

Awarded 1st Prize for Papers at “The 3rd Super Austenitic Stainless Steel and Nickel-base Alloy International Seminar”

Nippon Yakin participated in “The 3rd Super Austenitic Stainless Steel and Nickel-base Alloy International Seminar”, held in Beijing, China, on November 19 and 20, 2020, (hosted by the Stainless Steel Council of China Special Steel Enterprises Association), and gave a lecture and presented a paper on the nickel-base alloy NAS355N, developed by Nippon Yakin last year for corrosion-resistance application in high chloride and sulfuric acid environments. The judging panel, comprised of industry experts, praised the content of the paper highly for its detail and precision, and unanimously awarded it the first prize for papers.

1. Presentation content

1) Lecture: Properties of 7.5Mo Super Austenitic Stainless Steel

2) Paper: *Development of 7.5Mo Nickel Base Alloy, NAS355N, for both High Chloride and Sulfuric Acid Environments*

The Super Austenitic Stainless Steel and Nickel-base Alloy International Seminar is an international event that brings together the manufacturers who supply materials, and the customers who use materials, from around the world, and provides them with a forum for the sharing of information on the development of new materials and the progress and improvements being made in processing technologies. (This latest Symposium was attended by around 200 participants, with 24 papers presented and 24 lectures.)

NAS355N is based on NAS354N, developed in 1997, and is a characteristic alloy of Nippon Yakin, with improved features and containing 7.5 Mo. In addition to the alloy design concept and various types of corrosion resistance data, the presentation also covered a wide range of contents, including the results of observations of structures at weld points and their corrosion resistance, and the history of alloy development.

2. Comments by the judging panel

This paper discusses the nickel-based corrosion-resistant alloy NAS355N, which has 35Ni-23Cr-7.5Mo-3Cu-0.2N as its main component, and has been newly developed by Nippon Yakin Kogyo. The content of the paper is both detailed and precise. Thermodynamic calculation and experimentation have been used to make a systematic study of the effect of Cu on the gamma-phase stable zone of NAS354N, and detailed experiments have been used to provide a comprehensive assessment of the corrosion resistance of the NAS355N base metal and welds. Both the corrosion resistance performance and the price of NAS355N are positioned between those of stainless steel and highly corrosion-resistant nickel-based alloys, giving the material excellent

corrosion resistance, cost effectiveness, and wide application prospects.

(China Stainless Steel Council website: http://www.cssc.org.cn/page95?article_id=3476)



Certificate awarded by the judging panel

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