

No Corrosion in a Salt Production Tank 20 Years After Installation: Proof of the Corrosion Resistance of NAS254N Super Austenitic Stainless Steel

The table salt production tank (table salt slurry tank) at Nippon Salt Manufacturing Co., Ltd., was made with NAS254N super austenitic stainless steel (23%Cr-25%Ni-5.5%Mo-0.2%N, JIS steel grade: SUS836L) developed by Nippon Yakin Kogyo Co., Ltd. The tank, which was installed 20 years ago in 2002, underwent an open inspection in January 2022 that confirmed there had been no corrosion damage to the inside of the tank.

Fluid handled at salt production plants is a high-temperature heavily saline solution, which would potentially cause corrosion if generic stainless steels like SUS304 or SUS316 were used. Therefore, highly corrosion-resistant materials such as titanium or alloy C-276 (nickel chromium molybdenum alloy) are widely used instead. However, these materials are very expensive and inevitably increase costs during plant construction, leading to a demand for stainless steel with anti-corrosion properties suitable for a salt production plant environment.

NAS254N is a stainless steel that meets those needs, and it has been adopted for use in various types of equipment and piping at many other table salt production plants as well. Since it resists corrosion from the salt deposits and high-temperature saturated saline solution inside the tank, it extends the life of the tank, eliminates the need for maintenance, and helps to lower the client's maintenance costs.

Nippon Yakin Kogyo will continue to serve the needs of its clients through solutions management in a broad range of fields and provide the world with products with high corrosion resistance and other superior qualities.



Exterior of the salt slurry tank made from
NAS254N steel



Interior of the salt slurry tank, which has
not changed since it went into service
(photo taken from above the tank)

(Photos provided by Nippon Salt Manufacturing Co., Ltd.)

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