Nano Polymer Adhesive, the Glue Developed for High Performance Polymers

2021-06-04
Vision Miner has developed a solution with Nano Polymer Adhesive, one of the first adhesives developed with high-temperature, high-performance FDM filaments in mind.

Some of the most important steps in 3D printing take place even before the printing begins. Improperly stored materials, incorrect printer settings and more can ruin a project before it has even started taking form. But one of the most important considerations before printing is build plate adhesion. If your part is not properly stuck to the printer bed, it might be prone to warping or even ruined if it breaks free. Worse, this can happen at any stage of printing and is one of the most common 3D printing problems facing users.

When you are working with a high-performance polymer like PEEK, PEI, or PPSU this can be even more difficult as they tend not to bond well to the bed and the warping forces are far greater than with standard materials. Luckily, Vision Miner, an American printing company, known for its strong foundation in working with high performance FDM/FFF polymers, has developed a solution with Nano Polymer Adhesive, one of the first adhesives developed with high-temperature, high-performance FDM filaments in mind.

The Nano Polymer Adhesive and its applicator

One common way to address the problem of parts not sticking to the bed is with adhesive, however many do not work with high performance polymers and even the ones that do can be difficult and time-consuming to use. To solve the issue, Nano Polymer decided to hire a

material scientist who specialized in adhesives to create a product that would work specifically for PEEK, ULTEM, and PPSU, some of the most common high performance FDM polymers. It is safe to say that they were successful. After 9 months of development in 2018, they had a working formula, Nano Polymer Adhesive.

To their great surprise, the team discovered that the glue actually worked for almost every material they tested, including PLA, ABS, ASA, Nylon, and PC. Apparently the only two materials that they know the adhesive does not work for are PP and POM, which are well known for not sticking to just about anything. Incredible news for anyone who wishes to minimize part failures caused by poor bed adhesion.

Read the original article on 3Dnatives.