

Supershield 7

SELF-SHIELD FLUX CORED ARC WELDING CONSUMABLE
FOR MILD & 490MPa CLASS HIGH TENSILE STEEL

2020.12



❖ Specification

AWS A5.20 E70T-7

(AWS A5.20M E490T-7)

❖ Applications

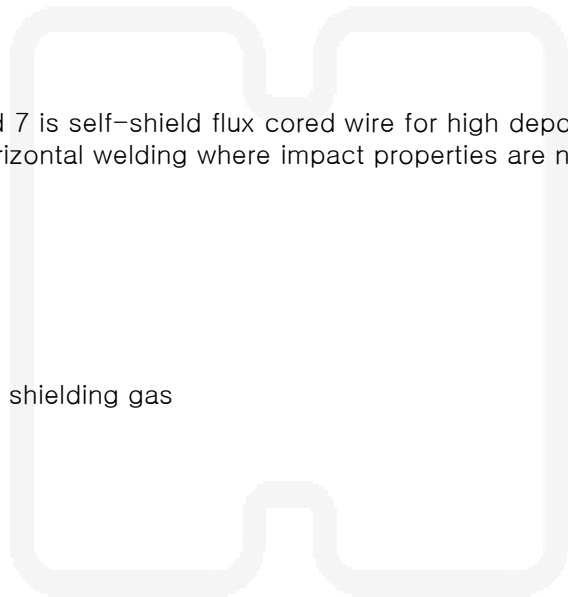
Only Flat, H-Fillet welding of general fabrication, structural fabrication, machinery bases and heavy equipment repair, assembly welding.

❖ Characteristics on Usage

Supershield 7 is self-shield flux cored wire for high deposition rate flat and horizontal welding where impact properties are not required.

❖ Note on Usage

Do not use shielding gas

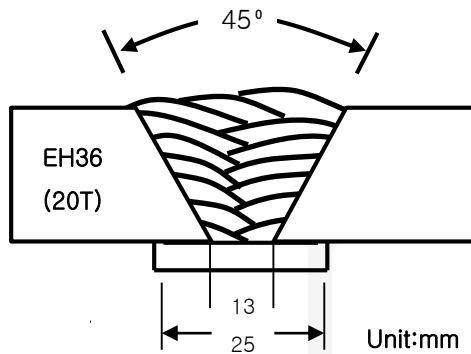




Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions

Method by AWS Spec.



[Joint Preparation & Layer Details]

Welding Position	: 1G(PA)
Diameter	: 2.0mm(5/64in)
Shielding Gas	: None
Polarity	: DC-
Amp./ Volt.	: 280 / 23
Stick-Out	: 35~40mm(1.4~1.6in)
Pre-Heat	: R.T .
Interpass Temp.	: 150±15°C (302±59°F)

❖ Mechanical Properties of all weld metal

Consumable	Tensile Test		
	Tensile specimen artificially aged at 105°C for 48hr, as permitted by AWS A5.20		
Supershield 7	YS MPa (lbs/in ²)	TS MPa (lbs/in ²)	EL(%)
		492(71,000)	635(92,000)
AWS A5.20 E70T-7	≥ 390 (56,000)	490~670 (70,000~97,000)	≥ 22

❖ Chemical Analysis of all weld metal(wt%)

Consumable	C	Si	Mn	P	S	Al
Supershield 7	0.265	0.17	0.25	0.011	0.005	1.54
AWS A5.20 E70T-7	≤ 0.30	≤ 0.60	≤ 1.75	≤ 0.03	≤ 0.03	≤ 1.80

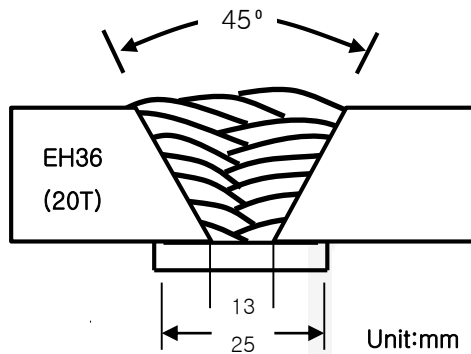
This information is provided solely for the purpose of confirming product conformance with applicable standards. The serviceability of a product or structure utilizing this type of information is and must be the sole responsibility of the builder/user. Many variables beyond the control of HYUNDAI WELDING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

Welding Position	: 1G(PA)
Diameter	: 2.4mm(3/32in)
Shielding Gas	: None
Polarity	: DC-
Amp./ Volt.	: 300 / 23
Stick-Out	: 35~40mm(1.4~1.6in)
Pre-Heat	: R.T .
Interpass Temp.	: 150±15°C (302±59°F)

❖ Mechanical Properties of all weld metal

Consumable	Tensile Test		
	Tensile specimen artificially aged at 105°C for 48hr, as permitted by AWS A5.20		
Supershield 7	YS MPa (lbs/in ²)	TS MPa (lbs/in ²)	EL(%)
		504(73,000)	642(93,000)
AWS A5.20 E70T-7	≥ 390 (56,000)	490~670 (70,000~97,000)	≥ 22

❖ Chemical Analysis of all weld metal(wt%)

Consumable	C	Si	Mn	P	S	Al
Supershield 7	0.271	0.15	0.20	0.012	0.003	1.60
AWS A5.20 E70T-7	≤ 0.30	≤ 0.60	≤ 1.75	≤ 0.03	≤ 0.03	≤ 1.80

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Welding Efficiency

❖ Deposition Rate & Efficiency

Consumable (Size)	Welding Conditions		Deposition Efficiency(%)	Deposition Rate kg/hr(lb/hr)
	Amp.(A)	Volt.(V)		
Supershield 7 2.4mm (3/32in)	250	21	77~79	3.5(7.7)
	300	23	78~80	5.8(12.7)
	350	24	79~81	6.9(15.2)
	400	26	80~82	9.4((20.7)
	450	28	82~84	11.8(25.9)
Remark			Deposition efficiency =(Deposited metal weight/ Wire weight used)×100	Deposition rate =(Deposited metal weight/ Welding time,min.)×60



Proper Welding Condition

❖ Proper Current Range

Consumable	Welding Position	Wire Diameter	Wire Dia.	
			Amp.	Volt.
Supershield 7	F & HF	2.0mm (5/64in)	200	20~22
			250	21~23
			300	22~24
			350	23~25
			400	24~26
		2.4mm (3/32in)	250	21~23
			300	23~25
			350	24~26
			400	26~28
			450	26~28

❖ F No & A No

F No	A No
6	-