DAIKOWT AlMg5

GTAW

ALUMINIUM ALLOYS
AlMg

DESCRIPTION

Solid rod for welding various Al-Mg alloys

This alloy has high shear strength and provides an excellent corrosion resistance to seawater and sea atmosphere but not suitable for sustained elevated temperature service (>65°C). It shows very good colour match on anodized parts. Main application are automotive parts, shipbuilding, construction industry and tank construction.

SPECIFICATIONS

ISO 18273	S Al 5356	**AWS A5.10**	ER5356
Werkstoff Number	3.3556	**Certifications**	CE
Shielding	I1	**Positions**	PA, PB, PC, PD, PE, PF
Current	AC	**Packaging Type**	5kg carton tube

ASME QUALIFICATIONS

F-No (QW432)	22
A-No (QW442)	-

FERRITE

-

PREN

-

HARDNESS

-

CHEM. COMP. %

	DEFAULT
Mn	0.16
Cr	0.12
Si	0.05
Cu	0.01
Fe	0.11
Ti	0.065
Zn	0.01
Mg	5.1

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R_m MPa	-	250
Yield strength $R_{p0.2}$ MPa	0	115
Elongation A (L_0=5d_0) %	0	17
Impact Charpy ISO-V	-	-
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

	1.6 mm	2.4 mm
Ampere	60A - 90A	125A - 160A
Voltage	-	-
Packaging	Ø 1,2÷4,0 mm	Ø 1,2÷4,0 mm
Packaging Type	5kg carton tube	5kg carton tube

V 01/2024

DAIKO

AlMg

DESCRIPTION

APPLICATION

Consumables suitable for welding aluminum and magnesium alloys with high mechanical properties. It has good corrosion-resistance (very good in marine atmosphere) and excellent color match after anodizing. Aluminum 5356 has excellent corrosion resistance properties, making it ideal for applications that require exposure to the elements, such as marine environments and chemical processing. The alloy's corrosion resistance also makes it suitable for food processing and medical equipment use. Aluminum 5356 can withstand temperatures up to 500°F (260°C) without significant degradation or loss of strength. This makes it an excellent choice for applications that require exposure to high temperatures, such as aerospace components or automotive parts. Also Aluminum 5754 has excellent corrosion resistance especially to seawater and industrially polluted atmospheres. with higher strength than 5251. This high strength makes 5754 highly suited to flooring applications. Typically used for treadplate, shipbuilding, vehicle bodies, rivets, fishing industry equipment, food processing, welded chemical and nuclear structures.

ALLOY TYPE

Magnesium alloyed aluminum for welding of alloys with a maximum of 5,0% Mg.

MICROSTRUCTURE

Face-centered cubic lattice.

MATERIALS

EN W.Nr.:

DAIKOW AlMg 3:: AlMgMn, EN AW-Al Mg1 (5005A), EN AW-Al Mg2 (5051A), EN AW-Al Mg2,5 (5052), EN AW-Al Mg3, EN AW-Al Mg2Mn0,3 (5251), EN AW-Al Mg3,5 (5154A), EN AW-Al MgSi (6101), EN AW-Al Mg1Si0,8 (6003), G-AlMg3Si, G-AlMg3,

DAIKOW AlMg 5:: EN AW-Al Mg3Mn (5454), EN AW-Al Mg3 (5754), EN AW-Al Mg5 (5019), EN AW-Al Mg4 (5086), EN AW-Al Mg1SiCu (6061), EN AW-Al SiMg(A) (6005A), EN AW-Al Zn4,5Mg1 (7020), EN AW-Al MgSi (6060), EN AW-Al MgSi0,7 (6005), EN AW-Al Si1MgMn (6082), G-AlMg10, G-AlMg5, G-AlMg3Si, G-AlMg5Si

WELDING & PWHT

The weld surface commonly exhibits oxide residues and weld dirt, appearing gray to black, primarily composed of aluminum oxide and magnesium oxide. To prevent lack of fusion defects, it is advisable to eliminate these oxides before depositing another weld pass. A wire brush, whether manual or power-driven, proves to be the most effective tool for smut and oxide removal. It's crucial that the wire brush is clean and exclusively used for aluminum to avoid contamination. The gas metal arc welding process, characterized by a high melting and solidification rate of the weld metal, can lead to the entrapment of hydrogen gas in the welds. Understanding and controlling this aspect is vital for achieving satisfactory results. In the case of thicker plate materials, preheating to 150°C is necessary to manage the welding process effectively.