



# Seawater Resistant Stainless Steel

## Seawater Resistant Stainless Steel YST130N

Surprisingly high corrosion resistance to seawater and hot springs

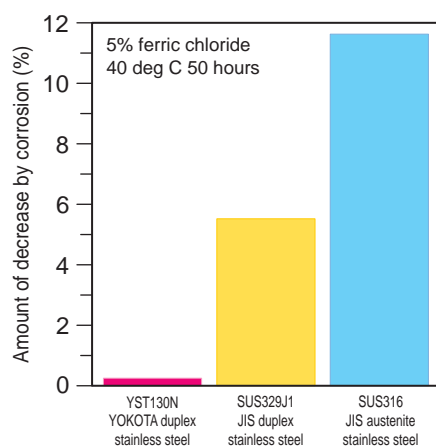
Metal corrosion by seawater is a serious problem, and countermeasures have been sought by related industries for years. To solve this problem, YOKOTA has developed the material YST130N based on our many achievements and experience in this area. YST130N has excellent seawater resistance, and also excellent corrosion resistance to corrosive hot water at geothermal generation plants and hot springs among others.

### Features

- Excellent crevice corrosion resistance and pitting corrosion resistance in seawater environments.
- Excellent corrosion resistance to general chemical liquids.
- Highly suitable for seawater containing sand and slurry due to excellent wear resistance.
- Remarkable mechanical strength, being nearly twice as strong as conventional stainless steel.
- Heat and high temperature resistance.
- Can be formed into any shape because it is made of casting.
- Easily welded by covered arc or TIG welding without preheating or residual heating.
- Being attracted to a magnet, it can be easily searched/sorted by a magnet.
- Due to the above, drastic reduction in equipment and maintenance costs is possible.

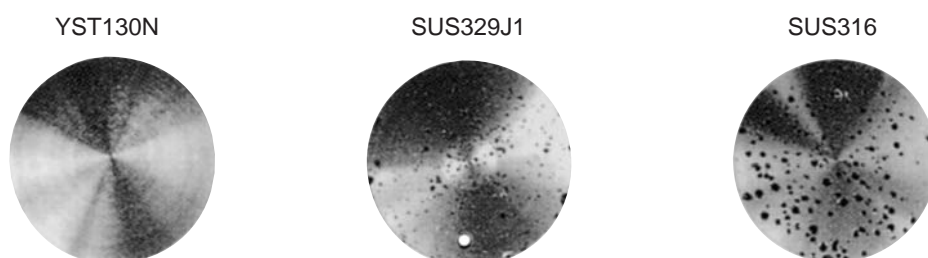
Note: Most of the seawater pump parts are made of stainless steel casting and gray cast iron. As gray cast iron pumps require a lot of maintenance, the share of stainless steel pumps has been increasing. However, a lot of local corrosion in the form of crevice corrosion and pitting corrosion occurs in conventional stainless steel. Though crevice corrosion is similar to pitting corrosion, crevice corrosion occurs more often than pitting corrosion in systems with crevices.

### Pitting corrosion resistance



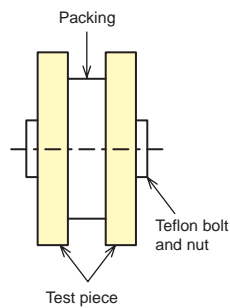
This figure shows that YST130N has far superior corrosion resistance in comparison with JIS stainless steel.

### Test piece after test



Crevice corrosion resistance

(1) Field test with actual liquid (Seawater + hypochlorous acid (90-100ppm))  
(Test period: approx. 1 year and 9 months )



Test piece after test

YST130N



SUS316

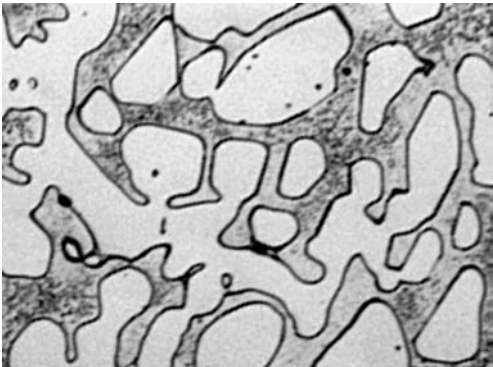


(2) Field test of seawater intake pump (Operating period: approx. 5 years)

	YST130N	SCS14
Suction flange		
Suction cover		

Metallographic structure

Duplex stainless steel is a stainless steel that is composed of two types of compounds, austenite (white part) and ferrite (gray part).



For details on items such as chemical composition, mechanical properties, corrosion and wear resistance data, please refer to P.146.