



DAIKOFCW 120B



HIGH YIELD STRENGTH STEELS
120ksi

DESCRIPTION

Basic flux cored wire for flat and horizontal position

Seamless basic flux cored wire for welding of very high strength Nickel-Chromium-Molybdenum alloyed steels with Ar-CO₂ shielding gas. It displays excellent weldability in flat and horizontal positions, smooth and bright bead, less spatter, easy to remove slag and very high mechanical properties at low temperatures. Ease of slag removal reduces post-welding cleaning operations to a minimum. 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 B M 4	AWS A5.36	E120T5
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	M21
Positions	PA, PB, PC	Current	DC+

ASME QUALIFICATIONS

F-No (QW432)	6
A-No (QW442)	10

FERRITE

-
-

PREN

-
-

HARDNESS

-
-

CHEM. COMP. %

DEFAULT

C	0.06
Mn	1.4
Ni	2.2
Cr	0.4
P	0.02
S	0.02
Mo	0.4
Si	0.4
Cu	0.15

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R _m MPa	940	990
Yield strength R _{p0.2} MPa	890	890
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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The information in this datasheet is the result of detailed research and is considered accurate as of the publication date. However, we cannot guarantee its complete accuracy, and it is subject to change without notice. Actual results may vary due to many factors like welding procedures, material composition, temperature conditions, bevel configuration, and specific manufacturing techniques. We accept no liability for any errors or omissions in this datasheet. For the most current information, please visit www.daikowelding.com.





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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).

