

318 Si

CATEGORY	GMAW-GTAW Solid wires																																			
TYPE	Solid stabilized stainless steel wire with high Mo content																																			
APPLICATIONS	Developed for welding stabilized CrNi(N) and CrNiMo(N) types.																																			
PROPERTIES	Excellent corrosion resistance as needed in chemical industry up to 400°C and good weldability with excellent flowing properties due to the increased Silicon content																																			
CLASSIFICATION	AWS	A 5.9: ER 318 Si																																		
	EN ISO	14343-A: G 19 12 3 Nb Si																																		
	DIN: W.Nr.	1.4576																																		
	DIN	8556: SG-X5CrNiMoNb 19 12																																		
SUITABLE FOR	1.4583	X102CrNiMoNb 18 12			316Cb																															
	1.4404	X2CrNiMo 17 12 2			(TP) 316L																															
	1.4401	X4CrNiMo 17 12 2			(TP) 316																															
	1.4571	X6CrNiMo 17 12 2			316 Ti																															
	1.4580	X6CrNiMoNb 17 12 3			316Cb																															
	1.4581	G-X5CrNiMoNb 19 11 2			-																															
	1.4437	G-X6CrNiMo 18 12			-																															
	1.4406	X2CrNiMoN 17 12 3			(TP)316LN																															
APPROVALS	TUV (12390.00), DB (43.206.03), 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>Nb</th> </tr> </thead> <tbody> <tr> <td><0.05</td> <td>1.50</td> <td>0.8</td> <td>19</td> <td>12-14</td> <td>2.8</td> <td>12 x C</td> </tr> </tbody> </table>						C	Mn	Si	Cr	Ni	Mo	Nb	<0.05	1.50	0.8	19	12-14	2.8	12 x C																
C	Mn	Si	Cr	Ni	Mo	Nb																														
<0.05	1.50	0.8	19	12-14	2.8	12 x C																														
MECHANICAL PROPERTIES	<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>20°C</th> <th>-40°C</th> <th>-60°C</th> </tr> </thead> <tbody> <tr> <td>AW</td> <td>460</td> <td>615</td> <td>35</td> <td>100</td> <td></td> <td>70</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	20°C	-40°C	-60°C	AW	460	615	35	100		70												
Heat Treatment	R _{p0.2} (N/mm ²)	R _m (N/mm ²)	A ₅ (%)	Impact Energy (J) ISO-V							Hardness HRc / HV																									
				20°C	-40°C	-60°C																														
AW	460	615	35	100		70																														
AW: as welded																																				
WELDING PARAMETERS / PACKING	<table border="1"> <thead> <tr> <th colspan="3">Welding Parameters</th> <th colspan="3">Packing</th> </tr> <tr> <th>D (mm)</th> <th>Voltage (V)</th> <th>Current (A) DC+</th> <th>spool type</th> <th>kg / spool / Drum</th> <th>kg / pallet</th> </tr> </thead> <tbody> <tr> <td>0.8</td> <td>15-24</td> <td>55-160</td> <td>K-300 / Drum</td> <td>15 / 250</td> <td>1080 / 1000</td> </tr> <tr> <td>1.0</td> <td>15-28</td> <td>80-240</td> <td>K-300 / Drum</td> <td>15 / 250</td> <td>1080 / 1000</td> </tr> <tr> <td>1.2</td> <td>15-29</td> <td>100-300</td> <td>K-300 / Drum</td> <td>15 / 250</td> <td>1080 / 1000</td> </tr> </tbody> </table>						Welding Parameters			Packing			D (mm)	Voltage (V)	Current (A) DC+	spool type	kg / spool / Drum	kg / pallet	0.8	15-24	55-160	K-300 / Drum	15 / 250	1080 / 1000	1.0	15-28	80-240	K-300 / Drum	15 / 250	1080 / 1000	1.2	15-29	100-300	K-300 / Drum	15 / 250	1080 / 1000
Welding Parameters			Packing																																	
D (mm)	Voltage (V)	Current (A) DC+	spool type	kg / spool / Drum	kg / pallet																															
0.8	15-24	55-160	K-300 / Drum	15 / 250	1080 / 1000																															
1.0	15-28	80-240	K-300 / Drum	15 / 250	1080 / 1000																															
1.2	15-29	100-300	K-300 / Drum	15 / 250	1080 / 1000																															
REDRYING TEMPERATURE	not required																																			
GAS ACC. EN ISO 14175:	M12, M13																																			