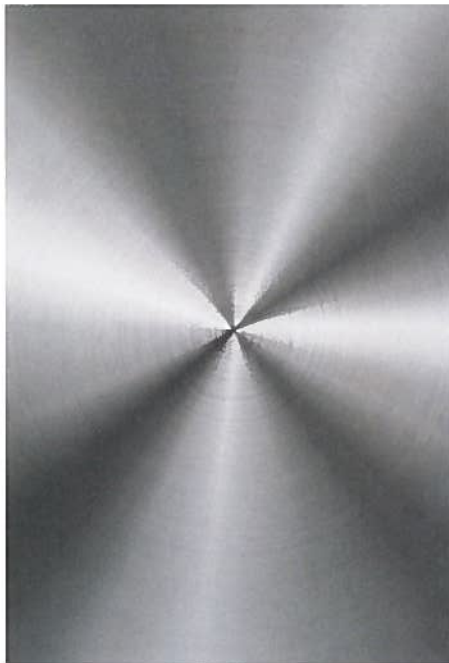


# Stainless Steel Type 316Ti

Austenitic Stainless Steel (UNS S31635)



## GENERAL PROPERTIES

Allegheny Ludlum Type 316Ti (UNS S31635) is a titanium stabilized version of Type 316 molybdenum-bearing austenitic stainless steel. It is also known as DIN/EN designation No. 1.4571. The Type 316 alloys are more resistant to general corrosion and pitting/crevice corrosion than the conventional chromium-nickel austenitic stainless steels such as Type 304.

Resistance to sensitization is achieved in Type 316Ti with titanium additions to stabilize the structure against chromium carbide precipitation, which is the source of sensitization.

### Pitting Corrosion

Resistance of austenitic stainless steels to pitting and/or crevice corrosion in the presence of chloride or other halide ions is enhanced by higher chromium (Cr) and molybdenum (Mo) content. A relative measure of pitting resistance is given by the PRE (Pitting Resistance Equivalent) calculation, where:  $PRE = Cr + 3.3Mo$

The PRE of Type 316Ti (23.0) is higher than that of Type 304 (PRE =19.0), reflecting the better pitting resistance which Type 316Ti offers due to its Mo content. Type 304 stainless steel is considered to resist pitting and crevice corrosion in waters containing up to about 100 ppm chloride. Type 316Ti alloy on the other hand, due to its Mo-content, will handle waters with up to about 2000 ppm chloride.

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