Data Sheet

Westgate

316Ti

(UNS S31635) W. Nr. 1.4571

Chemical composition	Cr	Mo	Ni	Mn	P	S	Si	C	N	Ti	Fe
% Present (Max)	16.0-18	2.0-3.0	10.0-14	2.00	0.045	0.030	0.75	0.08	0.10	0.70	Bal

ATI 316Ti stainless 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 offer excellent resistance to general corrosion and pitting/crevice corrosion, which is better than the conventional chromium-nickel austenitic stainless steels such as Type 304. They also offer higher creep, stress-rupture and tensile strength at elevated temperature. Type 316 stainless steel can be susceptible to sensitization – the formation of grain boundary chromium carbides at temperatures between approximately 900 and 1500 °F (425 to 815 °C) – which can result in rapid corrosion. Reduced carbon Type 316L is resistant to sensitization; however, extended exposures in this temperature range will eventually result in sensitization of even the low carbon grade. 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. This stabilization is achieved by an intermediate-temperature heat treatment, during which the titanium reacts with carbon to form titanium carbides. This significantly reduces susceptibility to sensitization in service by limiting the formation of chromium carbides. Thus, the alloy can be used for extended periods at elevated temperatures without compromising its corrosion resistance.

Note: Values are in accordance with EN 10088 specifications. Actual mill certs available upon request.

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