Case Study

ROVENMA ELECTRONIC CASE



LOOP 3D

CHALLENGES

> Large Build Volume

> Outdoor compatible material

SOLUTIONS

> 500x350x500 mm build volume

> DYNAMIDE® Materials

> Possibility to try different material types



> “We manufacture electronic covers, which are an extremely critical component for us, resistant to outdoor conditions.
> It is a very good result for us to be able to produce this quality with DYNAMIDE® GF material.”

Akın Köse
(Senior Industrial Design Specialist at Rovenma)

With the target of 95% inhouse production Rovenma; uses LOOP PRO X for prototype, mass production and machine fixtures

Rovenma was established in 2016 to produce high-tech smart cargo lockers. They carry out prototype and mass production of locks and doors of cabinets containing more than 1300 assembly units with LOOP PRO X.

The company, which also uses different materials as PETG for its mass production needs. That provides cost savings by printing the elements that do not require any strength.

On the other hand, for the electronic card production line, which they have established with the aim of in-house production, they work and produce fixtures that assist the typesetting and processing.

rovenma
Smart Technology

Rovenma was founded in 2016 to produce Smart Parcel Lockers which is high-tech devices and developed by its own multidisciplinary team and manufactured at its own production facility.

Rovenma is a high technology company that has a stable horizontal growth momentum with its R&D, administrative, production and after-sales teams. It conducts its activities with the aim of high standard customer satisfaction.

Rovenma aims to be a high technology and manufacture company with high value added technologies. It positions its products in the world markets by following the continuously developments in the technologies and changes in customer requests.

Challenge

For over 1300 items in a cabinet, it was difficult to withstand outdoor conditions. They experimented with many different materials for sealing, temperature resistance and strength. Because of the cabinet is an outdoor product, it had to continue to work stably in all kinds of harsh weather conditions.

They've tried to use 3D printing to produce the prototypes several times but models melted, stretched and deformed a few hours after putting on cabinets also they had to divide and slice the electronic covers into several parts due to the printing volume of the 3D printers that they used. The layered and uneven surface structure of the printed parts made it difficult to predict the final product.

They wanted to see a model that is very close to the final product before they go under the injection mold costs.



Electronic Case
Material: **DYNAMIDE® GF**

Rovenma Parcel Lockers

Rovlocker is designed to provide the most effective solution to both end-users and e-commerce / logistic companies to have the perfect parcel delivery processes. Rovlocker is produced with high quality electronics, mechanics and software technologies to conduct the best, 24/7 uninterrupted parcel delivery processes.

Rovlocker provides the best customer experience with its own design technologies, such as; electronic locks, software systems and mechanical structures.

Frontal maintenance is one of the unique mechanical structures which greatly reduces the duration and the cost of the maintenance.

- Bluetooth Connection
- Remote Management
- Modular Design
- Unique Lock Technology
- Functional Software



Rovenma Parcel Lockers

Application 1

Conducting production trials for electronic cases; Rovenma conducted prototype trials that are resistant to external conditions with LOOP PRO X, DYNAMIDE® GF material.



There are 7 pieces of cover in a cabinet. Because of the production numbers are suitable for mass production, the company will continue to produce them with injection molding. Thanks to the material strength and surface quality provided by LOOP PRO X, outdoor test results are quite okay for them and they can proceed to mass production without any hesitation.

Rovenma is also producing personalized products for companies. For these special productions, using LOOP PRO X and DYNAMIDE® GF material allows to present their cabinets to their customers with a quality close to the final product. Testing before the customer order reduced production costs by 80%.







Connector cover
Material:PETG

Rovenma can produce
200 pieces of these
2 x 2 x 2 cm connector covers
in a day with LOOP PRO X.
They use 7 pieces in one cabinet
which means they can complete
almost 30 cabinet in 1 day.

“ Working with an innovative and leading company like Rovenma and contributing to their production made us proud. In the next period, we aim to achieve great success by increasing our cooperation even more.”

Mehmet Erkan USTAOĞLU
(Founder of LOOP 3D)

Application 2

On the contrary the electronic case is a part that needs special materials in terms of working conditions, the connector cover is a part that remains inside the box and works without being exposed to heat. For this reason, they could make mass production by using PETG instead of GF or CF material, thanks to the open system feature of the machine.

Instead of the financial burden of producing this part with plastic injection ,which is revised periodically, they can freely produce in multiple units.