorption theory or diffusion theory to explain.

As an industrial adhesive, hot melt adhesive film has a wide range of applications and many materials. Therefore, it is also impractical and imprecise to use a bonding theory to explain it. For example, when bonding textiles, we prefer to use glue nail theory to explain its bonding.

When bonding metal or some plastic materials, we prefer to use diffusion theory to explain it.

Now, it is generally believed that the bonding of adhesives to materials is a very complex process, so it is not explained by a single adhesive bonding theory. The complexity of the formal bonding process leads to the complexity of its theoretical explanation, and the bonding itself is the result of a comprehensive effect.

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