



High-speed 3D Printing Reduces Operational Downtime

Innovative materials and solutions keep
manufacturing facilities running smoothly



OVERVIEW

Recently, a facility which specializes in the assembly of complex machinery had a unique challenge arise -- the need to install pneumatic regulators on a new line of machines. As they wanted to maintain uninterrupted production, downtime was the enemy and would have a significant impact.

The existing mounting brackets and combinations, meaning those typically used for pneumatic regulators, proved both insufficient and unsuitable for the specific requirements of the new equipment. To reduce downtime and avoid delays in production, the team decided to utilize 3D printing with Ultrafuse® PLA Tough as a solution.

QUICK FACTS

Materials:

- Ultrafuse® PLA Tough

Technology:

- Fused Filament Fabrication (FFF)



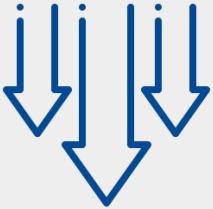
At BASF 3D Printing Solutions GmbH, we provide 3D printing solutions along the entire Additive Manufacturing value chain, under the brand Forward AM.

From consultancy and development, through innovative design, digital simulation and prototype printing, to finishing and exhaustive component testing – we provide you with exactly what your business needs. Whichever material you require for your specific project, Forward AM offers you the world's largest selection of 3D printing materials and service solutions.

[FORWARD-AM.COM](https://www.forward-am.com)



PLA Tough reduced print time from 13 hours to 3 hours



250% reduction when compared to conventional material

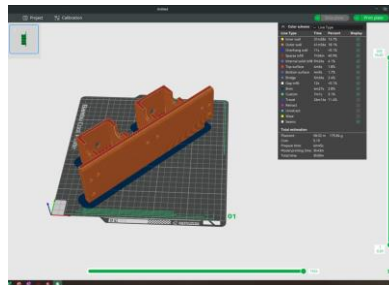


Completed part produced and installed within an 8-hour shift

Challenge: Design, print, and assemble a custom fixture for a pneumatic regulator within an 8-hour workday.

To meet this challenge the team opted to use Ultrafuse® PLA Tough, a high-performance 3D printing material known for its durability and toughness as well as its high-speed compatibility and ease of printing. The material also allows for the design freedom necessary to create a fixture that is perfectly matched the new equipment's required needs. This allowed the team to create a precise and highly accurate part that would firmly secure the pneumatic regulator in place, ensuring optimal performance and safety. And unlike traditional manufacturing methods, 3D printing allowed them to create intricate geometries and precise dimensions tailored to the specific mounting points on the new machines.

The real game-changer was Ultrafuse® PLA Tough's high-speed compatibility and HS printing profile availability. While the standard print profile for a standard PLA took 13 hours and 31 minutes to print, the high-speed profile reduced the total print time to an astonishing 3 hours and 50 minutes. This represented a staggering 250% reduction in printing time compared to conventional material and print profiles.



Challenge: Maximize efficiency to ensure both time and cost savings.

The entire process, from design to 3D printing and assembly, was completed within a single working day. This level of efficiency meant that there was no downtime for the manufacturing facility and production could continue smoothly. The use of Additive Manufacturing technologies and Ultrafuse® PLA Tough allowed the team to swiftly address the installation challenge instead of waiting for days to receive an expensive tailor-made mounting bracket leading to costly production delays.

Learn more about Ultrafuse® PLA Tough:

- EU +49 6221 67417 900
- sales@basf-3dps.com
- www.forward-am.com