Case Study

PLUGANDPLAY

To learn more about the case study and customer review at PlugAndPlay EXPO, please watch the video

AYGAZ
CAMP FURNACE



LOOP 3D

CHALLENGES

- Unibody large volume end-use pieces
- High mechanical and temperature resistance

SOLUTIONS

- 500x350x500 mm build volume
- DYNAMIDE® Materials



Dimensions

240 x 240 x 80 mm

> **“LOOP 3D’s product, LOOP PRO X, provided a suitable solution for Aygaz’s needs.”**

Burak Yaman
(Research and Development Manager at Aygaz)

AYGAZ

Aygaz was established in 1961 as an integrated LPG company that carries out supplying, storing and filling LPG, plus LPG device production and sales. Offering the most preferred LPG products to consumers, Aygaz enters 40,000 homes in approximately 81 cities and supplies fuel to nearly 200,000 vehicles from Aygaz and brands’ stations every day.

In 2018, Aygaz established the first R&D center in the industry with a staff of 18 experts. With the expansion of R&D center in 2021, they increased their staff to 28 people and their total area from 772 sqm to 1437 sqm. Now, in Aygaz R&D center, expert staff aims to continue their operations to develop new technologies that will create value for business processes and stakeholders.

Challenge

In addition to increasing quality and efficiency of their prototype development processes, Aygaz also needed capacity increase and improvement on the time management side. In their projects, when large volumes of print were required, they needed to make the whole piece ready as a print with **single operation instead of combining more than one piece**. The other solution they were searching for was to print materials with **high mechanical and temperature resistance** in an easy way.

“As Aygaz, we handed our goals and expectations for developing new business models, digitalization and bringing our processes together with technological innovations to Plug and Play İstanbul. Among 10,000 start-up companies from all around the world, they quickly submitted the most suitable companies that meet our expectations and our consideration. As a result of our technical investigations, we became quite interested in the solution provided by LOOP 3D.”

Taha Erdem Yıldırım
(Research and Development Assistant Manager at Aygaz)



Camp furnace





Solution

LOOP 3D's product, LOOP PRO X, provided a suitable solution for Aygaz's needs in terms of **printing dimensions.** With the consumables of LOOP 3D's product, Aygaz met with two unique materials that provide high mechanical and thermal resistance. One of the materials is reinforced with carbon fiber and the other with glass fiber. Since Aygaz has prototypes with different volumes to be prepared within the scope of different projects, these materials offer solutions to needs such as LPG-powered camping equipment or parts of the machine automation group.

As a pilot project, Aygaz asked LOOP 3D to print two pieces of one of their Camp Furnace designs. In the real product, one of these parts was a plastic body and the other was a steel body. There was a temperature resistance requirement for printing these parts. The pieces printed very successfully. By the help of end-use grade 3D printed parts, they had the opportunity to use and evaluate the parts in tests at the first stage, since these parts are printed with high-temperature resistant material.

"We trusted on the capabilities of our product, especially in producing parts with a large printing area, parts with high mechanical strength and parts with high heat resistance. We were very motivated by the fact that the capabilities of our product met our customer expectations."

Mehmet Erkan USTAOĞLU
(Founder of LOOP 3D)



Material: **DYNAMIDE® GF**