



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

EN ISO 18276-A	T 89 4 Mn2Ni1CrMo B M 4	AWS A5.36	E120T5
Shielding	M21	Positions	PA, PB, PC
Current	DC+	Packaging Type	B5300 spool

ASME QUALIFICATIONS

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

CHEM. COMP. %	DEFAULT	MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
C	0.06	Tensile strength R _m MPa	940	990
Mn	1.4	Yield strength R _{p0.2} MPa	890	890
Ni	2.2	Elongation A (L ₀ =5d ₀) %	15	15
Cr	0.4	Impact Charpy ISO-V	47J @ -40°C	47J @ -50°C
P	0.02	Impact Charpy ISO-V	-	-
S	0.02			
Mo	0.4			
Si	0.4			
Cu	0.15			
		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	B5300 spool	B5300 spool



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APPLICATION

This category of consumables is designed for applications requiring a minimum tensile strength of 120 Ksi and high performance in terms of Charpy V-notch resilience. They are commonly used in industries that include lifting and handling machinery, bridge construction, tank manufacturing and transportation, as well as shipbuilding, railway, mining industries, frames, crane construction, and trailers, as well as other high-strength structural applications. It is essential to provide preheating based on the base material and thickness. However, higher strength consumables normally require at least a 100 °C preheat. In some HSLA steels, it is important to note that interpass temperatures above 200 °C may reduce both material strength and toughness. Post welding heat treatment (PWHT) is generally determined by the base material and the specific 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 as-welded 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)

