

Case study:

Aerospace Mini Launcher sheets (coil) for fuel tank made of stainless steel 1.4310, C1000

Question / Challenge:

In the near future, satellite networks will form the backbone of space connectivity. If you want to understand the Earth in real time, you have to go to space.

Our customer not only wants to build rockets, but to save resources and costs with a novel concept. The potential applications of the "New Space" depend on faster and more cost-effective mass production of rockets.

Hempel Special Metals problem solving and customer benefits:

Hempel Special Metals AG was selected from several market competitors to work with the space specialists to develop stainless steel solutions that would accommodate this novel concept of commercially viable mini-launchers.

Customer specifications:

These fuel tanks for Mini Launchers must be made of stainless steel.

The plate thickness had to take into account many aspects such as corrosion resistance against aggressive medium, pressure/gases and last but not least the weight from the cylinder.

Our solution:

We were able to convince with the following product from the sheet metal producer:

Precision strip steel WN 1.4310, EN 10088-2, 2H, C1000 (Rm 1000 - 1150 N/mm²), tolerances according to EN ISO 9445-1, format 1 x 680 mm as coil, ID 508 mm, OD max. 1400 mm, coil weight approx. 2,000 kg.

Customer feedback:

Our customer has thanked us for the cooperation with the following words. Of course, we are very pleased about this and it encourages us to handle such demanding business in the future. Here we can fully contribute our know-how from the materials market, coupled with the expertise of our materials experts and the selected producers;

"The first tank is ready after this long journey, in which you also played a decisive role!

Therefore, at this point again a big thank you for the great cooperation and support!

Now that this hurdle has been cleared, we move on to look at upcoming goals and milestones towards our initial launch and beyond. We would like to continue this journey together with Hempel Special Metals AG Switzerland."