

CSM-70C

Mild & 490N/mm² class high tensile steel

1. APPLICATIONS

Butt, Fillet Welding of mild steel & 50kgf/mm² high tensile strength of structures such as vehicle, and Industrial machinery.

2. SPECIFICATIONS

Brand \ Spec.	AWS A5.18	AWS A5.36(M)	JIS Z3313	EN ISO 17632-A
CSM-70C	E70C-6M	E70T15-M21A2-CS1-H4 (E490T15-M21A3-CS1-H4)	T493T15-0MA-H5	T42 2 M M21 3 H5

3. CHARACTERISTICS OF USAGES

- 1) CSM-70C is a flux cored wire with 70~85%Ar+15~25%CO₂ gas mixtures.
- 2) CSM-70C is a flux cored wire of metal-type and provide higher efficiency like a solid wire welding.
- 3) CSM-70C has littler spatters, stable arc character with using mix gas.

4. MECHANICAL PROPERTIES

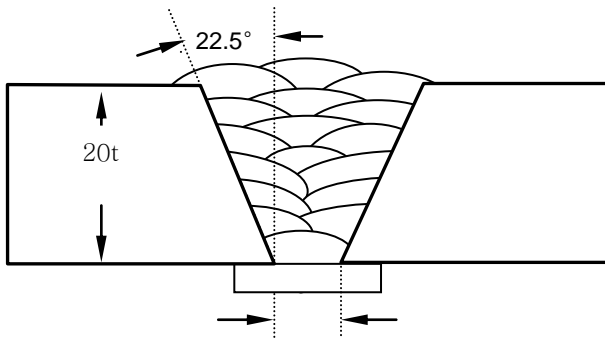
4 - 1.TYPICAL CHEMICAL COMPOSITION OF WELD METAL(Shielding gas : 75%Ar –25%CO₂)

Spec.	Chemical compositions (%)				
	C	Si	Mn	P	S
AWS	≤0.12	≤0.90	≤1.75	≤0.03	≤0.03
JIS	≤0.20	≤0.90	≤2.00	≤0.03	≤0.04
CSM-70C	0.044	0.73	1.62	0.013	0.014

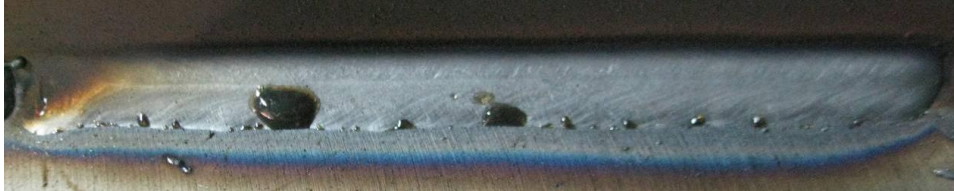

4 - 2. TYPICAL MECHANICAL PROPERTIES

Spec.	Yield Strength (N/mm ²)	Tensile Strength (N/mm ²)	Elongation (%)	Impact Value (J)	
				0 °C	-30 °C
AWS	≥400	≥480	≥22	-	≥27
JIS	≥390	≥490	≥22	≥47	-
CSM-70C	485	553	26.7	98, 78, 78 Ave. =85	59, 49, 43 Ave.= 50

WELDING PROCEDURE

<p>Wire diameter : 1.2mm Test plate : ASTM A 283 Ampere : 240 ~ 260A Voltage : 30V Current & polarity : DCEP Shielding gas : Ar 80%- CO₂ 20%, 20ℓ/min Wire stick-out : 20 ~ 25mm Interpass temp. : 150±14°C Welding position : Flat(1G) Welding speed : 240 ~ 280mm/min Preheat temp. : N/A Root treatment : No</p>	 <p>BASE METAL : SWS 490A</p>
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4 - 3. BEAD PROFILE

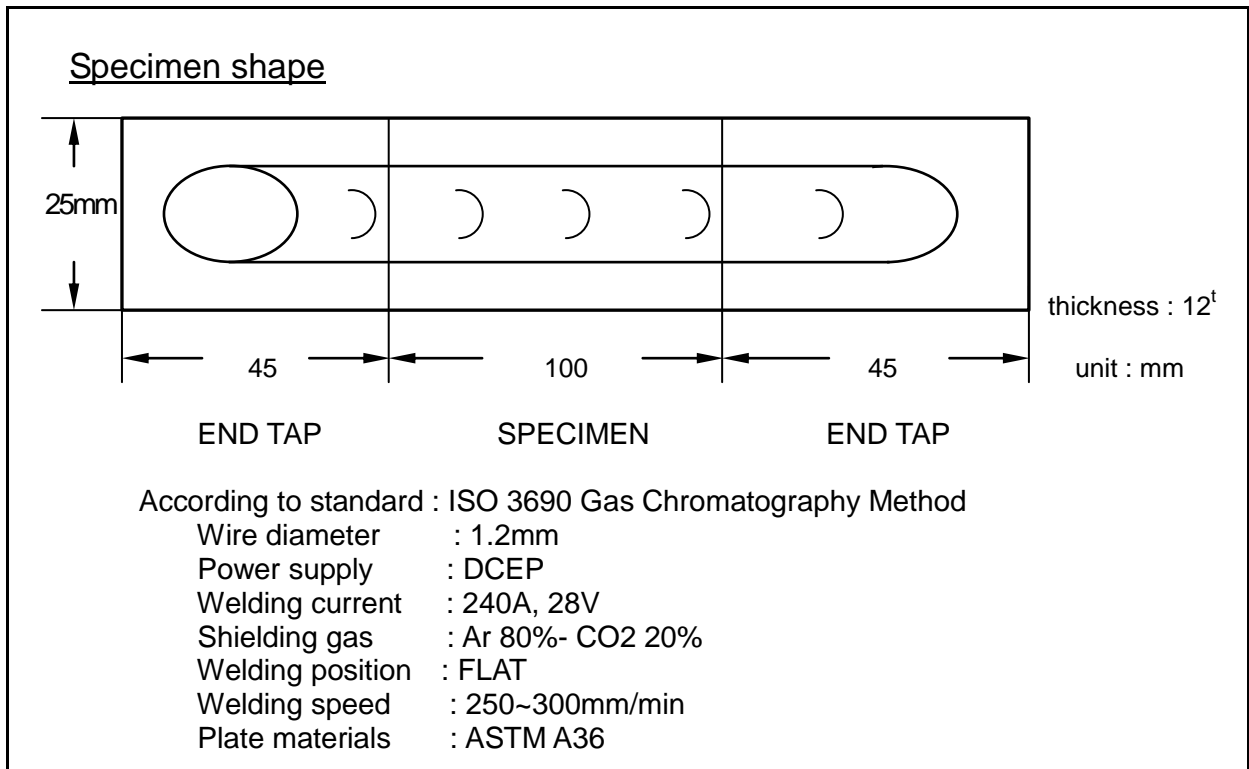
CSM-70C Bead Profile (H-Fillet, 10t, ASTM A36)	
Condition	
<p>Ar-20%CO₂ 300A/32V, 30cpm</p>	
<p>Ar-25%CO₂ 300A/34V, 30cpm</p>	

4 - 4. TYPICAL TEST RESULT OF HYDROGEN DETERMINATION (ml /weld metal100gr)

Specimen NO.	1	2	3	4	\bar{X}
CSM-70C	2.4	2.2	2.7	2.2	2.4

※ Gas Chromatography method

*WELDING CONDITIONS *



6. SIZE AVAILABLES & RECOMMENDED CURRENT(DCEP)

Wire dia. (mm)		1.2	1.4	1.6
Flat, H-Fillet	Amp.(A)	180~270	200~290	200~320

7. NOTES ON USAGES

- 1) It is suitable to use shielding gas of 20~25 ℓ/min.
- 2) The distance between tip & base metal is to be 20~25mm.
- 3) Protect the weld with a screen to prevent blow-holes caused by wind where the wind velocity is 2m/sec and more.
- 4) In order to get better impact values, it is effective to lay each weld layer as thin as possible.

8. PACKAGES

Wire dia. (mm)	Package unit (kg)	Package shape
1.2, 1.4, 1.6	12.5, 15, 20	Spool
		Pail Pack

9. APPRVALS

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