

SC-420SG

MARTENSITIC STS TYPE SUBMERGED ARC WIRE



❖ Specification

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❖ Description & Applications

SC-420SG is a submerged arc wire which produces a high carbon 420 stainless steel. Good at defect-resistance and weldability etc. By shielding weld metal with flux from defects.

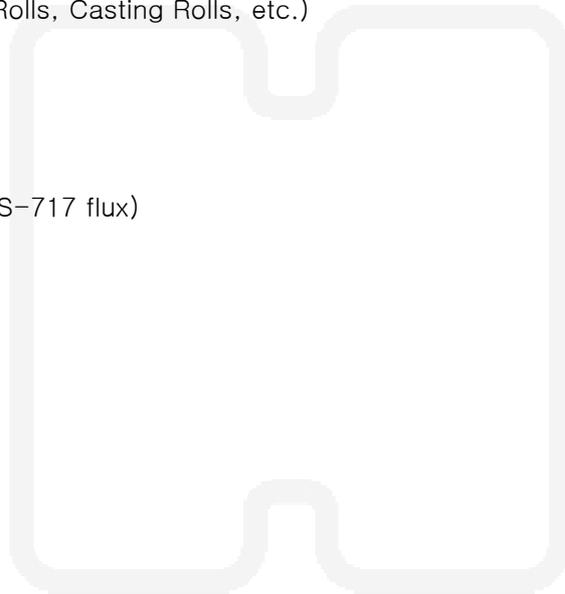
(Steel Mill Rolls, Casting Rolls, etc.)

❖ Welding Process

SAW (with S-717 flux)

❖ Current Type

DC+



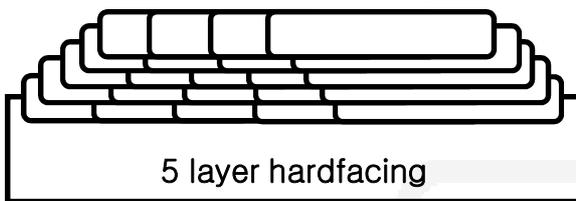
❖ Packing

SC-420SG	Dia.	1.6mm(1/16in) 2.4mm(3/32in) 3.2mm(1/8in)
	Coil	25kg(55lbs)
	Pailpack	150kg(330lbs), 250kg(551lbs)



Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions



Diameter	: 1.6mm(1/16in)
Welding Type	: SAW(S-717)
Amp./ Volt.	: 320 / 32
Stick-Out	: 25~30mm(0.98~1.18in)
Pre-Heat	: 150~250℃ (302~482°F)
Interpass Temp.	: 200~300℃ (392~572°F)
Total layers	: ≥4 layer

❖ Chemical Analysis of All weld metal(wt%)

Consumable	C	Si	Mn	Cr	Ni	Nb
SC-420SG	0.20	0.60	1.55	13.0	0.20	0.13

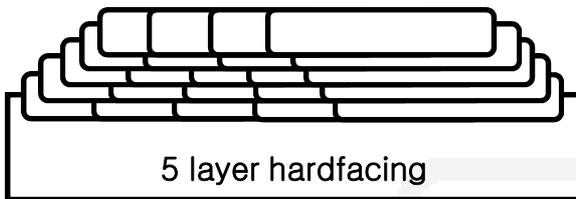
❖ Hardness test of All weld metal(HRc)

Consumable	Hardness(HRc)					Avg.
SC-420SG	50	51	51	52	54	52



Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions



Diameter	: 2.4mm(3/32in)
Welding Type	: SAW(S-717)
Amp./ Volt.	: 340 / 30
Stick-Out	: 25~30mm(0.98~1.18in)
Pre-Heat	: 150~250℃ (302~482°F)
Interpass Temp.	: 200~300℃ (392~572°F)
Total layers	: ≥4 layer

❖ Chemical Analysis of All weld metal(wt%)

Consumable	C	Si	Mn	Cr	Ni	Nb
SC-420SG	0.22	0.60	1.45	13.3	0.22	0.16

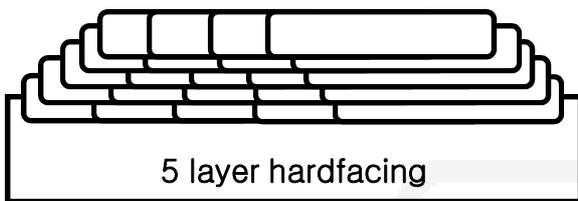
❖ Hardness test of All weld metal(HRc)

Consumable	Hardness(HRc)					Avg.
SC-420SG	51	51	52	52	53	52



Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions



Diameter	: 3.2mm(1/8in)
Welding Type	: SAW(S-717)
Amp./ Volt.	: 400 / 30
Stick-Out	: 25~30mm(0.98~1.18in)
Pre-Heat	: 150~250℃(302~482°F)
Interpass Temp.	: 200~300℃(392~572°F)
Total layers	: ≥4 layer

❖ Chemical Analysis of All weld metal(wt%)

Consumable	C	Si	Mn	Cr	Ni	Nb
SC-420SG	0.26	0.55	1.54	12.98	0.23	0.15

❖ Hardness test of All weld metal(HRc)

Consumable	Hardness(HRc)					Avg.
SC-420SG	50	50	51	53	53	52



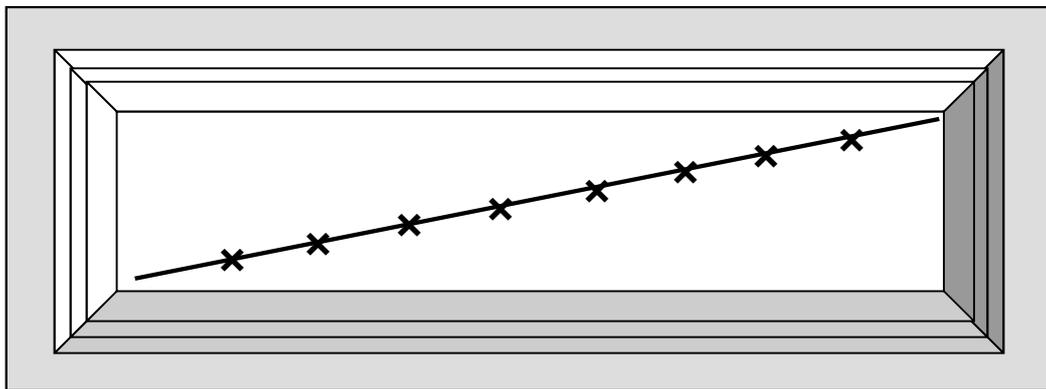
Hardness Test After PWHT

❖ Heating Condition (As weld, 450, 550, 600, 700, 750 °C 2Hr, FC)

Consumable	Hardness(Average of 8 points, HRc)					
	AS Weld	450 °C	550 °C	600 °C	700 °C	750 °C
SC-420SG 3.2mm(1/8in)	52	45	38	35	33	25

❖ Heating Condition (600 °C 8Hr, FC)

Consumable	Hardness(HRc)								
	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	Avg.
SC-420SG 3.2mm(1/8in)	33	34	34	34	35	35	36	38	35



Measurement locations of Hardness

This information is provided solely for the purpose of confirming product conformance with applicable standards. The serviceability of a product or structure utilizing this type of information is and must be the sole responsibility of the builder/user. Many variables beyond the control of HYUNDAI WELDING CO., LTD. affect the results obtained in applying this type of information. These variables include, but are not limited to, welding procedure, shielding gas, plate chemistry and temperature, weldment design, fabrication methods and service requirements.



Test Results

❖ BEAD APPEARANCE

Consumable	SC-420SG (1.6mm, 1/16in)
Amp.(A)	310~320
Volt.(V)	31~32
Carrige Speed	40~60cm/min(15.7~23.6in/min)
Welding Position	Flat(1G)



Consumable	SC-420SG (3.2mm, 1/8in)
Amp.(A)	380~400
Volt.(V)	28~30
Carrige Speed	40~60cm/min(15.7~23.6in/min)
Welding Position	Flat(1G)



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