

CSF-71S

For mild steel and 490 N/mm² class high tensile strength steel



Applications

Butt, fillet welding of mild steel & 490N/mm² high tensile strength steels of structure such as bridges, buildings, storage tanks, ships and industrial machinery.

Specification

AWS A5.20 E71T-9CJ

EN ISO 17632-A T46 4 P C1 1 H5

B T49 4 T1-1 C1 A-N1-H5

Characteristics on usages

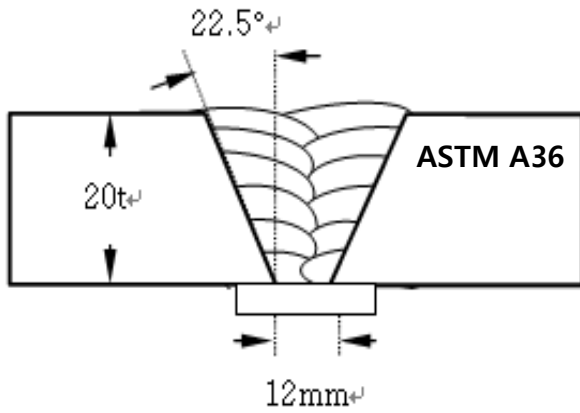
- 1) CSF-71S is a titania type flux cored wire and designed for all-position welding by single pass & multi pass with 100%CO₂ gas shielding.
- 2) It provides the excellent usability with stable arc, less spattering, good bead appearance, better slag removal, and less quantity of welding fume comparable to solid wire.
- 3) It provides a good welding efficiency thank to high deposition rate particularly.

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 blowholes caused by wind where the wind velocity is 2m/sec.
- 4) Thick heavy plate should be welded under proper preheating & interpass temperature



Mechanical properties & Chemical compositions of all weld metal test



(Joint preparation & Layer Details)

Wire Dia.	1.6 mm
Current/Polarity	DCEP
Ampere / Voltage	280 A / 26~28 V
Shield gas	CO ₂ , 20 l/min.
CTWD	20~25 mm
Inter-pass temp.	150 ± 15 °C
Welding position	1 G
Welding speed	250 ~ 300 mm/min.

Chemical compositions

(wt.%)

	C	Mn	Si	S	P	Ni	Cr	Mo	V
AWS A5.20	0.12	1.75	0.90	0.03	0.03	0.50	0.20	0.30	0.08
100% CO ₂	0.04	1.30	0.40	0.01	0.01	0.40	0.03	0.02	0.01

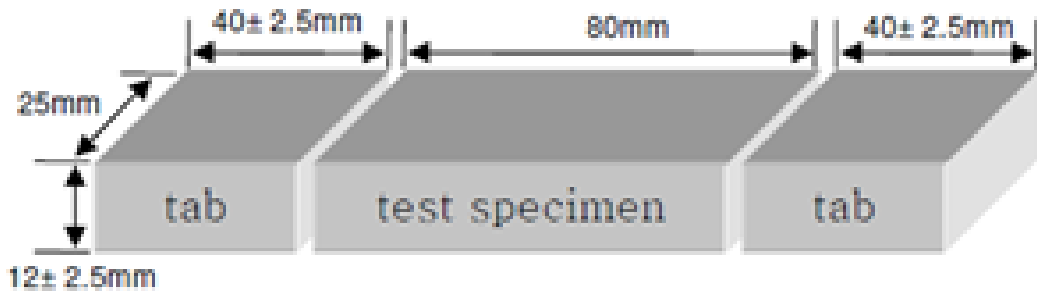
Mechanical properties

	Tensile properties			CVN-IE (J)
	YP(MPa)	TS(MPa)	El.(%)	@-40°C
AWS A5.20	≥ 400	490-660	≥ 22	≥ 27J
100% CO ₂	513	595	29	92

Diffusible hydrogen Content

Welding condition

Specification	AWS A4.3 / GC method
Wire Dia.	1.4 mm
Current/Polarity	DCEP
Ampere	280 A
Voltage	28 V
Shield gas	CO ₂ , 20 l/min.
CTWD	20 mm
Welding speed	280~320 mm/min.



Result

	X1	X2	X3	X4
100% CO ₂	3.4	3.6	3.4	3.3

Average Hydrogen Content 100% CO₂ 3.4ml/100g



Size available / Recommend current(DCEP) Deposition rate / efficiency / Packaging

Size available/Recommend current (DCEP)

		1.2mm	1.4mm	1.6mm
Flat Horizontal fillet	A	180~270	200~290	200~320
Vertical up	A	140~200	160~240	160~260
Overhead	A	140~220	160~260	160~280

Deposition rate / efficiency

	Amp.	Volt.	Depo. Rate (kg/hr.)	Depo. Efficiency (%)
1.2mm CO ₂ gas	160	26	2.54	88.9
	200	28	3.48	88.2
	240	30	4.40	89.8
	280	32	5.70	88.6
	320	34	7.14	89.4
1.6mm CO ₂ gas	180	24	2.11	86.4
	300	30	4.56	87.2
	360	34	6.18	87.5
	420	37	7.91	88.4

Packaging

Wire Dia. (mm)	Type	Unit. (kg)
1.2 / 1.4/ 1.6	Spool	5, 12.5, 15
	Pack	100, 200, 300



Approval / Wire feedability evaluation

Approval

	CO ₂ gas
ABS	4Y400SA,H5
BV	SA4Y40M,H5
DNV-GL	IVY40MS,H5
LR	4Y40S,H5
NK	KSW54Y40G(C)
KR	4Y40SG(C)H5
RS	4Y40S,H5

Wire feedability evaluation model

Cable type	Cable length	Welding condition	Welding time	Welding equipment	CTWD
1 turn/ 2 turn	6 m	300~320A/ 32~34V	300 sec. 3 times	Arc monitoring system	25mm