



DAIKOWM AlMg3



ALUMINIUM ALLOYS
AlMg

DESCRIPTION

Solid wire for welding AlMg based alloys

Consumables suitable for welding aluminum and magnesium alloys with high mechanical properties and corrosion resistance. Used for shipbuilding, construction industry, automotive industry, tank construction and outdoor furniture. It provides excellent corrosion resistance and very good colour match on anodized parts.

SPECIFICATIONS

ISO 18273	S Al 5754	AWS A5.10	ER5754
DIN	-	Werkstoff Number	3.3536
Certifications	-	Shielding	II
Positions	PA, PB, PC, PD, PE, PF, PG	Current	DC+

ASME QUALIFICATIONS

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

FERRITE

-

PREN

-

HARDNESS

50HB - 85HB

CHEM. COMP. %

DEFAULT

MECHANICAL PROPERTIES

MIN

VARIANT

Mn	0.5	Tensile strength R _m MPa	-	190
Cr	0.3	Yield strength R _{p0.2} MPa	0	80
Si	0.4	Elongation A (L ₀ =5d ₀) %	0	20
Cu	0.05	Impact Charpy ISO-V	-	-
Fe	0.4	Impact Charpy ISO-V	-	-
Ti	0.1			
Zn	0.2			
Mg	2.9			

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.

V 01/2024



The information in this datasheet is the result of detailed research and is considered accurate as of the publication date. However, we cannot guarantee its complete accuracy, and it is subject to change without notice. Actual results may vary due to many factors like welding procedures, material composition, temperature conditions, bevel configuration, and specific manufacturing techniques. We accept no liability for any errors or omissions in this datasheet. For the most current information, please visit www.daikowelding.com.





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 AIMg 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-AIMg3Si, G-AIMg3,

DAIKOW AIMg 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-AIMg10, G-AIMg5, G-AIMg3Si, G-AIMg5Si.

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.

