DAIKOWM Al 99.8

GMAW

ALUMINIUM ALLOYS
Al

DESCRIPTION

Solid wire for welding pure and mostly pure aluminum

Aluminum solid wire for welding of very pure aluminum materials generally used in the food industry, in electrical engineering, in the chemical sector and in metallization. It's characterized by good fluidity and enhanced corrosion resistance. Suitable for pure aluminum and mostly pure aluminum (max. 0.5% of alloying elements). Consumables suitable for welding aluminum and pure aluminum alloys.

SPECIFICATIONS

ISO 18273	S Al 1080 A	**AWS A5.10**	ER1080
Certifications	-	**Shielding**	I1
Positions	PA, PB, PC, PD, PE, PF, PG	**Current**	DC+
Packaging Type			Drums, B300, D200 and D100 spools.

ASME QUALIFICATIONS

F-No (QW432)	21
A-No (QW442)	-

FERRITE

-

PREN

-

HARDNESS

18HB - 35HB

CHEM. COMP. %

	DEFAULT
Mn	0.02
Si	0.15
Cu	0.03
Fe	0.2
Ti	0.15
Zn	0.06
Mg	0.02

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R_m MPa	-	85
Yield strength $R_{p0.2}$ MPa	0	35
Elongation A (L_0=5d_0) %	0	30
Impact Charpy ISO-V	-	-
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

	1.2 mm	1.6 mm
Ampere	110A - 130A	200A - 300A
Voltage	19V - 23V	22V - 26V
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.

Al

DESCRIPTION

APPLICATION

Aluminum consumables for welding of alloys with mostly pure aluminum basis (maximum 0,5% of alloyed elements). Titanium acts as grain refiner offering the material special characteristics as, for example, a higher corrosion resistance. Applications in the chemistry, construction and food industry as well as in electrical engineering, in the chemical sector and in metallization. This alloy is also used for flame and arc spray metallizing.

ALLOY TYPE

Consumables suitable for welding aluminum and pure aluminum alloys.

MICROSTRUCTURE

Pure aluminum (i.e. with a minimum aluminum content of 99.50%) presents a face-centered cubic (fcc) microstructure.

MATERIALS

EN W.Nr.: EN AW-Al 99,0 (1200), EN AW-Al 99,7 (1070A), EN AW-Al 99,5 (1050A), EN AW-Al 99,5 (1350), EN AW-Al 99,8 (1080A)

WELDING & PWHT

Weld surfaces often exhibit oxides and weld dirt, appearing in shades of gray to black, predominantly composed of aluminum oxide and magnesium oxide. To prevent lack of fusion defects, it is advisable to eliminate smut and oxides before applying another weld pass. The most straightforward method for this is to use a wire brush, whether manually or power-driven. Ensure the wire brush is clean and exclusively used on aluminum. It's crucial to understand and control the high melting and solidification rate associated with the gas metal arc welding process to avoid entrapped hydrogen gas in the welds and achieve optimal results. For thicker plate materials, preheating to 150°C is necessary for effective welding.