

Supercored 316L

FLUX CORED ARC WELDING CONSUMABLE
FOR WELDING OF 18% Cr-12% Ni – 2% Mo STAINLESS STEEL

2021.02

HYUNDAI WELDING CO., LTD.



Supercored 316L

❖ Specification

AWS A5.22	E316LT0-1/-4
JIS Z 3323	TS316L-FB0
EN ISO 17633-A	T 19 12 3 L R M21/C1 3

❖ Applications

Supercored 316L is designed for welding of low carbon 18%Cr- 12% Ni -2% Mo stainless steels or for the welding of dissimilar joint of stainless steels

❖ Characteristics on Usage

Supercored 316L gives good arc stability and easy slag removal due to its low carbon content. It has excellent resistance against granular Corrosion.

❖ Note on Usage

Use 100% CO₂ gas or Ar+20~25% CO₂ gas

❖ Packing

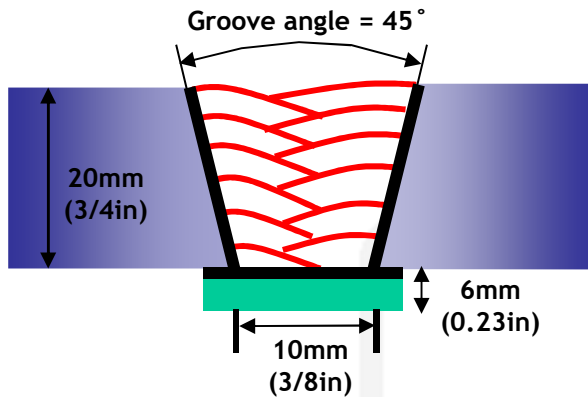
Dia.(mm)	0.9mm (0.035in)	1.2mm (0.045in)	1.4mm (0.052in)	1.6mm (1/16in)
Spool (kg) *including ball pac	5Kg (11lbs)	12.5Kg (28lbs)	15Kg (33lbs)	20Kg (44lbs)



Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions

Method by AWS Spec.



[Joint Preparation & Layer Details]

Diameter(mm)	: 1.2mm(0.045in)
Shielding Gas	: 100% CO ₂
Flow Rate(ℓ /min.)	: 20~22
Amp./ Volt.	: 210 / 29
Stick-Out(mm)	: 20(3/4 in)
Pre-Heat(°C)	: R.T . °C(°F)
Interpass Temp.(°C)	: ≤150°C(302°F)
Polarity	: DC(+)

❖ Mechanical Properties of All weld metal

Consumables	Tensile Test		CVN Impact Test J(ft · lbs)	
	TS (MPa/lbs/in ²)	EI(%)	-20°C (-4°F)	-60°C (-76°F)
Supercored 316L	539(78,155)	34.4	49(36.2)	41(30.3)
AWS A5.22 E316LTX-X	≥485(70,325)	≥ 30	Not Specified	

❖ Chemical Analysis of All weld metal(wt%)

Consumable	Shielding Gas	Chemical Composition (%)								
		C	Si	Mn	P	S	Ni	Cr	Mo	Cu
Supercored 316L	100%CO ₂	0.024	0.47	1.33	0.018	0.007	12.38	18.77	2.64	0.032
AWS A5.22 E316LTX-X		≤0.04	≤1.2	≤2.0	≤0.03	≤0.025	10.0~13.0	17.0~20.0	2.0~3.0	≤0.3

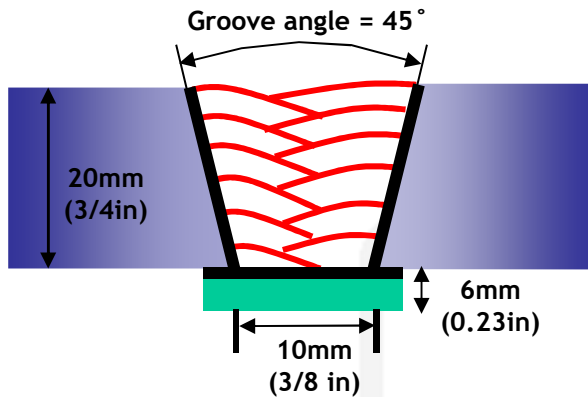
This information is provided solely for the purpose of confirming product conformance with applicable standards. The serviceability of a product or structure utilizing this type of information is and must be the sole responsibility of the builder/user. Many variables beyond the control of HYUNDAI WELDING 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

Method by AWS Spec.



[Joint Preparation & Layer Details]

Diameter(mm)	: 1.2mm(0.045in)
Shielding Gas	: Ar+ 20% CO ₂
Flow Rate(ℓ /min.)	: 20~22
Amp./ Volt.	: 210 / 29
Stick-Out(mm)	: 20(3/4 in)
Pre-Heat(°C)	: R.T . °C(°F)
Interpass Temp.(°C)	: ≤150°C(302°F)
Polarity	: DC(+)

❖ Mechanical Properties of All weld metal

Consumable	Tensile Test		CVN Impact Test J(ft · lbs)	
	TS (MPa/lbs/in ²)	EI(%)	-20°C (-4°F)	-60°C (-76°F)
Supercored 316L	537(77,865)	42	46(33.9)	42(40.0)
AWS A5.22 E316LTX-X	≥485(70,325)	≥ 30	Not Specified	

❖ Chemical Analysis of All weld metal(wt%)

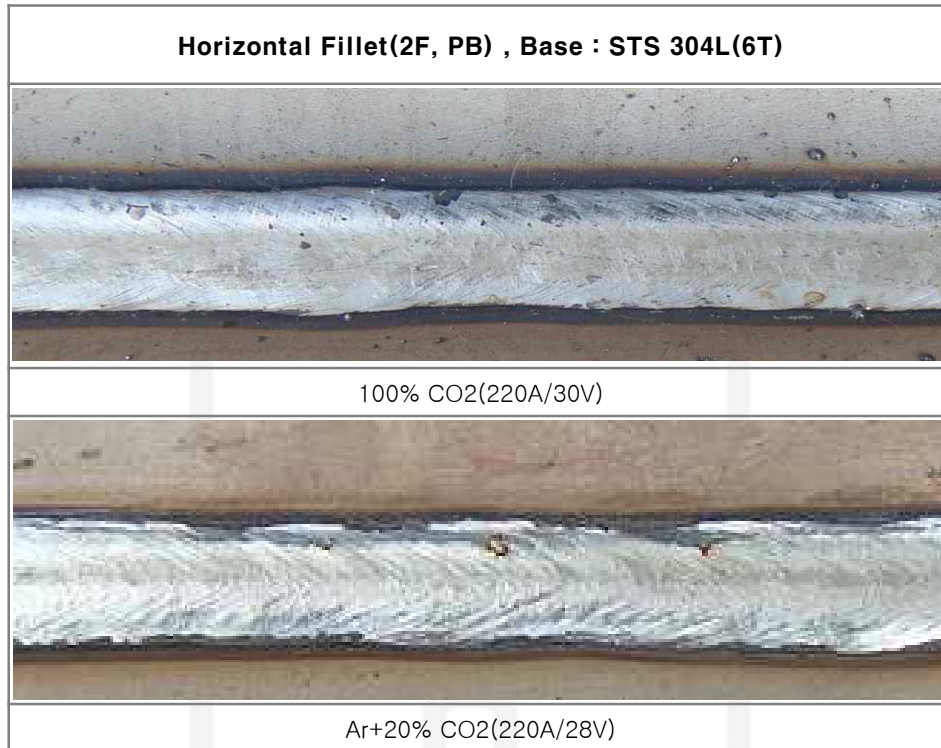
Consumable	Shielding Gas	Chemical Composition (%)								
		C	Si	Mn	P	S	Ni	Cr	Mo	Cu
Supercored 316L	Ar+ 20% CO ₂	0.025	0.57	1.48	0.018	0.007	12.30	18.98	2.64	0.030
AWS A5.22 E316LTX-X		≤0.04	≤1.2	≤2.0	≤0.03	≤0.02 5	10.0~ 13.0	17.0~ 20.0	2.0~3. 0	≤0.3

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

❖ Bead Appearance



❖ δ – Ferrite No.

Consumable	Shielding Gas	Diagram			FERITSCOPE MP-30 * (FISCHER)
		Schaeffler	Delong	WRC(1992)	
Supercored 316L	100% CO ₂	7.0	11.1	9.0	9.0~9.5
	Ar+20% CO ₂	7.7	10.5	9.1	9.0~9.5

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.



Approvals

❖ AUTHORIZED APPROVAL DETAILS

Consumable	Shielding Gas	TUV	CE	DB
Supercored 316L	C1	EN 12073 T 19 12 3 L R C 3 0.9~1.6	EN 12073 T 19 12 3 L R C 3 0.9~1.6	T 19 12 3 L R C 3(1.4430) DIN EN ISO 17633-A 0.9~1.6

Consumable	Shielding Gas	LR	BV	DNV
Supercored 316L	M 21	316L 0.9~1.6	316L 0.9~1.6	316L (-20℃) 0.9~1.6
		TUV	CE	DB
		EN 12073 T 19 12 3 L R M 3 0.9~1.6	EN 12073 T 19 12 3 L R M 3 0.9~1.6	T 19 12 3 L R M 3(1.4430) DIN EN ISO 17633-A 0.9~1.6

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.