

Solid wire for the GMAW of Al-Mg alloys containing up to 5% Mg. It is the most widely used welding alloy and can be classified as a general-purpose type filler alloy. High corrosion resistance, even in seawater. Applications in shipbuilding, storage tanks, railways and in the automotive industry. To be used with Ar, He, pure and mixed shielding gases.

Standards: **EN ISO 18273:04** **AWS A5.10:12**  
Classification: **S Al 5356 (AlMg5Cr(A))** **ER 5356**

#### CHEMICAL COMPOSITION OF THE WIRE (wt.-%)

| elements    |  Aluminium |        | EN ISO |        | AWS  |        |
|-------------|---------------------------------------------------------------------------------------------|--------|--------|--------|------|--------|
|             | min.                                                                                        | max.   | min.   | max.   | min. | max.   |
| Si          | -                                                                                           | 0,25   | -      | 0,25   | -    | 0,25   |
| Fe          | -                                                                                           | 0,40   | -      | 0,40   | -    | 0,40   |
| Cu          | -                                                                                           | 0,10   | -      | 0,10   | -    | 0,10   |
| Mn          | 0,05                                                                                        | 0,20   | 0,05   | 0,20   | 0,05 | 0,20   |
| Mg          | 4,50                                                                                        | 5,50   | 4,50   | 5,50   | 4,50 | 5,50   |
| Cr          | 0,05                                                                                        | 0,20   | 0,05   | 0,20   | 0,05 | 0,20   |
| Zn          | -                                                                                           | 0,10   | -      | 0,10   | -    | 0,10   |
| Ti          | 0,06                                                                                        | 0,20   | 0,06   | 0,20   | 0,06 | 0,20   |
| Be          | -                                                                                           | 0,0003 | -      | 0,0003 | -    | 0,0003 |
| other each  | -                                                                                           | 0,05   | -      | 0,05   | -    | 0,05   |
| other total | -                                                                                           | 0,15   | -      | 0,15   | -    | 0,15   |
| Al          | rem.                                                                                        |        | rem.   |        | rem. |        |

#### MECHANICAL PROPERTIES OF ALL-WELD METAL

|                        | <br>typical values (*) | EN ISO                                                                     | AWS                                                                        |
|------------------------|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------|
|                        |                                                                                                         | minimum values                                                             | minimum values                                                             |
| Tensile strength (Rm)  | 270 [MPa]                                                                                               | mechanical properties of the weld metal are not part of the classification | mechanical properties of the weld metal are not part of the classification |
| Yield strength (Rp0,2) | 120 [MPa]                                                                                               |                                                                            |                                                                            |
| Elongation (A%)        | 25 (L <sub>0</sub> =5d <sub>0</sub> )                                                                   |                                                                            |                                                                            |

(\*) Typical values are referred to EN ISO 14175 I1 (100% Ar), in the as-welded condition. Text results should not be assumed to be assumed to be expected results in a particular application or weldment.

#### PHYSICAL PROPERTIES

|               |  typical values |
|---------------|----------------------------------------------------------------------------------------------------|
| Melting range | 575 - 633 [°C]                                                                                     |
| Density       | 2.640 [kg/m <sup>3</sup> ]                                                                         |

#### PRODUCT APPROVALS

|                                 |                                                             |
|---------------------------------|-------------------------------------------------------------|
|                                 | <b>CE</b>                                                   |
| SHIELDING GASES (EN ISO 14175): | (according to EN 13479:04 and Regulation (UE) No. 305/2011) |
| GRADING:                        |                                                             |

#### OPERATING DATA

welding positions (\*):  PA, PB, PC, PD, PE, PF type of current and polarity:  D.C. +

(\*) according to EN ISO 6947:11

Thicker plate materials require preheating to 150°C. Thorough cleaning of the workpiece bevels is necessary

#### BASE MATERIALS

The alloy is suitable for sustained elevated temperature service (> 65 °C). The alloy is designed for welding heat-treatable base alloys.

EN 573-3:13: AlSi5A (4043A); AlMg1SiCu (6061); AlSiMg(A) (6005A); AlZn4,5Mg1 (7020); AlMgSi (6060); AlMgSi0,5; AlMgSi0,7; AlMgSi0,8; AlSi1MgMn (6082).

#### TECHNICAL DELIVERY CONDITIONS

The technical delivery conditions (type of product, dimensions, tolerance and marking) are in accordance with EN ISO 544:11 and EN ISO 14344:10.

#### PACKAGING AND AVAILABLE SIZES

| mm.  | D-100<br>plastic (0,5 kg.) | D-200<br>plastic (2,0 kg.) | D-300<br>plastic (7,0 kg.) | KS-300<br>wire basket (7,0 kg.) | MIDIPAC 150<br>(50 kg.) | MIDIPAC 300<br>(100 kg.) | SUPERPAC 550<br>(180 kg.) | MASTERPAC 1200<br>(400 kg.) |
|------|----------------------------|----------------------------|----------------------------|---------------------------------|-------------------------|--------------------------|---------------------------|-----------------------------|
| 0,80 | X                          | X                          | X (5,0 kg.)                | X (5,0 kg.)                     | X                       | X                        | X                         | X                           |
| 1,00 | X                          | X                          | X                          | X                               | X                       | X                        | X                         | X                           |
| 1,20 | X                          | X                          | X                          | X                               | X                       | X                        | X                         | X                           |
| 1,60 |                            |                            | X                          | X                               |                         |                          | X                         | X                           |