


316LMn TIG

CATEGORY	GMAW-GTAW Solid wires																								
TYPE	Tig filler metal for welding fully austenitic CrNiMnMo stainless steels and low temperature steels.																								
APPLICATIONS	Particularly suited for corrosion conditions in urea synthesis plants for welding work on steel X 2 CrNiMo 18 12 and for over-layer claddings of Type 1.4455.. Well suited for joining and cladding applications with matching and similar austenitic CrNi(N) and CrNiMo(Mn,N) steels/cast steel grades.																								
PROPERTIES	Stainless steel with excellent resistance to intercrystalline corrosion and wet corrosion up to 350°C (662 °F). Corrosion-resistance is similar to low-carbon CrNiMo(Mn,N) steels/cast steel grades. Seawater resistant, good resistance to nitric acid, selective attack max. 200 µm. Non magnetic (permeability in field of 8000 A/m 1.01 max.).																								
CLASSIFICATION	AWS	AWS A5.9: ER 316LMn																							
	EN ISO	ISO 14343-A: W 20 16 3 Mn N L																							
	DIN: W.Nr.	1.4455																							
SUITABLE FOR	1.4311, 1.4406, 1.4429, 1.4439, 1.3951, 1.3952, 1.3953, 1.3965, 1.6902, 1.6903, 1.6905, 1.5637, 1.5680 X2CrNiMoN17-13-3, X5CrNiN 19-9, X1CrNiMoTi 18-13-2, X8Ni9, 10CrNiTi18-10 and cryogenic 3,5-5% Ni-steels																								
APPROVALS	CE approved																								
WELDING POSITIONS:																									
WELD METAL ANALYSIS %	<table border="1"> <thead> <tr> <th>C</th> <th>Mn</th> <th>Si</th> <th>Cr</th> <th>Ni</th> <th>Mo</th> <th>N</th> </tr> </thead> <tbody> <tr> <td>0.015-0.03</td> <td>7.0-7.5</td> <td>0.4-0.5</td> <td>20-20.5</td> <td>15.5-16</td> <td>3.0</td> <td>0.15-0.18</td> </tr> </tbody> </table>						C	Mn	Si	Cr	Ni	Mo	N	0.015-0.03	7.0-7.5	0.4-0.5	20-20.5	15.5-16	3.0	0.15-0.18					
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MECHANICAL PROPERTIES (TYPICAL)	<table border="1"> <thead> <tr> <th rowspan="2">Heat treatment</th> <th rowspan="2">R_{P0,2} (N/mm²)</th> <th rowspan="2">R_m (N/mm²)</th> <th rowspan="2">A₅ (%)</th> <th colspan="3">Impact energy (J) ISO-V</th> <th rowspan="2">Hardness HRc / HV</th> </tr> <tr> <th>+20C</th> <th>-40°C</th> <th>-196°C</th> </tr> </thead> <tbody> <tr> <td>AW</td> <td>>430</td> <td>>650</td> <td>>35</td> <td></td> <td></td> <td>75</td> <td></td> </tr> </tbody> </table>						Heat treatment	R _{P0,2} (N/mm ²)	R _m (N/mm ²)	A ₅ (%)	Impact energy (J) ISO-V			Hardness HRc / HV	+20C	-40°C	-196°C	AW	>430	>650	>35			75	
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GAS ACC. EN ISO 14175:	I1																								