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上海格群信息科技有限公司
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aluminium - copper welding alloys wires & rods

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aluminium - copper
welding alloys
wires & rods

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General View of the Factory

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The company SAFRA spa, was established in 1972 and has a specialization in the production of aluminium and copper wires for both MIG and TIG welding. Thanks to the high specialization of our technicians and workers we can say that Safra's peculiar characteristic is given by quality. Safra's products are appreciated in more than fifty countries in the world.

Wire surface control

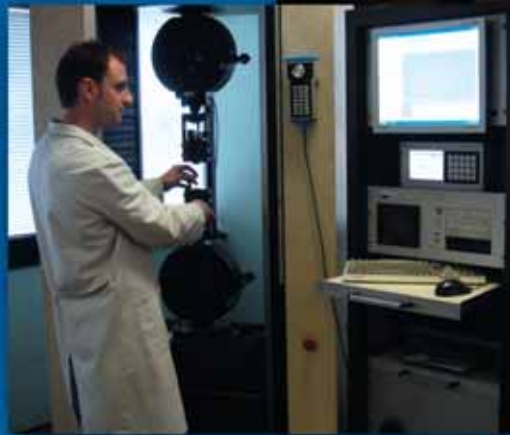


Chemistry laboratory



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Checking the mechanical characteristics

ALUMINIUM ALLOYS

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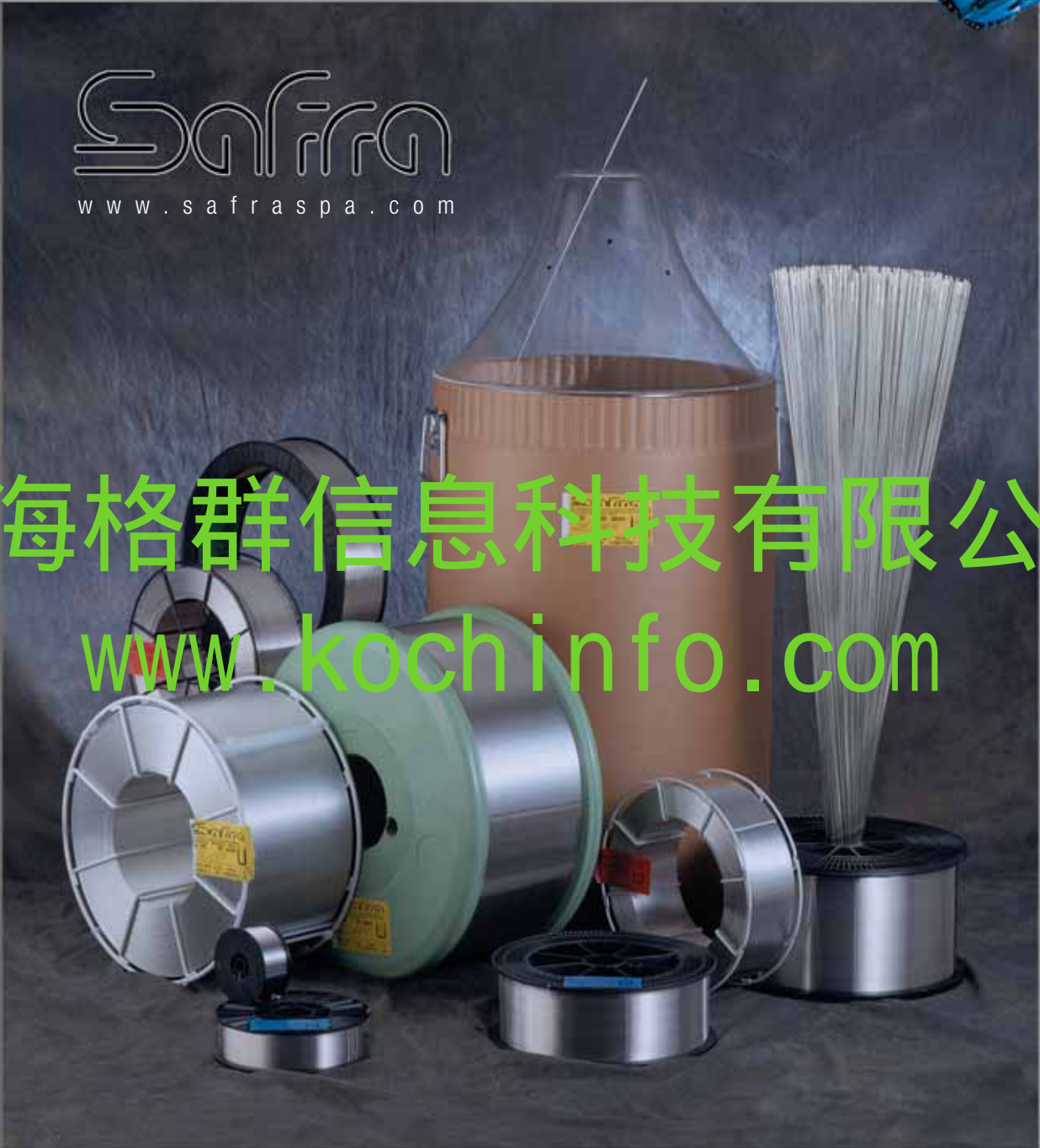


Safron

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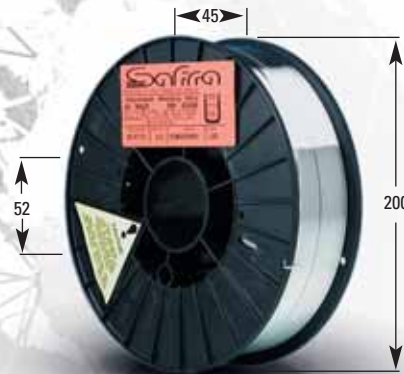
Formats available and packing

1 _SPOOL D100
EN ISO 544:S100



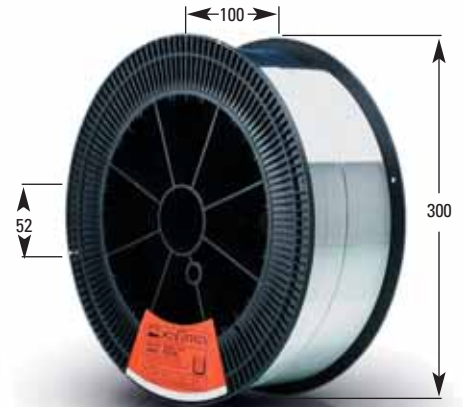
ø wire 0,8-1,0-1,2-1,6 mm
0,453 Kg (1 Lb)

2 _SPOOL D200
EN ISO 544:S200



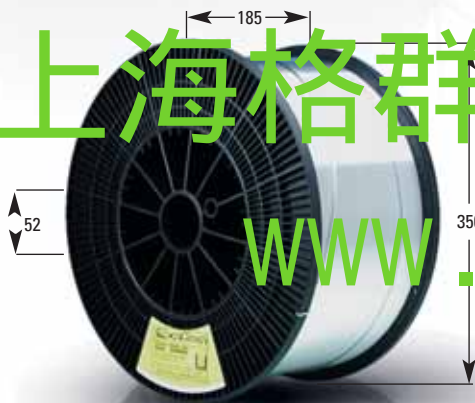
ø wire 0,8-1,0-1,2-1,6 mm
2 Kg (4,4 Lbs)

3 _SPOOL D300
EN ISO 544:S300



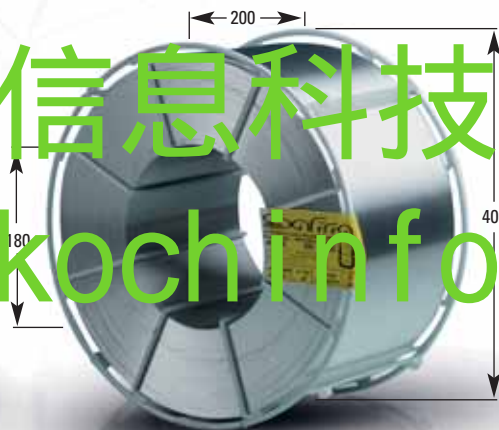
D300 5 Kg (11,03 Lbs): ø wire 0,8 mm
D300 6/7 Kg (13/15,4 Lbs) :
ø wire 1,0-1,2-1,6-2,4 mm

4 _SPOOL D350



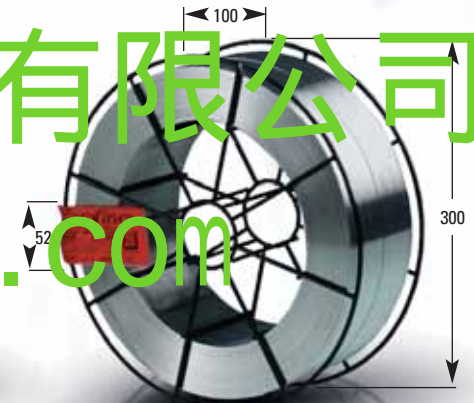
ø wire 1,2-1,6-2,4 mm
20 Kg (44 Lbs)

5 _SPOOL K400



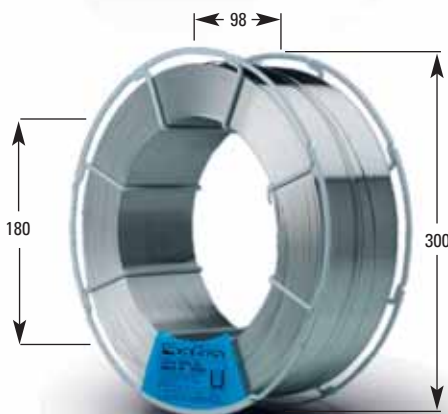
ø wire 1,2-1,6-2,4 mm
40 Kg (88 Lbs)

6 _SPOOL KS300
EN ISO 544:BS300



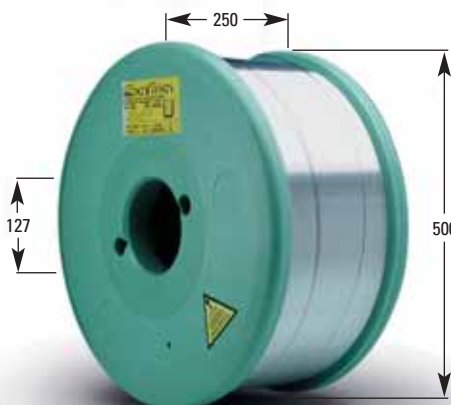
ø wire 0,8-1,0-1,2-1,6-2,4 mm
7 Kg (15,4 Lbs)

7 _BASKET K300
EN ISO 544:B300



K300 5 Kg (11,03 Lbs): ø wire 0,8 mm
K300 6/7 Kg (13/15,4 Lbs) :
ø wire 1,0-1,2-1,6-2,4 mm

8 _SPOOL D500



ø wire 1,2-1,6 mm
40 Kg (88,8 Lbs)

9 _RING K370



ø wire 1,6-2,4-3,17 mm
7 Kg (15,4 Lbs)

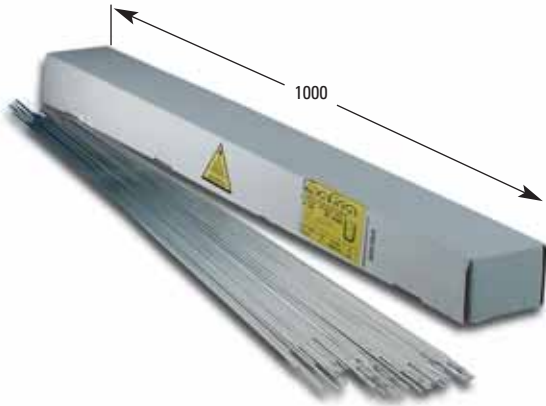
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Safra Spa reserves the right to make changes without prior notice

10/11 _RODS

ø wire 1,6-2,0-2,4-3,2-4,0-5,0 mm
10 Kg - (22 Lbs)



12 _WIRE FEEDER FOR COILS
K400/40KG



13 _OCTAGONAL
ECOLOGICAL DRUMS

14 _SQUARED
ECOLOGICAL DRUMS

15 _ROUND ECOLOGICAL
DRUMS

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ø wire 1,2-1,6 mm
80 Kg - (176,5 Lbs)



ø wire 1,2-1,6 mm
140 Kg - (309 Lbs)



ø wire 1,2-1,6 mm
80 Kg - (176,5 Lbs)

Accessories for the drums upon request



SAFRA Al.99,7/1070

A.W.S. /ASTM A5.10:
Nearest equivalent
material ER 1100

DIN EN ISO 18273:
S Al 1070 / Al99,7

DESCRIPTION

Aluminium wires and rods for welding alloys with mostly pure aluminium basis (maximum 0,5% of alloyed elements). Applications in chemistry, electronics, construction and food industries.

CHEMICAL COMPOSITION

Al ≥99,7

Si <0,20

Fe <0,25

Cu <0,04

Mn <0,03

Mg <0,03

Zn <0,04

Ti <0,03

Be <0,0003

V <0,05

OTHERS EACH <0,03

OTHERS TOTAL <0,03

MATERIALS TO BE WELDED

Al.99,0	Al.99,5	Al.99,7	E-Al.
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SHIELDING GASES FOR GMAW/GTAW

Ar 99,99% min.

MINIMAL VALUES OF THE MECHANICAL PROPERTIES (WELDED METAL)

Tensile strenght Rm:	65 N/mm ²
Yeld strenght Rp 0,2:	20 N/mm ²
Elongation L=5d:	35%

AVAILABLE SIZES

MIG: 6-7 Kg D300 or K300/KS300 Spools

TIG carton box of 10 kg
(x 1000 mm length)

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm - 1,6 mm - 2,0 mm - 2,4 mm

DIAMETER OF THE RODS

1,6 mm-2,0 mm-2,4 mm-3,2 mm-4,0 mm-5,0 mm

MINI-MIG 0,5 Kg D100 Spools

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm

MORE DIAMETERS AND PACKAGING UPON REQUEST

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SAFRA Al.99,5 Ti./1450

A.W.S./ASTM A5.10:
No equivalent material

DIN EN ISO 18273:
S Al 1450 / Al 99,5Ti

DESCRIPTION

Aluminium wires and rods for welding of alloys with mostly pure aluminium 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.

CHEMICAL COMPOSITION

Al	≥99,5
Si	<0,25
Fe	<0,40
Cu	<0,05
Mn	<0,05
Mg	<0,05
Zn	<0,07
Ti	0,10 - 0,20
Be	<0,0003

MATERIALS TO BE WELDED

Al.99,0	Al.99,5	Al.99,7	E-Al.
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SHIELDING GASES FOR GMAW/GTAW

Ar 99,99% min.

MINIMAL VALUES OF THE MECHANICAL PROPERTIES (WELDED METAL)

Tensile strenght Rm:	65 N/mm ²
Yeld strenght Rp 0,2:	20 N/mm ²
Elongation L=5d:	35%

AVAILABLE SIZES

MIG: 6-7 kg D300 or K300/KS300 Spools

TIG carton box of 10 kg
(x 1000 mm length)

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm - 1,6 mm - 2,0 mm - 2,4 mm

DIAMETER OF THE RODS

1,6 mm-2,0 mm-2,4 mm-3,2 mm-4,0 mm-5,0 mm

MINI-MIG 0,5 Kg D100 Spools

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm

MORE DIAMETERS AND PACKAGING UPON REQUEST

OTHERS EACH <0,03

OTHERS TOTAL <0,03

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SAFRA Al.Mg.2,7Mn./ER 5554

A.W.S./ASTM A5.10:
ER 5554

DIN EN ISO 18273:
S Al 5554-AlMg2,7 Mn

DESCRIPTION

The alloy AlMg_{2,7}Mn has been developed for high temperature applications without becoming sensitive to stress corrosion. The alloy SAFRA Al.Mg.2,7Mn/ER5554 is also suitable for welding the basis metal 5454 with the 6000 series. This alloy is recommended for a wide range of applications in the industry in general and in the structural industry, in particular, when over-heat temperature processing is needed.

CHEMICAL COMPOSITION

Al	remainder
Si	<0,25
Fe	<0,40
Cu	<0,10
Mn	0,50 - 1,0
Mg	2,40 - 3,0
Cr	0,05 - 0,20
Zn	<0,25
Ti	0,05 - 0,20
Be	<0,0003

MATERIALS TO BE WELDED

Al Mg Mn	Al Mg	Al Mg ₂	Al Mg _{2,7} Mn	Al Mg	Al Mg Si 0,5	Al Mg Si 0,8
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SHIELDING GASES FOR GMAW/GTAW

- Ar 99,99% min.
- Ar 75% + He 25%
- Ar 50% + He 50%

MINIMAL VALUES OF THE MECHANICAL PROPERTIES (WELDED METAL)

Tensile strenght Rm:	215 N/mm ²
Yeld strenght Rp 0,2:	100 N/mm ²
Elongation L=5d:	17%

AVAILABLE SIZES

MIG: 6-7 Kg D300 or K300/KS300 Spools

TIG carton box of 10 kg
(x 1000 mm length)

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm - 1,6 mm - 2,0 mm - 2,4 mm

DIAMETER OF THE RODS

1,6 mm-2,0 mm-2,4 mm-3,2 mm-4,0 mm-5,0 mm

MORE DIAMETERS AND PACKAGING UPON REQUEST

OTHERS EACH <0,05

OTHERS TOTAL <0,15

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SAFRA Al.Mg.3/5754

A.W.S./ASTM A5.10:
Nearest equivalent
material ER 5654

DIN EN ISO 18273:
S Al 5754-AlMg3

DESCRIPTION

Wires and rods for welding aluminium basis alloys with maximum 3% Mg.
These alloys are suitable for a big range of applications in the construction sector, in general, and in the structural industry. They are corrosion-resistance and show an excellent colour-uniformity after anodizing.

CHEMICAL COMPOSITION

Al	remainder
Si	<0,40
Fe	<0,40
Cu	<0,10
Mn	<0,50
Mg	2,6 - 3,6
Cr	<0,30
Zn	<0,20
Ti	<0,15
Be	<0,0003

MATERIALS TO BE WELDED

Al Mg Mn	Al Mg	Al Mg2	Al Mg 2,7 Mn	Al Mg	Al Mg 3,5	Al Mg 11 0,5
Al Mg Si 0,8	G-Al Mg3 Si.					

SHIELDING GASES FOR GMAW/GTAW

- Ar 99,99% min.
- Ar 75% +He 25%
- Ar 50%+ He 50%

MINIMAL VALUES OF THE MECHANICAL PROPERTIES (WELDED METAL)

Tensile strenght Rm:	190 N/mm ²
Yeld strenght Rp 0,2:	80 N/mm ²
Elongation L=5d:	20%

AVAILABLE SIZES

MIG: 6-7 Kg D300 or K300/KS300 Spools

TIG carton box of 10 kg
(x 1000 mm length)

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm - 1,6 mm - 2,0 mm - 2,4 mm

DIAMETER OF THE RODS

1,6 mm-2,0 mm-2,4 mm-3,2 mm-4,0 mm-5,0 mm

MINI-MIG 0,5 Kg D100 Spools

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm

MORE DIAMETERS AND PACKAGING UPON REQUEST

OTHERS EACH <0,05

OTHERS TOTAL <0,15

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SAFRA Al.Si.5/ER 4043

A.W.S./ASTM A5.10:
ER 4043

DIN EN ISO 18273:
S Al 4043A-AISI5A

DESCRIPTION

Aluminium wires and rods for welding alloys with maximum 2% alloying elements and for aluminium alloys containing up to 7% of Si.

Excellent flowability and penetration characteristics. Applications in the construction sector and in the automotive industry.

CHEMICAL COMPOSITION

Al	remainder
Si	4,5 - 6,0
Fe	<0,50
Cu	<0,30
Mn	<0,15
Mg	<0,20
Zn	<0,10
Ti	<0,15
Be	<0,0003

MATERIALS TO BE WELDED

Al Si 5 | Al Mn Si 0,8 | Al Mg Si 0,8 | Al Mg Si 1 | Al In Mg | Al C Mg

(after anodizing welding will be of a dark grey colour)

SHIELDING GASES FOR GMAW/GTAW

Ar 99,99% min.

MINIMAL VALUES OF THE MECHANICAL PROPERTIES (WELDED METAL)

Tensile strenght Rm:	120 N/mm ²
Yeld strenght Rp 0,2:	40 N/mm ²
Elongation L=5d:	8%

AVAILABLE SIZES

MIG: 6-7 Kg D300 or K300/KS300 Spools

TIG carton box of 10 kg
(x 1000 mm length)

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm - 1,6 mm - 2,0 mm - 2,4 mm

DIAMETER OF THE RODS

1,6 mm-2,0 mm-2,4 mm-3,2 mm-4,0 mm-5,0 mm

MINI-MIG 0,5 Kg D100 Spools

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm

MORE DIAMETERS AND PACKAGING UPON REQUEST

OTHERS EACH <0,05

OTHERS TOTAL <0,15

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SAFRA Al.Si.12/ER 4047

A.W.S./ASTM A5.10:
ER 4047

DIN EN ISO 18273:
S Al 4047 A - Al Si 12 A

DESCRIPTION

Aluminium wires and rods for welding and brazing.

Good mechanical characteristics: its excellent corrosion resistance and low melting point ensure a very low number of deformations in the parent metal. This material is generally used for brazing aluminium sheets, for extrusions and castings.

(After annealing the welding will be of a different colour)

CHEMICAL COMPOSITION

Al	remainder
Si	11,0 - 13,0
Fe	<0,50
Cu	<0,30
Mn	<0,15
Mg	<0,10
Zn	<0,20
Ti	<0,15
Be	<0,0003

MATERIALS TO BE WELDED

G-Al Si 10 Mg | G-Al Si 11 | G-Al Si 12 (Cu) | G-Al Si 17 Mg | G-Al Si 6 Cu 4 | A-Mg Si 03 | Al Mg Si 1

(use flux when brazing oxyacetylene).

SHIELDING GASES FOR GMAW/GTAW

Ar 99,99% min.

MINIMAL VALUES OF THE MECHANICAL PROPERTIES (WELDED METAL)

Tensile strenght Rm:	130 N/mm ²
Yeld strenght Rp 0,2:	60 N/mm ²
Elongation L=5d:	5%
Melting range:	573-585°C

AVAILABLE SIZES

MIG: 6-7 Kg D300 or K300/KS300 Spools

TIG carton box of 10 kg
(x 1000 mm length)

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm - 1,6 mm - 2,0 mm - 2,4 mm

DIAMETER OF THE RODS

1,6 mm-2,0 mm-2,4 mm-3,2 mm-4,0 mm-5,0 mm

OTHERS EACH <0,05

OTHERS TOTAL <0,15

MORE DIAMETERS AND PACKAGING UPON REQUEST

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SAFRA Al.Mg.5/ER 5356

A.W.S./ASTM A5.10:
ER 5356

DIN EN ISO 18273:
S Al 5356-AIMg5Cr A

DESCRIPTION

Aluminium wires and rods for welding alloys with aluminium and magnesium basis, with maximum 5% Magnesium. High corrosion resistance.

Applications in the construction of ships, storage tanks, railways and in the automotive industry.

CHEMICAL COMPOSITION

Al	remainder
Si	<0,25
Fe	<0,40
Cu	<0,10
Mn	0,05 - 0,20
Mg	4,5 - 5,5
Cr	0,05 - 0,20
Zn	<0,10
Ti	0,06 - 0,20
Be	<0,0003

MATERIALS TO BE WELDED

Al Mg 3	Al Mg 5	Al Mg Mn	Al Zn Mg 1	G-Al Mg Si	G-Al Mg 5 Si	G-Al Mg 10
Al Mg 1 Si Cu	Al Mg Si 0,7					

SHIELDING GASES FOR GMAW/GTAW

- Ar 99,99% min.
- Ar 75% + He 25%
- Ar 50% + He 50%

MINIMAL VALUES OF THE MECHANICAL PROPERTIES (WELDED METAL)

Tensile strenght Rm:	240 N/mm ²
Yeld strenght Rp 0,2:	110 N/mm ²
Elongation L=5d:	17%

AVAILABLE SIZES

MIG: 6-7 Kg D300 or K300/KS300 Spools

TIG carton box of 10 kg
(x 1000 mm length)

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm - 1,6 mm - 2,0 mm - 2,4 mm

DIAMETER OF THE RODS

1,6 mm-2,0 mm-2,4 mm-3,2 mm-4,0 mm-5,0 mm

MINI-MIG 0,5 Kg D100 Spools

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm

MORE DIAMETERS AND PACKAGING UPON REQUEST

OTHERS EACH <0,05

OTHERS TOTAL <0,15

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SAFRA Al.Mg.4,5Mn/ER 5183

A.W.S./ASTM A5.10:
ER 5183

DIN EN ISO 18273:
S Al 5183-
Al Mg4,5 Mn0,7 A

DESCRIPTION

Welding wires and rods to be used when very high seawater corrosion resistance is needed. Applications in the construction of ships, offshore, cryogenic plants, railway and in the automotive industry.

CHEMICAL COMPOSITION

Al remainder

Si <0,40

Fe <0,40

Cu <0,10

Mn 0,50 - 1,0

Mg 4,3 - 5,2

Cr 0,05 - 0,25

Zn <0,25

Ti <0,15

Be <0,0003

OTHERS EACH <0,05

OTHERS TOTAL <0,15

MATERIALS TO BE WELDED

Al Mg 4,5 Mn	Al Mg 5	Al Mg 2 Mn 0,5	Al Zn 1 Mn 1	Al Zn Mg Cu 0,5	Al Mg Si 0,5	Al Mg Si 1
G-Al Mg 10	G-Al Mg 5	G-Al Mg 3 Si	G-Al Mg 5 Si			

SHIELDING GASES FOR GMAW/GTAW

- Ar 99,99% min.
- Ar 75% +He 25%
- Ar 50%+ He 50%

MINIMAL VALUES OF THE MECHANICAL PROPERTIES (WELDED METAL)

Tensile strenght Rm:	275 N/mm ²
Yeld strenght Rp 0,2:	125 N/mm ²
Elongation L=5d:	17%

AVAILABLE SIZES

MIG: 6-7 Kg D300 or K300/KS300 Spools

TIG carton box of 10 kg
(x 1000 mm length)

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm - 1,6 mm - 2,0 mm - 2,4 mm

DIAMETER OF THE RODS

1,6 mm-2,0 mm-2,4 mm-3,2 mm-4,0 mm-5,0 mm

MINI-MIG 0,5 Kg D100 Spools

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm

MORE DIAMETERS AND PACKAGING UPON REQUEST

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SAFRA Al.Mg.4,5 Mn.Zr./5087

A.W.S. /ASTM A5.10:
No equivalent material

DIN EN ISO 18273:
S Al 5087
Al Mg4,5 Mn Zr

DESCRIPTION

Aluminium wires and rods for welding aluminium-magnesium basis alloys with maximum 5% Mg. Zirconium acts as grain-refiner to improve both the bending and the corrosion resistance.

Applications in the construction of ships, off-shore, storage tanks, railways and automotive industry.

CHEMICAL COMPOSITION

Al remainder

Zr 0,10-0,20

Si <0,25

Fe <0,40

Cu <0,05

Mn 0,70 - 1,10

Mg 4,5 - 5,2

Cr 0,05 - 0,25

Zn <0,25

Ti <0,15

Be <0,0003

OTHERS EACH <0,05

OTHERS TOTAL <0,15

MATERIALS TO BE WELDED

Al Mg 4,5 Mn	Al Zn Mg Cu 1,5	Al Mg 5 Mn	Al Mg 1	Al Mg	Al Mg Mn	Al Zn Mg 1
G-Al Mg 3 Si	G-Al Mg 5 Si	G-Al Mg 10	Al Mg 1 Si Cu	Al Mg Si 0,7		

SHIELDING GASES FOR GMAW/GTAW

Ar 99,99% min.

Ar 75% + He 25%

Ar 50% + He 50%

MINIMAL VALUES OF THE MECHANICAL PROPERTIES (WELDED METAL)

Tensile strenght Rm: 275 N/mm²

Yeld strenght Rp 0,2: 125 N/mm²

Elongation L=5d: 17%

AVAILABLE SIZES

MIG: 6-7 Kg D300 or K300/KS300 Spools

TIG carton box of 10 kg
(x 1000 mm length)

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm - 1,6 mm - 2,0 mm - 2,4 mm

DIAMETER OF THE RODS

1,6 mm-2,0 mm-2,4 mm-3,2 mm-4,0 mm-5,0 mm

MINI-MIG 0,5 Kg D100 Spools

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm

MORE DIAMETERS AND PACKAGING UPON REQUEST

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SAFRA Al.Mg.5Mn./5556 A

A.W.S./ASTM A5.10:
Nearest equivalent
material ER 5556

DIN EN ISO 18273:
S Al 5556A
Al Mg 5Mn

DESCRIPTION

Aluminium wire and rods used to weld aluminium magnesium base metal alloys with a maximum of 5,3% Mg. All elements of this alloy are closely controlled for optimum weld strength. Applications in military industry, general constructions and structural industry.

CHEMICAL COMPOSITION

Al	remainder
Si	<0,25
Fe	<0,40
Cu	<0,10
Mn	0,60 - 1,0
Mg	5,0 - 5,5
Cr	0,05 - 0,20
Zn	<0,20
Ti	0,05 - 0,20
Be	<0,0003

MATERIALS TO BE WELDED

Al Mg 4,5 Mn | Al Mg 5 | Al Zn 4,5 Mg 1 | Al Mg 1 In | Al Mg 2,7 Mn | Al Mg Si

SHIELDING GASES FOR GMAW/GTAW

- Ar 99,99% min.
- Ar 75% +He 25%
- Ar 50%+ He 50%

MINIMAL VALUES OF THE MECHANICAL PROPERTIES (WELDED METAL)

Tensile strenght Rm:	275 N/mm ²
Yeld strenght Rp 0,2:	125 N/mm ²
Elongation L=5d:	17%

AVAILABLE SIZES

MIG: 6-7 Kg D300 or K300/KS300 Spools

TIG carton box of 10 kg
(x 1000 mm length)

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm - 1,6 mm - 2,0 mm - 2,4 mm

DIAMETER OF THE RODS

1,6 mm-2,0 mm-2,4 mm-3,2 mm-4,0 mm-5,0 mm

MORE DIAMETERS AND PACKAGING UPON REQUEST

OTHERS EACH <0,05

OTHERS TOTAL <0,15

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SAFRA Al.Cu.6Mn.Zr.Ti/ER 2319

A.W.S./ASTM A5.10:
ER 2319

DIN EN ISO 18273:
Al Cu 6Mn Zr Ti-
S Al 2319

DESCRIPTION

The alloy AlCu6MnZrTi/ER 2319 is heat treatable and produces higher strength and ductility than the 4xxx series filler alloys when welds in 2014, 2036, 2219 and Al-Cu casting alloys are post welds heat-treated.

CHEMICAL COMPOSITION

Al	remainder
Zr	0,10-0,25
Si	<0,20
Fe	<0,30
Cu	5,8 - 6,8
Mn	0,20 - 0,40
Mg	<0,02
Zn	<0,10
Ti	0,10 - 0,20
Be	<0,0003
V	0,05 - 0,15

TYPICAL AS-WELDED PROPERTIES OF MIG AND TIG WELD JOINTS

BASE METAL:	FILLER ALLOY:	TENSILE STRENGTH:
2219-T62	2319	248 N/mm ² (1) or 344 N/mm ² (2)
2219-T81	2319	262 N/mm ² (1)
2219-T81	2319	282 N/mm ² (1) or 296 N/mm ² (2)

NOTE: (1) as welded (2) Post weld heat treated and aged

SHIELDING GASES FOR GMAW/GTAW

Ar 99,99% min.

Ar 75% + He 25%

Ar 50% + He 50%

AVAILABLE SIZES

MIG: 6-7 Kg D300 or K300/KS300 Spools

TIG carton box of 10 kg
(x 1000 mm length)

DIAMETER OF THE WIRE

1,0 mm - 1,2 mm - 1,6 mm

DIAMETER OF THE RODS

1,6 mm-2,4 mm-3,2 mm-4,0 mm

MORE DIAMETERS AND PACKAGING UPON REQUEST

OTHERS EACH <0,05

OTHERS TOTAL <0,15

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COPPER ALLOYS

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Safran

www.safrspa.com

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Formats available and packing

1 _SPOOL D200
EN ISO 544:S200



Ø wire 0,8-1,0-1,2-1,6 mm
2 Kg (4,4 Lbs) - 5 Kg (11 Lbs)

2 _SPOOL D300
EN ISO 544:S300



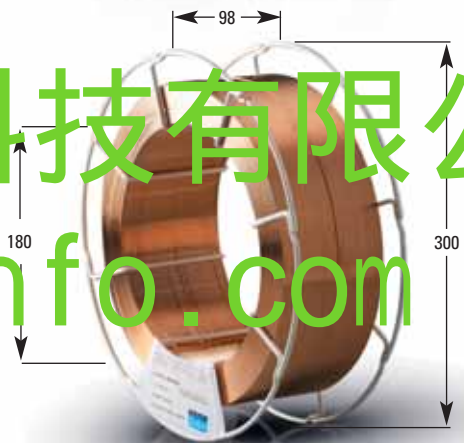
Ø wire 0,8-1,0-1,2-1,6-2,4 mm
12,5 Kg (27 Lbs) - 15 Kg (33 Lbs)

3 _SPOOL D350



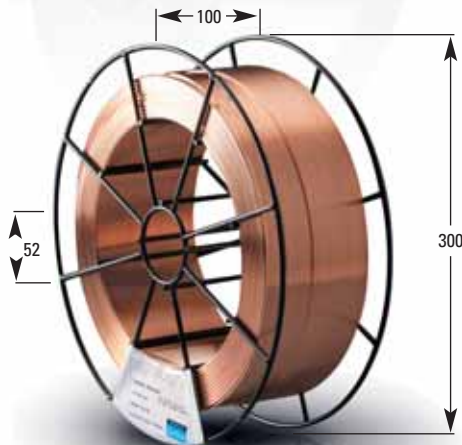
Ø wire 1,2-1,6-2,4 mm
40 Kg (88 Lbs)

4 _SPOOL K300
EN ISO 544:B300



Ø wire 0,8-1,0-1,2-1,6-2,4 mm
12,5 Kg (27 Lbs) - 15 Kg (33 Lbs)

5 _SPOOL KS300
EN ISO 544:BS300



Ø wire 0,8-1,0-1,2-1,6-2,4 mm
12,5 Kg (27 Lbs) - 15 Kg (33 Lbs)

6 _COILS



Ø wire 2,4-3,2 mm
20 Kg (44 Lbs)

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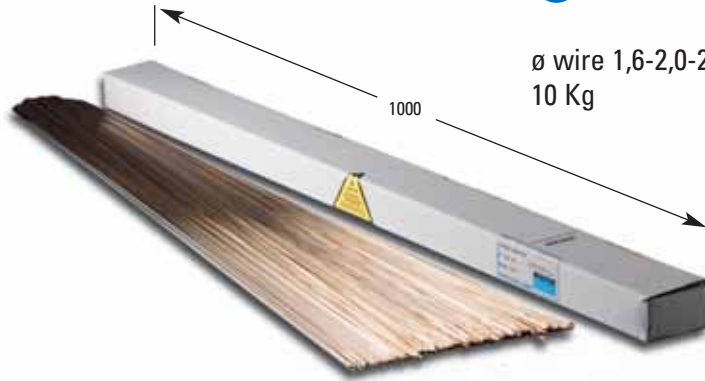


Safra

www.safraspa.com

Safra Spa reserves the right to make changes without prior notice

7/8 _RODS



ø wire 1,6-2,0-2,4-3,2-4,0 mm
10 Kg



9 SQUARED EKOLOGICAL DRUMS

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ø wire 1,0-1,2-1,6 mm
200 Kg (441 Lbs)



ø wire 1,0-1,2-1,6 mm
200 Kg (441 Lbs)

Accessories for the drums upon request



SAFRA SF-Cu.Al.8

A.W.S. A5.7:
ER Cu Al- A1

DIN 1733:
SG-Cu Al 8
WERKS.2.0921

BS 2901 Pt.3: C 28
EN 14640: S Cu Al 8
S Cu 6100

DESCRIPTION

The alloy SF-Cu.Al.8 has been developed for welding copper alloys and for coatings on steel, steel castings, nickel alloys and for fixing works in artistic foundries. Excellent for metal spraying. This material offers a very high resistance to seawater-corrosion and to the most commonly used acids in any concentration and at any temperature they may be needed. High erosion resistance. Often used for welding galvanised steel sheets.

APPLICATION FIELDS

Shipbuilding: propellers, pumps, shafts and valves, bearings, main shafts.
Chemical industry: gate valves, sleeves, pipes, heat exchangers, gear housings.
Automotive industry: maintenance of car-parts and tools, bearings in general and galvanised sheets.
Construction industry: welding and coating of aluminium-bronze with steel basis.
Recommended for coating wearing metal.

SHIELDING GASES FOR GMAW/GTAW

Argon: DIN 32526 I1
Gas flow rate: 14-18 L./min.

MECHANICAL CHARACTERISTICS:

Tensile strenght Rm:	390 - 450 N/mm2
Elongation L=5d:	45%<=
Hardness:	80 - 110 HB
Hardness after work hardening:	140 HB
Conductivity:	8 m/OHM mm2

Mechanical properties quoted above are approximate values, intended for guidance only.

AVAILABLE SIZES

MIG: 12,5 kg – 15 kg D300 or K300/KS300 Spools

TIG carton box of 10 kg o Kg. 25
(x 1000 mm length)

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm - 1,6 mm - 2,0 mm - 2,4 mm

DIAMETER OF THE RODS

1,6 mm-2,0 mm-2,4 mm-3,2 mm-4,0 mm

MORE DIAMETERS AND PACKAGING UPON REQUEST

CHEMICAL COMPOSITION

Al 7,5 - 9,5

Si <0,20

Mn <0,50

Ni <0,80

Zn <0,20

Pb <0,02

Fe <0,50

Cu remainder

OTHERS TOTAL <0,40

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SAFRA SF-Cu.Al. 9Fe

A.W.S. A5.7:
ER Cu Al- A2

DIN 1733:
SG-Cu Al 10 Fe
WERKS.2.0937

BS 2901 Pt.3: C 13
EN 14640: S Cu Al 10
S Cu 6180

DESCRIPTION

This weld metal is a bronze-aluminium one that is generally used for joining aluminium-bronze or similar compositions, for manganese, silicium, bronze and some copper-nickel alloys. The SAFRA alloy SF-Cu.Al.9Fe is suitable for welding parts which can under go seawater corrosion. It is also used for joining dissimilar alloys, as for example copper and steel, cast iron, bronze and for a wide range of coating applications. Excellent for metal spraying.

CHEMICAL COMPOSITION

Al 8,5 - 11,0

Si <0,10

Mn <1,0

Ni <1,0

Zn <0,02

Pb <0,02

Fe 0,75 - 1,5

Cu remainder

OTHERS TOTAL <0,40

SHIELDING GASES FOR GMAW/GTAW

Argon: DIN 32526 I1
Gas flow rate: 14-18 L./min.

MECHANICAL CHARACTERISTICS:

Tensile strenght Rm:	390 - 500 N/mm2
Elongation L=5d:	45%<=
Hardness:	90 - 120 HB
Hardness after work hardening:	140 - 160 HB

Mechanical properties quoted above are approximate values, intended for guidance only.

AVAILABLE SIZES

MIG: 12,5 kg – 15 kg D300 or K300/KS300 Spools

TIG carton box of 10 kg o Kg. 25
(x 1000 mm length)

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm - 1,6 mm - 2,0 mm - 2,4 mm

DIAMETER OF THE RODS

1,6 mm-2,0 mm-2,4 mm-3,2 mm-4,0 mm

MORE DIAMETERS AND PACKAGING UPON REQUEST

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SAFRA SF-Cu.Si.3

A.W.S. A5.7:
ER Cu Si-A

DIN 1733:
SG-Cu Si 3
WERKS.2.1461

BS 2901 Pt.3: C 9
EN 14640:S Cu SiMn1
S Cu6560

DESCRIPTION

This alloy is used for inert gas arc welding of metals with copper basis, as, for example, copper-silicium, copper-zinc and galvanized sheets, also connected to steel. This material is frequently used for fixing in artistic foundries, for welding galvanized sheets and even as coating of steel using the MIG and TIG methods. It is also suitable for surfaces subject to corrosion.

CHEMICAL COMPOSITION

Al	<0,01
Si	2,8 - 4,0
Mn	0,75 - 1,5
Sn	<0,20
Zn	<0,20
Pb	<0,02
Fe	<0,3
P	<0,02
Cu	remainder
OTHERS TOTAL <0,40	

SHIELDING GASES FOR GMAW/GTAW

Argon: DIN 32526 I1
Gas flow rate: 14-18 L./min.

MECHANICAL CHARACTERISTICS:

Tensile strenght Rm:	330 - 370 N/mm2
Elongation L=5d:	40%<=
Hardness:	80 - 90 HB

Mechanical properties quoted above are approximate values, intended for guidance only.

AVAILABLE SIZES

MIG: 12,5 kg – 15 kg D300 or K300/KS300 Spools

TIG carton box of 10 kg o Kg. 25
(x 1000 mm length)

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm - 1,6 mm - 2,0 mm - 2,4 mm

DIAMETER OF THE RODS

1,6 mm-2,0 mm-2,4 mm-3,2 mm-4,0 mm

MORE DIAMETERS AND PACKAGING UPON REQUEST

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SAFRA SF-Cu.Sn.

A.W.S. A5.7:
ER Cu

DIN 1733:
SG-Cu Sn
WERKS.2.1006

BS 2901 Pt.3: C7
EN 14640: S CuSn1
S Cu 1898

DESCRIPTION

Copper wire for high quality welding. It can be used with both TIG and MIG methods. Its excellent flowability makes it ideal for copper welding. Thanks to the deoxidizer in the weld material the welding is solid and porous-free.

CHEMICAL COMPOSITION

Al <0,01

Si 0,1 - 0,5

Mn 0,1 - 0,5

Ni <0,05

Sn 0,5 - 1,0

Pb <0,01

Fe <0,03

P <0,015

As <0,03

Cu ≥98,0

OTHERS TOTAL <0,10

SHIELDING GASES FOR GMAW/GTAW

Argon: DIN 32526 I1
Gas flow rate: 14-18 L./min.

MECHANICAL CHARACTERISTICS:

Tensile strenght Rm: 210 - 245 N/mm2
Hardness: 60 - 80 HB
Conductivity: 15-20m/OHMmm2

Mechanical properties quoted above are approximate values, intended for guidance only.

AVAILABLE SIZES

MIG: 12,5 kg – 15 kg D300 or K300/KS300 Spools

TIG carton box of 10 kg o Kg. 25
(x 1000 mm length)

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm - 1,6 mm - 2,0 mm - 2,4 mm

DIAMETER OF THE RODS

1,6 mm-2,0 mm-2,4 mm-3,2 mm-4,0 mm

MORE DIAMETERS AND PACKAGING UPON REQUEST

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SAFRA SF-Cu.Sn.6

A.W.S. A5.7:
ER Cu Sn-A

DIN 1733:
SG-Cu Sn6
WERKS.2.1022

BS 2901 Pt.3: C11
EN 14640: S Cu Sn 6P
S Cu 5180

DESCRIPTION

This bronze wire has a high percentage of tin. It is suitable for both TIG and MIG methods and it is excellent for fixing in artistic foundries. Ideal for surfaces, this material improves the hardness and can also be used for fixing worn surfaces with similar basis metals.

CHEMICAL COMPOSITION

Al	<0,01
Sn	4,0 - 6,0
Zn	<0,10
Pb	<0,02
Fe	<0,10
P	0,10 - 0,35
Cu	remainder
OTHERS TOTAL <0,40	

SHIELDING GASES FOR GMAW/GTAW

Argon: DIN 32526 I1
Gas flow rate: 14-18 L./min.

MECHANICAL CHARACTERISTICS:

Tensile strenght Rm:	320- 360 N/mm2
Elongation L=5d:	25%<=
Hardness:	80 - 90 HB
Hardness after work hardening:	130 HB
Conductivity:	9 m/OHM mm2

Mechanical properties quoted above are approximate values, intended for guidance only.

AVAILABLE SIZES

MIG: 12,5 kg – 15 kg D300 or K300/KS300 Spools

TIG carton box of 10 kg o Kg. 25
(x 1000 mm length)

DIAMETER OF THE WIRE

0,8 mm - 1,0 mm - 1,2 mm - 1,6 mm - 2,0 mm - 2,4 mm

DIAMETER OF THE RODS

1,6 mm-2,0 mm-2,4 mm-3,2 mm-4,0 mm

MORE DIAMETERS AND PACKAGING UPON REQUEST

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SAFRA SF-Cu.Mn.13Al.7

A.W.S. A5.7:
ER Cu MnNiAl

DIN 1733:
SG-Cu Mn 13 AL 7
WERKS.2.1367

BS 2901 Pt.3: C22
EN 14640: S CuMn13Al7
S Cu 6338

DESCRIPTION

The alloy SAFRA SF-Cu.Mn.13Al.7 is a welding wire containing manganese, nickel, aluminium and bronze. This is suitable for joining or fixing cast metals and for welding base metals with similar compositions. Other applications include the resistance to using bronze alloy surfaces and surface applications on CrNi steels and cast iron, which require bronze diffusion bonding. Combined with this alloy, there is very high corrosion, erosion and cavitation resistance. Excellent in marine, power and chemical plants for the production of propellers, pumps and seawater devices.

CHEMICAL COMPOSITION

Al	7,5 - 8,3
Si	<0,05
Mn	12,0 - 14,0
Ni	2,0 - 2,5
Sn	<0,05
Zn	<0,15
Fe	2,0 - 3,0
Pb	<0,02
Cu	remainder
OTHERS TOTAL <0,40	

SHIELDING GASES FOR GMAW/GTAW

Argon: DIN 32526 I1
Gas flow rate: 14-18 L./min.

MECHANICAL CHARACTERISTICS:

Tensile strength Rm:	800 - 900 N/mm ²
Elongation L=5d:	10% ≤
Hardness:	180 - 220 HB
Hardness after work hardening:	200 - 240 HB

Mechanical properties quoted above are approximate values, intended for guidance only.

AVAILABLE SIZES

MIG: 12,5 kg – 15 kg D300 or K300/KS300 Spools

D I A M E T E R O F T H E W I R E
1,2 mm - 1,6 mm

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SAFRA SF- Cu.Al.8Ni2

A.W.S. A5.7:
No equivalent

DIN 1733:
SG-CuAl8Ni2
WERKS. 2.0922

BS 2901 Pt.3: C29
EN 14640: S CuAl8Ni2
S Cu 6327

DESCRIPTION

An aluminium bronze alloy containing Nickel, Manganese and Iron. Applications include overlaying of steel. It has a good resistance to wear and good corrosion properties against sea-water and chlorides. The high mechanical strength makes it suitable for welding on Cast Iron. Pre-heating is recommended for large work pieces.

CHEMICAL COMPOSITION

Al	7,5 - 9,5
Si	<0,20
Mn	1,0 - 2,5
Ni	1,8 - 3,0
Zn	<0,20
Fe	1,5 - 2,5
Pb	<0,02
Cu	remainder

SHIELDING GASES FOR GMAW/GTAW

Argon: DIN 32526 I1
Gas flow rate: 14-18 L./min.

MECHANICAL CHARACTERISTICS:

Tensile strenght Rm:	430 - 540 N/mm2
Elongation L=5d:	30%
Hardness:	130 - 150 HB

Mechanical properties quoted above are approximate values, intended for guidance only.

OTHERS TOTAL <0,40

AVAILABLE SIZES

MIG: 15 kg K300/KS300 Spools

DIAMETER OF THE WIRE
1,0 mm - 1,2 mm - 1,6 mm

MORE DIAMETERS AND PACKAGING UPON REQUEST

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SAFRA SF- Cu.Al.8Ni6

A.W.S. A5.7:
ER CuNiAl

DIN 1733:
SG-CuAl8Ni6
WERKS. 2.0923

BS 2901 Pt.3: C26
EN 14640: S CuAl9Ni5
S Cu 6328

DESCRIPTION

A Nickel Aluminium Bronze wire for use in welding of Nickel aluminium bronze (Cu Ni Al) components and fittings of similar composition. This weld metal alloy has excellent corrosion and wear resistance characteristics, which promote applications in marine, power and chemical plant components e.g. ships propellers, pumps and sea-water fittings. Surfacing with this alloy on steel or bronze alloy allow a very high corrosion, erosion and cavitation resistance.

CHEMICAL COMPOSITION

Al	8,5 - 9,5
Si	<0,20
Mn	1,0 - 2,0
Ni	4,0 - 6,0
Zn	<0,20
Fe	3,0 - 4,0
Pb	<0,02
Cu	remainder

SHIELDING GASES FOR GMAW/GTAW

Argon: DIN 32526 I1
Gas flow rate: 14-18 L./min.

MECHANICAL CHARACTERISTICS:

Tensile strenght Rm:	450 - 560 N/mm ²
Elongation L=5d:	10%
Hardness:	150 - 170 HB

Mechanical properties quoted above are approximate values, intended for guidance only.

OTHERS TOTAL <0,40

AVAILABLE SIZES

MIG: 15 kg K300/KS300 Spools

D I A M E T E R O F T H E W I R E
1,0 mm - 1,2 mm - 1,6 mm

MORE DIAMETERS AND PACKAGING UPON REQUEST

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Approvals



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