

## S3 Si

<b>CATEGORY</b>	SAW Submerged arc
<b>TYPE</b>	Solid drawn copper coated wire for the SAW process
<b>APPLICATIONS</b>	Pipe work; offshore, pressure vessels, bridge, crane building, apparatus, and steam turbine construction.
<b>PROPERTIES</b>	Excellent mechanical strength and welding properties due to a increased manganese and silicon content. S3Si is best to be used with <b>FL 155</b> high basic agglomerated flux to obtain neutral action on metallurgical chemistry and excellent subzero impact properties down to -60°C.

<b>CLASSIFICATION</b>	AWS	5.17: EH 12 K
	EN ISO	14171-A: S3Si
	DIN: W.Nr.	1.0496

<b>SUITABLE FOR</b>	<b>Materials</b>	<b>DIN</b>	<b>EN</b>	<b>ASTM</b>
	shipbuilding	A, B, D, E, AH 32 - EH 36	same	Typical
	Unalloyed steels	St 33, St 37-2 - St 52-3	S185 - S355	A 258 / A 516
	boiler steels	H I, H III, 17Mn4, 19Mn5	P235GH, P355GH	A 662 / A 387
	pipe steels	St 35.8, St 45.8	P235T1/T2, P460NL2	A 738 / A 612
	-	StE 210.7 TM, StE 445.7 TM	L210 - L445MB	A 299
	Fine grain steels	StE 255 to StE 460	S235 - S460QL1	-
	API-standard	X 42, X65, X 70	X 42, X65, X 70	-

<b>APPROVALS</b>	TÜV (12523.00), CE approved
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### WELDING POSITIONS:



### WELD METAL ANALYSIS %

C	Mn	Si	P	S	Cr	Ni	Mo	Cu	Al
0.08-0.10	1.50-1.85	0.20-0.35	< 0.025	< 0.025	< 0.15	< 0.15	< 0.15	< 0.30	< 0.03

### MECHANICAL PROPERTIES

Heat Treatment	R <sub>p0.2</sub> (N/mm <sup>2</sup> )	R <sub>m</sub> (N/mm <sup>2</sup> )	A <sub>5</sub> (%)	Impact Energy (J) ISO-V			Hardness HRC / HV
				-20°C	-40°C	-60°C	
AW	> 460	> 530	> 20	> 100	> 80		
PWHT	> 460	> 500	> 20	> 120	> 100		

AW: as welded , PWHT: 610°C / 1hr

### WELDING PARAMETERS / PACKING

Welding Parameters			Packing		
D (mm)	Voltage (V)	Current (A)	spooling type	kg / spool	kg / pallet
2.0	26-29	300-400	K-415 / Drum	25 / 300	
2.4	27-30	350-450	K-415 / Drum	25 / 300	
3.2	27-30	425-525	K-415 / Drum	25 / 300	
4.0	27-30	475-575	K-415 / Drum	25 / 300	

<b>REDRYING TEMPERATURE</b>	not required
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