HYUNDAI WELDING

Rev. 00

Supershield 308L

SELF-SHIELD FLUX CORED ARC WELDING CONSUMABLE
FOR WELDING OF 18% Cr-8% Ni STAINLESS STEEL

2021.05

HYUNDAI WELDING CO., LTD.

Supershield 308L

❖ Specification

AWS A5.22 E308LT0-3

❖ Applications

Supershield 308L is designed for welding of 18%Cr-8%Ni stainless steel. (General Fabrication, Petrochemical Plant, textile industries etc.)

❖ Characteristics on Usage

Supershield 308L is self-shielded flux cored wire for stainless steels .
Supershield 308L is flux cored wire for flat and horizontal welding position without shielding gas.
It has characteristics of smooth arc stability, low spatters. easy slag removal.

❖ Note on Usage

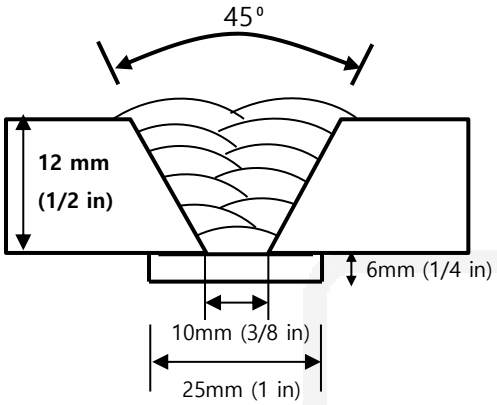
Do not use shielding gas.

Use DC(+) polarity,

Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions

Method by AWS Spec.



[Joint Preparation & Layer Details]

Welding Position	:	1G(PA)
Diameter(mm)	:	0.9mm(0.035in)
Shielding Gas	:	None
Polarity	:	DC+
Amp./ Volt.	:	160 / 28
Stick-Out	:	20mm(0.79in)
Pre-Heat	:	R.T .
Interpass Temp.	:	Max. 150℃ (302°F)

❖ Mechanical Properties of all weld metal

Consumable	Tensile Test			CVN Impact Test, Joule(ft · lbs)	
Supershield 308L	YS MPa (lbs/in²)	TS MPa (lbs/in²)	EL(%)	-20℃ (-4°F)	-60℃ (-76°F)
	457 (66,300)	633 (91,800)	42.8	56(41)	37(27)
AWS A5.22 E308LT0-3	-	≥ 520 (75,400)	≥ 30	Not Specified	

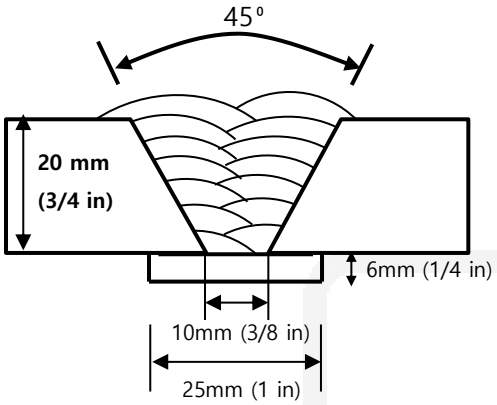
❖ Chemical Analysis of all weld metal(wt.%)

Consumable	Chemical Composition (wt.%)								
	C	Si	Mn	P	S	Ni	Cr	Mo	Cu
Supercored 308L	0.021	0.61	1.01	0.016	0.013	10.44	20.18	0.035	0.010
AWS A5.22 E308LT0-3	≤0.04	≤1.0	0.5 ~2.5	≤0.04	≤0.03	9.0 ~11.0	19.5 ~22.0	≤0.75	≤0.75

Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions

Method by AWS Spec.



[Joint Preparation & Layer Details]

Welding Position	:	1G(PA)
Diameter(mm)	:	1.2mm(0.045in)
Shielding Gas	:	None
Polarity	:	DC+
Amp./ Volt.	:	200 / 30
Stick-Out	:	20mm(0.79in)
Pre-Heat	:	R.T .
Interpass Temp.	:	Max. 150℃ (302°F)

❖ Mechanical Properties of all weld metal

Consumable	Tensile Test			CVN Impact Test, Joule(ft · lbs)	
Supershield 308L	YS MPa (lbs/in²)	TS MPa (lbs/in²)	EL(%)	-20℃ (-4°F)	-60℃ (-76°F)
	463 (67,200)	630 (91,400)	39.8	54(40)	40(30)
AWS A5.22 E308LT0-3	-	≥ 520 (75,400)	≥ 30	Not Specified	

❖ Chemical Analysis of all weld metal(wt.%)

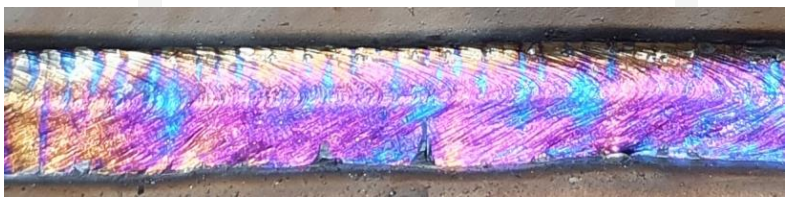
Consumable	Chemical Composition (wt.%)								
	C	Si	Mn	P	S	Ni	Cr	Mo	Cu
Supercored 308L	0.020	0.61	1.03	0.016	0.012	10.30	19.91	0.035	0.010
AWS A5.22 E308LT0-3	≤0.04	≤1.0	0.5 ~2.5	≤0.04	≤0.03	9.0 ~11.0	19.5 ~22.0	≤0.75	≤0.75

Mechanical Properties & Chemical Composition of All Weld Metal

❖ δ – Ferrite No.

Consumable	Shielding Gas	Diagram			FERITSCOPE MP-30 * (FISCHER)
		Schaeffler	Delong	WRC(1992)	
Supershield 308L	None	10.3	6.9	5.8	8.0~12.0

❖ Bead Appearance

Horizontal Fillet(2F, PB) , Base : STS 304L(6T)

None-gas, DC(+), 200A/30V

Welding Efficiency & Proper Welding Condition

❖ Deposition Rate & Efficiency

Wire Size	Shielding Gas	Welding Conditions		Deposition Efficiency(%)	Deposition Rate kg/hr (lb/hr)
		Amp.(A)	Volt.(V)		
0.9mm (0.035 in)	None	140	28	85~87	2.2 (4.8)
1.2mm (0.045 in)		180	30	86~88	4.5 (9.9)
Remark				Deposition efficiency =(Deposited metal weight/ Wire weight used)×100	Deposition rate =(Deposited metal weight/ Welding time,min.)×60

❖ Proper Welding Condition

Consumable	Shielding Gas	Welding Position	Wire Dia.	
			0.9mm (0.035 in)	1.2mm (0.045 in)
Supershield 308L	NONE	F & HF	100~160 Amp.	120~200 Amp.