

CARBON STEEL CONSUMABLES CLASSIFICATION FOR FCAW (AWS A5/SFA 5.20)

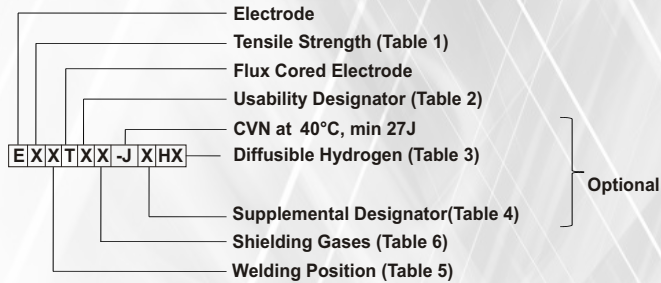


Table 1: Tensile strength of undiluted weld metal

Code Digit	Tensile Strength Min, psi (MPa)
6	60,000 (430)
7	70,000 (490)

Table 2: Usability Designator

Usability Designator	Polarity	Application
1, 4, 6, 9, 12	DCEP	M
2, 3	DCEP	S
10,13,14	DCEN	S
7, 8, 11	DCEN	M
5	DCEP or DCEN	M
G	Not specified	M
GS	Not specified	S
M- Single or Multi pass S- Single pass		

Table 3: Diffusible Hydrogen

Code Digit	Diffusible hydrogen content, average (ml/100g Deposited metal) max
H4	4
H8	8
H16	16

Table 4: Supplemental Designator

Supplemental Designator	Procedure Heat Input	Avg Heat input for All Passes (kJ/mm)	Wire dia (mm)	Tensile Test Requirement of weld metal,(minimum)	Minimum CVN Requirements
D	Low (Fast Cooling rate)	1.0 -1.3	< 2.4	UTS : 490 MPa, YS : 400 MPa, Elong : 22%	at +20°C, 54J
	High (Slow cooling rate)	1.4 - 1.7	> 2.4		
Q	Low (Fast Cooling rate)	3.0 - 3.2	-	YS : 400-620 MPa, Elong : 22% YS : 400-550 MPa, Elong : 22%	at -30°C, 27J
	High (Slow cooling rate)	1.0 -1.3	-		
		2.7 - 3.0	-		

Table 5: Welding Position

Code Digit	Welding Position
0	F, H
1	F, H, V-up / V-down, OH

Table 6: Shielding Gases

Code Digit	Shielding Gas
C	100% CO ₂
M	75-80% Ar / Balance CO ₂
No code	Self shielding



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