

SM-410

2020.06



❖ Specification

AWS A5.9	ER410
JIS	Z3321 YS410
EN	ISO 14343-A G 13

❖ Applications

MIG Welding of 13%Cr stainless steel (STS 403, STS 410)

❖ Characteristics on Usage

Structure of all-weld metal is martensite having magnetic properties thus providing high hardness, good anti-abrasive property. Bead appearance and weldability are good. Due to high hardness of all-weld metal and excellent resistance to corrosion and abrasion, it can be used to hardfacing of carbon steels and 13%Cr stainless steels application.

❖ Note on Usage

Use 100% Ar or Ar + 2%O₂ gas.

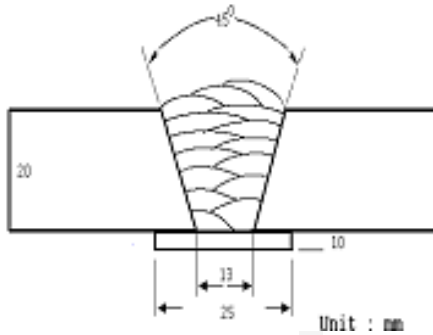
❖ Packing

Dia.	0.8mm (0.033in)	0.9mm (0.035in)	1.0mm (0.040in)	1.2mm (0.045in)	1.6mm (1/16in)
Spool	12.5kg (28lbs)				



Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions



[Joint Preparation & Layer Details]

- Diameter(mm)** : 1.2mm
- Shielding Gas** : 100%Ar
- Flow Rate(l /min.)** : 15~20
- Amp./ Volt.** : 230/27
- Stick-Out(mm)** : 20
- Pre-Heat(°C)** : R.T.
- Interpass Temp.(°C)** : 150 ± 15
- Polarity** : DC(+)
- PWHT(°C)** : 745 ± 15 1hr,
Furnace cooling(315),
Air cooling(RT)

❖ Mechanical Properties of All weld metal(wt%)

Consumable	Tensile Test		CVN Impact test Joule (ft·lbs)	
	T.S. MPa (ksi)	EL. (%)	+20°C (68°F)	0°C (32°F)
SM-410	723 (106)	22.8	75(55)	20(15)

❖ Chemical Analysis of the wire

Consumable	C	Si	Mn	Ni	Cr
SM-410	0.10	0.38	0.34	0.17	12.0
AWS A5.9 ER410	≤0.12	≤0.5	≤0.6	≤0.6	11.5 ~13.5

❖ Chemical Analysis of the weld metal

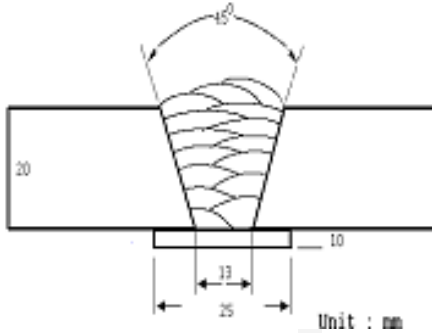
Consumable	C	Si	Mn	Ni	Cr
SM-410	0.09	0.46	0.34	0.19	11.1

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.



Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions



[Joint Preparation & Layer Details]

Diameter(mm)	: 1.2mm
Shielding Gas	: Ar + 2%O ₂
Flow Rate(l /min.)	: 15~20
Amp./ Volt.	: 230/27
Stick-Out(mm)	: 20
Pre-Heat(°C)	: R.T.
Interpass Temp.(°C)	: 150 ± 15
Polarity	: DC(+)
PWHT(°C)	: 745 ± 15 1hr, Furnace cooling(315), Air cooling(RT)

❖ Mechanical Properties of All weld metal(wt%)

Consumable	Tensile Test		CVN Impact test Joule (ft·lbs)	
	T.S. MPa (ksi)	EL. (%)	+20°C (68°F)	0°C (32°F)
SM-410	710 (103)	24.0	59 (44)	29 (21)

❖ Chemical Analysis of the wire

Consumable	C	Si	Mn	Ni	Cr
SM-410	0.10	0.38	0.34	0.17	12.0
AWS A5.9 ER410	≤0.12	≤0.5	≤0.6	≤0.6	11.5 ~13.5

❖ Chemical Analysis of the weld metal

Consumable	C	Si	Mn	Ni	Cr
SM-410	0.12	0.44	0.32	0.19	11.3

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