

The future of hot melt adhesive, breakthrough the points, will develop better

Detail Introduction :

Hot melt adhesive is a kind of adhesive that can be solidified by heating, melting, and cooling. It is different from ordinary adhesives. It does not need the dilution of solvent, but through its melting to wet the material to be bonded, the solid content is 100%. The absence of solvent volatilization also makes it known as an environmentally friendly adhesive, which is a great boost to the future development of hot melt adhesive when public awareness of environmental protection is increasing. So what kind of hot melt adhesive will be developed in the future?

Developing the advantages of hot melt adhesive and improving the efficiency of hot melt adhesive

On the one hand, we believe that hot melt adhesive should develop its advantages. The biggest advantage of hot melt glue is that it is easy to apply glue, has fast curing speed, and has high efficiency. Hot melt adhesive is bound to expand this advantage and develop high-speed hot melt adhesive to achieve better development in the future. Nowadays, hot melt adhesive film and hot melt adhesive mesh products are developed in this direction. Such film or mesh hot melt adhesive products will largely improve the speed of hot melt adhesive application and, to some extent, reduce the curing speed and improve the overall efficiency from the perspective of the process.

Today, cigarette nozzle sticks produced by hot melt adhesives can be bonded at speeds of up to 20,000 sticks/minute, book bindings at up to 18,000 books/hour, and diaper production at up to 1,000 pieces/minute. In the future, it may be possible to improve the speed of hot melt adhesive application and expand this advantage, mainly by accelerating the speed of hardening, improving the thermal adhesion, reducing the material's specific heat, and optimizing the process equipment to achieve.



Making up for performance shortcomings and developing high strength hot melt adhesives

On the other hand, hot melt adhesives also have some disadvantages. If these shortcomings can be eliminated, hot melt adhesives will also achieve great development space. One of the disadvantages of hot melt adhesive is not high bonding strength. This is because the hot melt adhesive itself lacks cohesive strength. Because there is no solvent-assisted wetting, you need to rely entirely on the intermolecular bonding force when bonding some smooth planes. Therefore, its bonding strength is not good compared to some solvent-based adhesives. If, by modifying the cohesive strength and wettability, a high strength hot melt adhesive is developed, combined with its efficient characteristics, there must be a very large market space. In addition, for many difficult-to-stick materials, if the hot melt adhesive can seek a breakthrough in the bonding of these materials, the future will also be more open to new areas of application.

Improve their inherent defects and develop high temperature resistant hot melt adhesives

Another shortcoming of hot melt adhesives is their poor resistance to high temperatures. This is due to the nature of hot melt adhesive, a thermoplastic material. Because the sizing of hot melt glue needs to be cooled and melted, the melting of hot melt glue is reversible, which is different from that of thermosetting glue. When the hot melt glue is cooled, although it can achieve better strength, once the ambient temperature reaches its ability to melt, the hot melt glue will melt here. After melting, the glue will lose its cohesive strength, and the risk of debonding will inevitably arise.

At present, the higher temperature resistance limit of all categories of hot melt adhesives is 100 ℃, and no categories of hot melt adhesives can reach this temperature resistance limit. The more difficult problem is that the hot melt adhesive that can withstand high temperature, its sizing temperature is usually very high. For example, the hot melt adhesive that can withstand 100 ℃. Its sizing temperature will generally be between 150 - 180 ℃.

The development of technology comes from the change of the industry, in demand will be diversified. With the gradual scale of hot melt adhesive enterprises, will have enough strength to do basic research, to carry out technological upgrading. This way, we can gain an advantage in the market where product homogeneity is serious. Hot melt adhesive as an environmentally friendly adhesive, its huge development potential is widely recognized, how to make up for the shortcomings of the future, is the huge challenge faced in the development of hot melt adhesive road, and the opportunity of the development of hot melt adhesive.

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