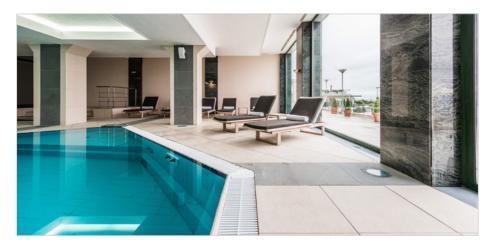
High-End Pool and Spa Manufacturer Puts 3D Printing Technology to Work

Helped Customer Improve Valve Design



Fluidra, a maker of heaters, pumps and filters for the international pool and spa industry, needed help developing a series of fluid valves, hoping to replace the standard injected valve with a 3D printed version that would perform just as well. The consistent repeatability and lower cost of a 3D printed assembly were promising, but the current design was experiencing strong warpage and taking longer than one unit per day during printing — too slow to produce the needed 400 units per year on a single printer.

Nexeo Plastics' 3D printing team went to work, addressing several design and printing constraints. Our professionals alerted the customer to a number of 3D printing best practices based on the desired product attributes, helping Fluidra select a filament material that would perform given the mechanical requirements.

DSM's Novamid®ID 1030 was chosen for its strength, toughness and relative ease of use. The design was optimized to further reduce the amount of material required and increase printing speed. Moving to a material-open printing system also allowed Fluidra to use Nexeo Plastics' high-performance filaments.

For these valves, Fluidra replaced its traditional injected-mold production system with the lighter and faster 3D printed application. Using the optimized file with Novamid®ID 1030 reduced the valves' weight by 60%, allowing a 50% reduction in printing time and reducing material costs. Overall, warpage was eliminated, delivering a performance valve with significant savings.

Discover how a partnership with Nexeo Plastics can contribute to your bottom line and help achieve manufacturing efficiencies.

AT-A-GLANCE

Recorded Benefits

- 3D printing solution is customizable and repeatable
- Use of high-performance filaments helped alleviate warpage issues
- Reduced valve weight saved printing time and material costs

Challenge

A high-end pool and spa manufacturer sought help applying 3D printing technology to the production of a series of pump valves.

Solution

Nexeo Plastics 3D helped the customer redesign the valve and offered a high-performance DSM filament material to achieve a successful 3D printed piece.

Result

The new part was 60% lighter, resulting in reduced material costs and shorter printer times while still supporting a pressure resistance up to 10 bars.

833.446.3936 | nexeoplastics.com

All statements, information and data presented herein by Nexeo Plastics are believed to be accurate but are not to be taken as a guarantee or other representation for which Nexeo Plastics and its affiliates and subsidiaries assume legal responsibility.

NEXEO PLASTICS EXPRESSLY DISCLAIMS ANY AND ALL WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARISING OUT OF ANY USE OF THE PRODUCTS OR SERVICES IDENTIFIED HEREIN OR RELIANCE ON ANY INFORMATION PROVIDED HEREIN. All statements, information, recommendations and products must be thoroughly evaluated and verified by the end user to determine their applicability or suitability for each particular use. Typical values are indicative only and are not to be construed as being binding specifications.

nexeo[®] plastics

©2021 Nexeo Plastics, LLC. All Rights Reserved.