DAIKOWT 4130

GTAW

HIGH YIELD STRENGTH STEELS
130ksi

DESCRIPTION

Low alloy solid wire for high yield strength steels

This high strength low alloy consumable is designed to weld alloys of similar composition, requiring 130 Ksi minimum tensile strength. It displays good mechanical properties and is suitable for applications on strongly stressed structures. To obtain high static strength and high impact toughness in the welded joint, it is important not to exceed 0,8 kJ/mm heat input during welding. It is not recommended to stress relieve the weldment by post weld heat treatment.

SPECIFICATIONS

ISO	-	AWS	-
DIN	-	Werkstoff Number	1.7218
Certifications	-	Shielding	I1
Positions	PA, PB, PC, PD, PE, PF	Current	DC-

ASME QUALIFICATIONS

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

FERRITE

-

PREN

-

HARDNESS

-

CHEM. COMP. %

	DEFAULT
C	0.3
Mn	0.5
Ni	0.01
Cr	1
P	0.015
S	0.01
Mo	0.2
Si	0.3
Cu	0.15

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R_m MPa	-	1150
Yield strength $R_{p0.2}$ MPa	-	1100
Elongation A (L_0=5d_0) %	-	-
Impact Charpy ISO-V	-	-
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

	1.6 mm	2.4 mm
Ampere	95A - 135A	145A - 205A
Voltage	-	-
Packaging	Ø 1,2÷3,2mm	Ø 1,2÷3,2mm
Packaging Type	5kg carton tube	5kg carton tube

ANTI-WEAR CHARACTERISTICS

Adhesive wear	▲▲▲△△
Abrasive wear	▲▲△△△
Impact	▲▲▲△△
Corrosion	▲▲△△△
Heat	▲▲▲△△

130ksi

DESCRIPTION

APPLICATION

This high-strength, low-alloyed chromium/molybdenum filler metal is employed in various applications, including the aeronautical sector and the construction of connecting rods for the automotive industry. It is also utilized in fixing parts, gears, bolts, axes, and similar components. Preheating is recommended in accordance with the base material and its thickness. Materials likely to be welded using these higher-strength consumables typically require a minimum preheat of 100°C. For some high-strength, low-alloy (HSLA) steels, caution should be exercised, as interpass temperatures exceeding 200°C may lead to a reduction in strength and toughness. Post-weld heat treatment (PWHT) requirements generally depend on the specific base material and application, warranting consideration on a case-by-case basis.

ALLOY TYPE

Mn-Cr-Mo low alloy consumables for welding high strength steels with ultimate tensile strength up to 900 MPa (130 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 welding high strength steels such as 4130.
ASTM: 4130, 8630, 4140.