DAIKOWM 120

GMAW

HIGH YIELD STRENGTH STEELS
120ksi

DESCRIPTION

Low alloy solid wire for high yield strength steels

High-strength, medium alloy solid wire electrode for shielded arc welding of quenched and tempered fine grained structural steels. 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. These materials are used in lifting and handling machines, bridges, tanks, shipbuilding, railway sector, mines, frames, crane fabrication, trailer construction, and other structural applications involving higher strength materials.

SPECIFICATIONS

EN ISO 16834-A	G 89 Mn4Ni2,5CrMo	**AWS A5.28**	ER120S-G
Shielding	M20, M21	**Positions**	PA, PB, PC, PD, PE, PF, PG
Current	DC+	**Packaging Type**	Drums, B300, D200 and D100 spools.

ASME QUALIFICATIONS

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

CHEM. COMP. %	DEFAULT
C	0.11
Mn	1.9
Ni	2.4
Cr	0.6
P	0.01
S	0.01
Mo	0.6
Si	0.8
Cu	0.15

MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
Tensile strength R_m MPa	940	980
Yield strength $R_{p0.2}$ MPa	890	890
Elongation A (L_0=5d_0) %	15	16
Impact Charpy ISO-V	-	60J @ -40°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS	1.0 mm	1.2 mm
Ampere	170A - 220A	180A - 300A
Voltage	24V - 28V	26V - 30V
Packaging	Ø 0,8÷1,6mm	Ø 0,8÷1,6mm
Packaging Type	Drums, B300, D200 and D100 spools.	Drums, B300, D200 and D100 spools.

120ksi

DESCRIPTION

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)