

Commercial Production of Ultrawide NAS625 Nickel Alloy Plate with High Corrosion and Heat Resistance

Nippon Yakin has successfully produced a 15 mm thick and 3,100 mm wide ultrawide NAS625 alloy plate with high corrosion and heat resistance (UNS N06625; hereinafter the "Product"), on a commercial basis. Given its advantages for large-diameter pipe and other applications in the oil and gas industry and the limited number of manufacturers capable of producing plates of this size, it will be a competitive addition to the product lineup.

■ Significance of commercialization

Due to its excellent resistance to corrosion and heat, this alloy has applications in a wide range of fields, such as the oil and gas, chemical and automobile industries. However, its high strength at high temperatures makes it difficult for hot-rolling. In 2021, we successfully produced extra-thick and ultrawide plate that is 50 mm thick using our accumulated expertise and a wide rolling mill of Nanjing Iron and Steel Co., Ltd., with which we have a cooperative relationship through Nisco Nippon Yakin Kogyo Nanjing Co., Ltd.

On the other hand, thinner plates are needed for pipes and similar components in natural gas plants, which results in increased high-temperature strength which makes hot-rolling even more challenging due to the lower temperatures associated with thinner plates. By further optimizing the manufacturing conditions, we have achieved the commercialization of a thin ultrawide plate that is suited for use as a pipe material.

■ Applications and advantages of the ultrawide plate

In piping for natural gas plants, it is effective to use as wide a material as possible to reduce the number of welding processes during manufacturing. For example, when a narrow plate is used as a material, the two-seam method, which requires two welding lines, will be used. When the ultrawide plate being produced now is used, a pipe can be made with just a single seam (one seam line), leading to shorter lead times and lower manufacturing costs. Moreover, by manufacturing and distributing the plates in China where the joint venture operates, transportation issues can also be solved, which has already resulted in the sale of 50 tons of the Product in the Chinese market. Sales are expected to continue to expand for natural gas and LNG projects in the Middle East and elsewhere.

■ Synergy with the joint venture partner

We will continue to work with our joint venture partner, Nanjing Iron and Steel Co., Ltd., to enhance our supply system for products that meet increasingly sophisticated customer needs and to propose solutions to improve customer satisfaction.



NAS625 ultrawide plate, 15 mm in thick and 3100 mm wide

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