

9CrMoV

SAW

SOLID WIRE WITH LOW Ni CONTENT FOR SAW

PRODUCT DESCRIPTION

Solid wire with Mn+Ni≤1.0%, non-copper coated, for SAW of T91/P91

CLASSIFICATIONS

AWS A5.23M EB 91
ISO 24598-B S 9Cr1MV

ASME IX QUALIFICATION

QW422 P-No 15E group 1
QW432 F-No 6
QW442 A-No 5

CHEMICAL COMPOSITION [WIRE WT %]

	C	Mn	Si	S	P	Cr	Ni	Mo	Nb	V	N	Cu	Al
Min.	0.08	0.40	0.15	--	--	8.5	0.10	0.85	0.03	0.15	0.03	--	--
Max.	0.13	0.80	0.50	0.010	0.010	9.5	0.40	1.10	0.08	0.25	0.07	0.10	0.04
Typical	0.10	0.5	0.35	0.004	0.008	9.0	0.3	1.0	0.05	0.2	0.05	0.03	<0.01

* Mn+Ni≤ 1. 0%. Nickel is below 0.4% (as parent material) although AWS allows up to 1.0%Ni.
See 9CrMoV-N for variant with 0.4–0.8%Ni conforming to ISO suffix "A" specification.

ALL-WELD MECHANICAL PROPERTIES

PWHT 760°C / 2h	Min.	Typical with LA490 flux
Tensile strength [MPa]	620	690
0.2% proof strength [MPa]	415	580
Elongation [%] 4d	17	25
5d	17	23
Reduction of area [%]	--	70
Impact ISO-V(I) +20°C	-- *	65
Hardness [HV] (mid)	--	220

* Minimum impact required by ISO is 47 J.

TYPICAL OPERATING PARAMETERS

Flux	Current	Diameter [mm]	Parameters
LA490	DC+	2.4	420A, 28V, 390mm/min

PACKAGING DATA

Diameter [mm]	Weight [kg]	Packaging	Item number
2.4	25	B415	SA9CRMV-24

LA490

SAW

SUB-ARC FLUX FOR USE WITH 9CrMoV-N AND 9CrMoV SOLID WIRES

PRODUCT DESCRIPTION

Agglomerated fluoride-basic flux for P91 and P92 modified 9Cr-1Mo creep resistant steels

CLASSIFICATIONS

ISO 14174 (flux)	SA FB 155 AC H5
AWS A5.23M	F62P0-EB91-B91
AWS A5.23	F9PZ-EB91-B91
(flux wire combination)	
APPROVALS	TÜV (in conjunction with 9CrMov-N wire)

COMPOSITION (FLUX WT%)

SiO ₂ + Al ₂ O ₃	30%
CaO + Mg O	36%
CaF ₂	27%
Basicity index (Boniszewski)	~3.0

ANALYSIS DEPOSIT (TYPICAL, WT%)

	C	Mn	Si	S	P	Cr	Ni	Mo	Nb	V	N
9CrMoV-N Wire	0.10	0.5	0.25	0.004	0.008	9.0	0.6	1.0	0.05	0.20	0.05
Deposit with LA490	0.09	0.7	0.20	0.005	0.008	8.6	0.6	1.0	0.04	0.20	0.05
9CrMoV Wire	0.10	0.5	0.35	0.004	0.008	9.0	0.3	1.0	0.05	0.20	0.05
Deposit with LA490	0.09	0.7	0.30	0.005	0.008	8.6	0.3	1.0	0.04	0.20	0.05

ALL-WELD MECHANICAL PROPERTIES

Properties after PWHT	Min.	Typical (760°C / 2h)	
		9CrMoV-N+LA490	9CrMoV+LA490
Tensile strength [MPa]	620	720	690
0.2% proof strength [MPa]	540	610	580
Elongation [%] 4d	17	25	25
5d	17	23	23
Reduction or area	--	70	70
Impact ISO-V(J) +20°C	--*	60	65
Hardness [HV] (mid)	--	230	220

* Minimum impact required by ISO 24598-A : 47 J average / 38 J single after PWHT 750-760C°/3h.

TYPICAL OPERATING PARAMETERS

AC or DC+: 420A, 28V, 390mm/min

PACKAGING DATA

Weight (kg)	Packaging	Item number
25	SRB	FXLA490SA-25SRB

STAINLESS STEELS