DAIKOMCW 120

FCAW

HIGH YIELD STRENGTH STEELS
120ksi

DESCRIPTION

Metal all position flux cored wire

Seamless metal core wire for welding of very high strength Nickel-Chromium-Molybdenum alloyed steels with Ar-CO2 shielding gas. Virtually spatter free in the spray-arc range. Particularly suitable for robotic applications. The weld profile is easily controllable making this wire well suited for gap bridging and positional welding. It is designed for those applications requiring 120 Ksi minimum tensile strength and good charpy v-notch toughness, such as when welding HY-80, HY-100, Strenx® 900, S890QL, S960Q.

SPECIFICATIONS

ISO 18276-A	T 89 4 Mn2Ni1CrMo M M 2	**AWS A5.36**	E120T15
DIN	-	**Werkstoff Number**	-
Certifications	-	**Shielding**	M21
Positions	PA, PB, PC, PD, PE, PF, PG	**Current**	DC+

ASME QUALIFICATIONS

F-No (QW432)	6
A-No (QW442)	-

FERRITE

-

PREN

-

HARDNESS

-

CHEM. COMP. %

	DEFAULT
C	0.06
Mn	1.6
Ni	2.2
Cr	1
P	0.02
S	0.02
Mo	0.4
Si	0.5
Cu	0.15

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R_m MPa	940	980
Yield strength $R_{p0.2}$ MPa	890	880
Elongation A (L_0=5d_0) %	15	15
Impact Charpy ISO-V	47J @ -40°C	47J @ -50°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

	1.2 mm	1.6 mm
Ampere	160A - 280A	180A - 350A
Voltage	18V - 30V	30V - 34V
Packaging	Ø 1,2÷1,6mm	Ø 1,2÷1,6mm
Packaging Type	BS300 spool	BS300 spool

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DAIKO

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DESCRIPTION

APPLICATION

Designed for applications demanding a minimum tensile strength of 120 Ksi and excellent Charpy V-notch toughness, these consumables are suitable for diverse structural uses. From lifting machines to shipbuilding, railway sectors to crane fabrication, they find application in various high-strength scenarios. Preheat as per base material and thickness; generally, a 100°C minimum preheat is needed for materials requiring these high-strength consumables. Exercise caution with some HSLA steels, as interpass temperatures above 200°C may compromise strength and toughness. Post-weld heat treatment (PWHT) depends on the base material and application.

ALLOY TYPE

Mn-Ni-Mo low alloy consumables for welding high strength steels with ultimate tensile strength up to 825 MPa (120 ksi).

MICROSTRUCTURE

The microstructure of all the consumables is predominantly ferrite; some will contain high proportions of acicular ferrite for optimum aswelded toughness

MATERIALS

This material is used for a variety of high strength steels. HY-80, HY-90, HY- 100. S890 and higher strength grades, thermo mechanically treated fine grain steels.

EN W.Nr.: S890QL, S960Q.

ASTM: A 709 Gr. 100 Type B, E, F, H, Q, HPS 100W.

PROPRIETARY: Strenx® 900 (SSAB), Alform® 900 X-treme (voestalpine).