

ASSA ABLOY

Additive manufacturing saves time & cost for ASSA ABLOY.

ASSA ABLOY Group offers a complete range of access solutions to make people feel safe and secure in simple and convenient ways. ASSA ABLOY is present in more than 70 countries and has a market-leading position in areas such as mechanical and electromechanical locking, access control, identification technology, entrance automation, security doors, hotel security and mobile access. Recently, their engineers sought a new development process optimization for their customized opening solutions, and additive manufacturing proved to be the most suitable solution.

Using Henkel LOCTITE's engineering resins on Asiga's printing platform, ASSA ABLOY was able to realize significantly reduced lead times and costs.

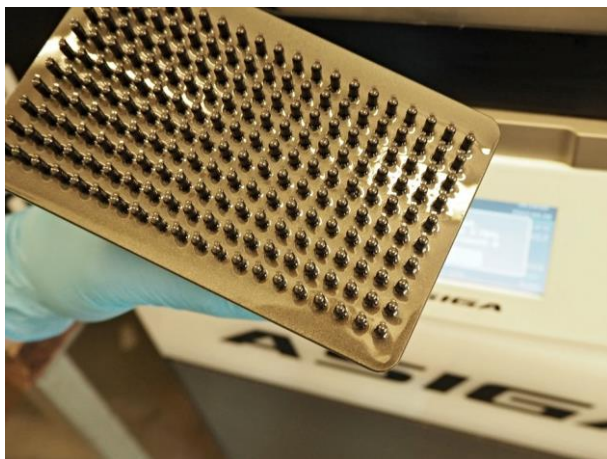


ASSA ABLOY engineers were searching for new product development techniques to optimise the product development process for their custom opening solutions. Traditionally, their

standard approach included injection moulding for prototyping, which incurs high costs and long lead times. Finding an alternative technology presented a challenge, as several critical application requirements needed to be met. These requirements include a tough material that offers long-term durability, could withstand 120,000 cycles and maintain an excellent surface finish.

ASSA ABLOY looked to additive manufacturing, starting with powder printing to print elements of their customized opening solutions but the parts from this process did not meet the minimum tolerance and surface finish requirements.

After achieving little success ASSA ABLOY engineers reached out to Asiga Reseller Cotu, an experienced service bureau with experience in photopolymer 3D Printing for industrial segments. Cotu stayed with the additive manufacturing process but leveraged DLP technology to satisfy ASSA ABLOY's accuracy and surface requirements.



“We were astonished how 3D printed samples from the right material can compete with injection molding parts.”

Jaroslav Papáček, R&D Mechanical Engineer, ASSA ABLOY

Cotu looked to Henkel Loctite 3D Printing materials that offer a diverse portfolio of engineering-grade resins for a variety of DLP platforms. Cotu determined that LOCTITE 3D 3843 HDT60 High Toughness Matte Black was the most suitable material to meet part requirements from Loctite's extensive 3D printing materials portfolio. This is a semi-flexible resin with moderate temperature resistance HDT60, high impact strength, and versatility for a broad range of applications.

By using LOCTITE 3843 together with Asiga's PRO 4K 3D printer, Cotu was able to 3D print these opening solutions that met all the part requirements. Asiga 3D printers provided a perfectly accurate output. By leveraging DLP technology from Asiga and materials from Henkel LOCTITE, Cotu delivered functional prototypes passing all required tests.

Cotu was able to print 500 parts in a single 15-minute print job to deliver parts within days. The 3D printed prototypes were so precise that they allowed for more mechanical tests in the early development stages, and this pre-testing significantly decreased final product test failure. The engineers from ASSA ABLOY were amazed by the depth of detail that 3D printing technology can deliver and the mechanical properties that the final end-use parts can achieve.

When the team embarked on this journey, they intended to simply 3D print prototypes, but now they are leveraging an Additive Manufacturing process to create end-use parts. The team

at ASSA ABLOY was so satisfied with the technology that they have already discussed the integration of the technology into their future product development processes.

“It’s great how 3D printing can optimize both development and production process. You don’t need to pay for molds and other tools, you pay just for the products; no additional production tools are required,”

Martin Lesák, R&D Mechanical Engineer, ASSA ABLOY

About Assa Abloy

ASSA ABLOY was formed in 1994 through a merger of ASSA in Sweden and Abloy in Finland. ASSA ABLOY has since developed from a regional company to an international group with approximately 51,000 employees and operations in over 70 countries. ASSA ABLOY, as the global leader in door opening solutions, is dedicated to satisfying end-user needs for security, safety and convenience. They’re specialists in access essentials: like mechanical and digital locks, cylinders, keys, tags, security doors and automated entrances. At the same time, we are creating and embracing new technology – like biometrics, mobile security, and trusted identities. We stay at the forefront, so whatever you need, you’re in safe hands. www.assaabloy.com/group/

About Asiga

Asiga, a 3D printer manufacturer located in Sydney, Australia manufacture 3D printers for direct additive manufacturing in industries including dentistry, hearing, medical modelling, jewellery and more. Having the ability to output predictable and accurate 3D printed parts is essential for these industries, ensuring production continuity. Asiga 3D printers offer an open material architecture providing compatibility with more than 500 materials from many industry leading 3D printing polymer manufacturers. www.asiga.com

About Henkel

Henkel operates globally with a well-balanced and diversified portfolio. The company holds leading positions with its three business units in both industrial and consumer businesses thanks to strong brands, innovations and technologies. Henkel Adhesive Technologies is the global leader in the adhesives market – across all industry segments worldwide. In its Laundry & Home Care and Beauty Care businesses, Henkel holds leading positions in many markets and categories around the world. Founded in 1876, Henkel looks back on more than 140 years of success. In 2019, Henkel reported sales of more than 20 billion euros and adjusted operating profit of more than 3.2 billion euros. Henkel employs more than 52,000 people globally – a passionate and highly diverse team, united by a strong company culture, a common purpose to create sustainable value, and shared values. As a recognized leader in sustainability, Henkel holds top positions in many international indices and rankings. Henkel’s preferred shares are listed in the German stock index DAX. For more information, please visit www.henkel.com.

About Cotu

Cotu was established in 2015 reaching across the European Union primarily the Czech and Slovak market. Cotu is a 3D printing integrator with expertise in 3D printing with photopolymers within industrial segments such as automotive, consumer electronics, manufacturing, defense, stomatology, jewelry, plastic models, and advertisement. We utilize 3D printing at a stage where others fail. We provide 3D printing services, having experienced product designers help customers through all phases of the product development process. We replace conventional manufacturing technologies with the use of 3D printing to continue moving this technology forward and increase its applicability by developing new workflows and tuning materials in order to fit customized applications. We can 3D print final products in a series without the need for further surface post-processing or corrections. We cooperate with market leaders such as Henkel LOCTITE on 3D printing materials development and perform real end-use application tests. www.cotu.cz

Asiga press contact
info@asiga.com
+61 2 9690 2737
asiga.com