



永康市惠达工贸有限公司

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永康市惠达工贸有限公司
Yongkang Huida Industry & Trading Co.,Ltd

奥森铝焊丝



COMPANY PROFILE 公司简介

永康市惠达工贸有限公司成立于2006年，目前拥有员工60人，是一家专业从事铝焊丝研发、生产和销售的企业；2019年公司通过“科技架桥”活动与广东工业大学、东北大学、西南交大签下合作研发协议并取得阶段性成果。

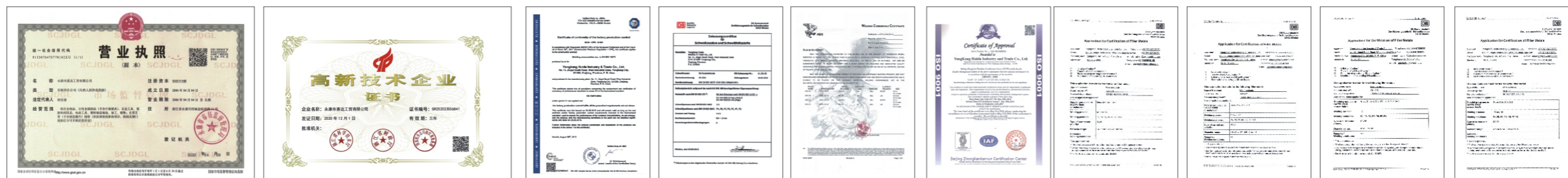
15年间惠达一直致力于高端铝焊丝的研发以及生产工艺的改进并创立了自己的品牌“奥森”，填补了国内在铝焊丝行业的空白，并在很多相关领域上替代了进口铝焊丝。同时惠达也在努力开拓国外市场，让奥森牌铝焊丝走向世界。

Yongkang Huida Industry and Trade Co., Ltd. was established in 2006 and currently has 60 employees. It is an enterprise specializing in the research and development, production and sales of aluminum welding wire. In 2019, the company passed the "Science and Technology Bridge" activity with Guangdong University of Technology and Northeastern University, Southwest Jiaotong University signed a cooperative research and development agreement and achieved initial results.

In the past 15 years, Huida has been committed to the research and development of high-end aluminum welding wire and the improvement of production process and created its own brand "Aosen", which filled the domestic gap in the aluminum welding wire industry and replaced imported aluminum welding wire in many related fields. At the same time, Huida is also working hard to open up foreign markets and let Aosenbrand aluminum welding wire go to the world.



证书/Certificate



Aluminum Melting Furnace 熔铝炉

谨慎选择原材料供应商，惠达根据比国际标准更严格的内部标准采购原材料。生产出的线材质量从铝锭与其他辅料的质量开始。完善的投料制度与精炼管控过程，加上先进的检测设备保障产品的稳定性。

节能型台式退火炉：具有较高的控温精度，炉温均匀性强；无噪声，无环境污染。自动化监控退火全过程，温度异常报警，保障产品的稳定性，一致性。

Choosing raw material suppliers carefully, Huida purchases raw materials according to internal standards that are stricter than international standards. The quality of the produced wire starts from the quality of the aluminum ingot and other auxiliary materials. Perfect feeding system and refining control process plus advanced testing equipment to ensure product stability.

Energy-saving desktop annealing furnace: It has high temperature control accuracy, strong furnace temperature uniformity; no noise and no environmental pollution. Automatically monitor the entire annealing process and alarm for abnormal temperature to ensure the stability and consistency of the product.



PRODUCTION MANAGEMENT 生产管理

领先国际的生产工艺，
全球最严谨的5S现场生产管理体系、
16949质量管理体系，
使我们一直处于行业的领先水平。
完善的可追溯系统，使每一盘丝都有单独编码。

Leading international production technology,
The world's most rigorous 5S on-site production management system,
16949 quality management system,
So that we have been at the leading level in the industry.
The perfect traceability system
enables each coil of wire to be individually coded.





检测设备 / Testing Equipment

多种检测设备：在我们实验室，我们随时检测与调整我们产品的化学成分，测定丝材的抗拉强度、屈服强度与延伸率，测量丝材的送丝性，分析丝材的晶粒与各元素分布。

variety of testing equipment: In our laboratory, we check and adjust the chemical composition of our products at any time, determine the tensile strength, yield strength and elongation of the wire, measure the wire feedability, and analyze the crystal grain and Distribution of elements.

为了研发新产品，也为了向客户提供完善的解决方案，我们公司与多所高校的材料学专业、焊接专业的大学与机构建立了合作关系。

In order to develop new products and provide customers with complete solutions, our company has established cooperative relationships with universities and institutions specializing in materials science and welding in many universities.

我们的研发 / OUR R & D

为了能够为我们的客户提供最新的、最优质的解决方案，我们建立了自己的技术中心。在这里，我们可以使用和比较不同的电弧工艺条件下，检测评价焊接接头。最为重要的是，这些解决方案是在短期内找到，并满足客户应用于工业生产的需求。

In order to be able to provide our customers with the latest and highest quality solutions, we have established our own technology center. Here, we can use and compare different arc process conditions to test and evaluate welded joints. Most importantly, these solutions can be found in a short period of time and meet the needs of customers for industrial production.

Welding Test 焊接试验

焊接试验与后续的射线探伤是评价铝焊丝产品质量好与坏的唯一决定性标准。

Welding test and follow-up radiographic testing are the only decisive criteria for evaluating the quality of aluminum welding wire products.



Product Usage / 产品用途



Our Advantage / 我们的优势

核心技术优势 Core technical advantages

享有自主知识产权的核心配方及熔炼技术。在很大程度上减少了焊接气孔问题，填补该领域国内空白。大力提高了焊接效果，也是产品品质的第一道保障。

生产工艺及研发优势 Production process and R&D advantages

在生产工艺上我们是该行业中唯一家有着自己机床车间的厂家，实现了从核心设备的研发改进到加工定做一条龙作业，让产品的稳定性得到了很大的保障。

服务优势 Service advantage

我们有着成熟的售后技术团队，能从工艺设计上解决客户的根本问题，为客户量身定制焊接解决方案。

管理优势 Management Advantage

我公司有着自己的一套科学严谨管理模式及严格的质量监控系统，可以做到及时了解每个人每道工序每一盘丝的生产及质量情况。从而为产品品质上了第三道保障。

品牌及市场优势 Brand and market advantages

客户对我公司“奥森”这一品牌的认同度高，同时产品品质上具有绝对的竞争优势，特别是国内高端市场上的使用，现在已经在逐步代替了大部份进口产品。

WAREHOUSE MANAGEMENT 仓库管理

现代化的仓储管理体系

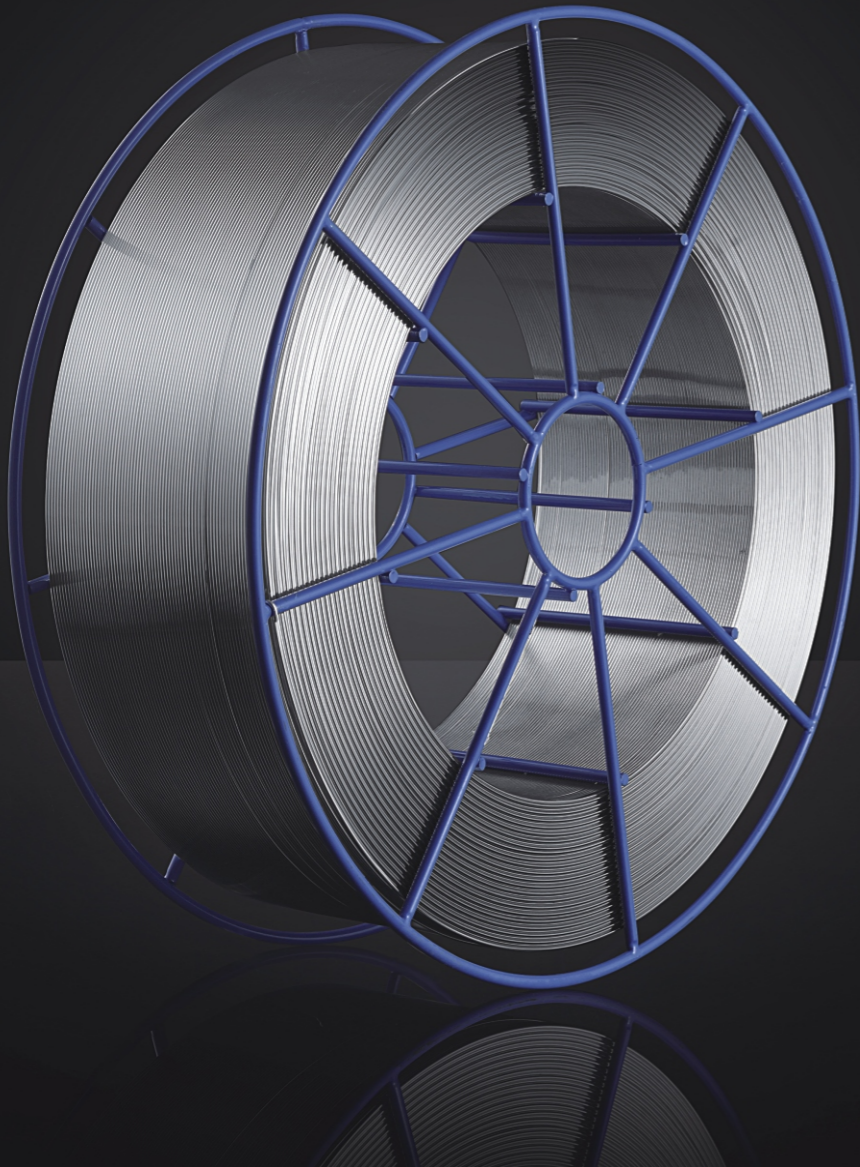
使我们能及时精确的保证每一位客户的订单。

Modern warehouse management system

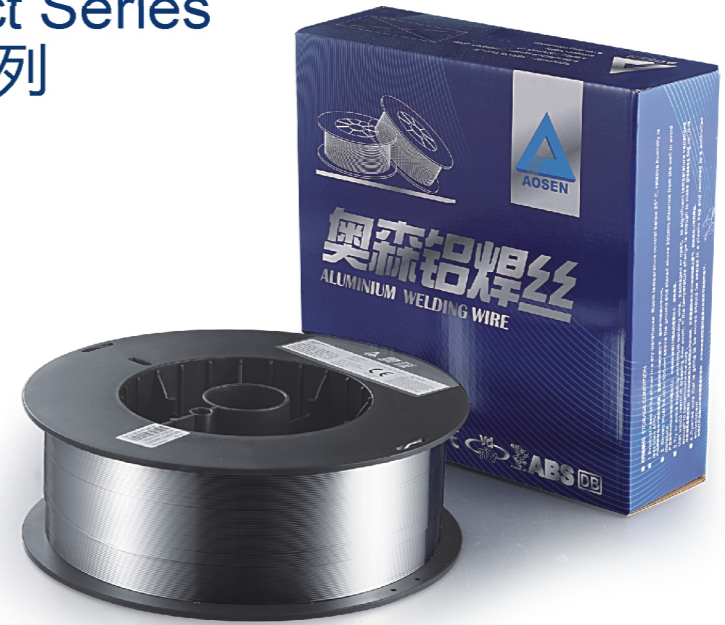
So that we can guarantee every customer's order in a timely and accurate manner.



奥森品质，保证您的现在与未来
Our quality ensures your now and future

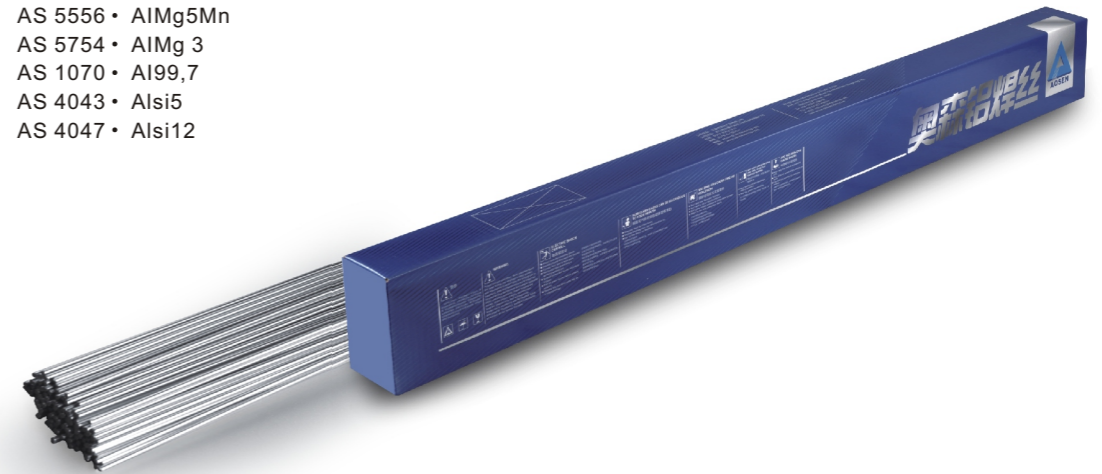


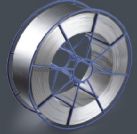

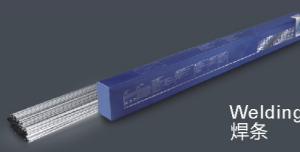
Product Series 产品系列



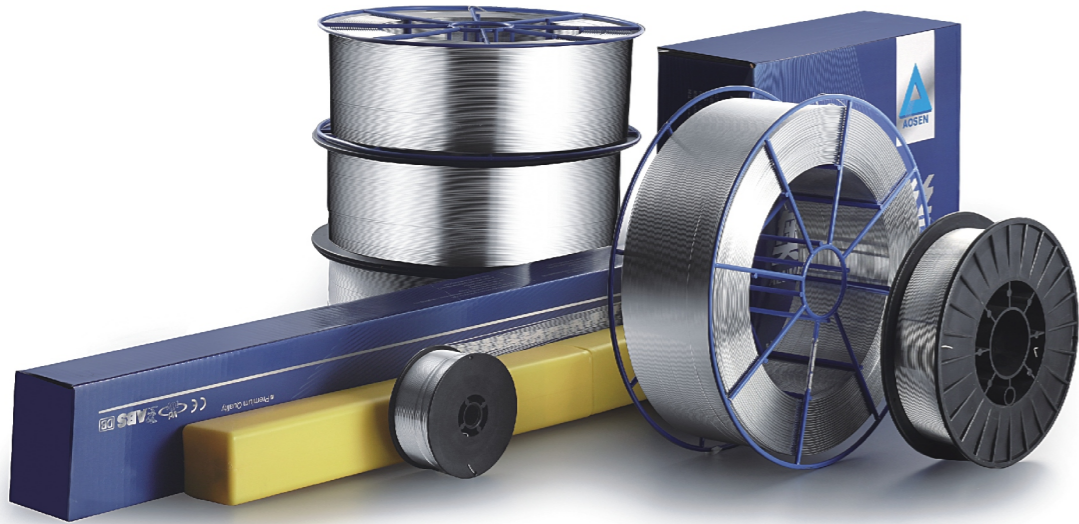
Aluminum Alloys

AS 5087 • AlMg4,5MnZr
AS 5183 • AlMg4,5Mn0,7
AS 5356 • AlMg5Cr
AS 5554 • AlMg2,7Mn
AS 5556 • AlMg5Mn
AS 5754 • AlMg 3
AS 1070 • Al99,7
AS 4043 • AlSi5
AS 4047 • AlSi12



	Net weight净重	Packaging包装方式
 <p>Mandrel-mounted reel D300 DIN EN ISO 544 圆形塑料盘装焊丝</p>	6.0kg 7.0kg 9.0kg	Each spool welded individually in a plastic bag with silica gel drying salts, and packed in a carton. 每个塑料袋内除了装有一盘焊丝，袋内还装有硅胶干燥剂,并用纸箱封装。
 <p>Basket spool IBS300 DIN EN ISO 544 金属线盘装焊丝</p>	7.0kg 7.5kg	Each spool welded individually in a plastic bag with silica gel drying salts, and packed in a carton. 每个塑料袋内除了装有一盘焊丝，袋内还装有硅胶干燥剂,并用纸箱封装。
 <p>Welding rods 焊条</p>	10.0kg 5.0kg 2.5kg	Welding rods are 1000 mm long in the normal version and have a material designation impressed on one side. 焊条外包装焊条标准长度为1000mm, 并在一侧印有材料标识。

Aluminium Wire Spool table 铝线材/盘轴表	Nominal wire - ϕ (mm) 直径	Spool type 线轴类型						Gross weight in kg 毛重(kg)
		0.60	0.80	1.0	1.2	1.6	2.4	
Length table长度 Figures (roundet) in “m” 单位:米(m)	D100	658	368	236	160	92	-	0.5
	D200	-	1473	944	660	368	-	2
	D300	-	4420	2832	1970	1105	492	6
	Bs300	-	5527	3540	2460	1381	615	7.5



ALUMINIUM FILLER ALLOY CHART 填料金属选择表

How to use

- Select base alloys to be joined from vertical column and horizontal column.
- Find the block where the two columns intersect.

Example

- When joining base alloys EN AW-AMg 3 Mn and EN AW-AMg 2 find the intersecting block, you can use ER 5356 filler alloy.
- When joining base alloys EN AW-AMg 3 and EN AW-AMg 5 find the intersecting block, you can use ER 5356 or ER 5754 filler alloys.

N.B.

- If a block states 2 or 3 filler metals, it's better to use filler metal stated at the top of the block.
- When it's suggested the use of ER 5356 filler metal, you can use also ER 5183 filler metal.

备注：

- 表中所示是大多数结构应用时的最佳选择。如果显示了两种焊材，则任一种均是可接受的。
- 显示4043焊材的地方，4047均为可接受的替换选择。
- 显示5356焊材的地方，5556或5183均为可接受的替换选择。
- 对于镁含量超过3%的铝MIG焊合金不应用于长期在超过150°F (65°C) 温度的环境中使用。
- 有特殊的要求时，表中所示焊材选择应做相应调整。

EN AW-Al 99.90 EN AW-Al 99.8(A) EN AW-Al 99.7	ER 1080																										
EN AW-Al 99.5 EN AW-Al 99.0	ER 1450 ER 1070	ER 1450 ER 1070																									
EN AW-AMn 1 EN AW-AMn 1 Cu	ER 1450	ER 1450																									
EN AW-AMg 1(C) AlMg 1.5 EN AW-AMg 2(B) EN AW-AMg 2.5	ER 5356	ER 5356	ER 5356	ER 5356																							
EN AW-AMg 3 EN AW-AMg 5	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5754																				
EN AW-AMg 3 Mn EN AW-AMg 2 EN AW-AMg 3 Mn 0.8	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5754	ER 5356																			
EN AW-AMg 4 EN AW-AMg 4.5 Mn 0.7	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5754	ER 5356	ER 5356	ER 5183 ER 5087 ER 5356																	
EN AW-AMgSi EN AW-AlSiMg(A) EN AW-AlSi 1 MgMn EN AW-AMg 1 SiCu	ER 5356 ER 4043	ER 5356 ER 4043	ER 5356 ER 4043	ER 5356 ER 4043	ER 5356 ER 5754	ER 5356 ER 5754	ER 5356	ER 5356	ER 5356	ER 5183 ER 5087 ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	
EN AW-AlZn 4.5 Mg 1	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5754	ER 5356	ER 5356	ER 5183 ER 5087 ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	
Fusion Alloys AlSiMg Fusion Alloys with Si < 7%	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	ER 4043	
Fusion Alloys AlSiMg Fusion Alloys with Si > 7%	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	ER 4047	
Fusion Alloys AlMg	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	ER 5356	
Base Alloys A Base Alloys B	EN AW-Al 99.90 EN AW-Al 99.8(A) EN AW-Al 99.7	EN AW-Al 99.5 EN AW-Al 99.0	EN AW-AMn 1 EN AW-AMn 1 Cu	EN AW-AMg 1(C) AlMg 1.5 EN AW-AMg 2(B) EN AW-AMg 2.5	EN AW-AMg 3 EN AW-AMg 5	EN AW-AMg 3 Mn EN AW-AMg 2 EN AW-AMg 3 Mn 0.8	EN AW-AMg 4 EN AW-AMg 4.5 Mn 0.7	EN AW-AMgSi EN AW-AlSiMg(A) EN AW-AlSi 1 MgMn EN AW-AMg 1 SiCu	EN AW-AlZn 4.5 Mg 1	Fusion Alloys AlSiMg Fusion Alloys with Si < 7%	Fusion Alloys AlSiMg Fusion Alloys with Si > 7%	Fusion Alloys AlMg															

1) in the presence of a subsequent anodizing oxidation it's advisable the use of ER 5356 filler metal.

2) we suggest not to use Al Si Mg fusion alloys with Si < 7% and Si > 7% as basis material.

1) 在存在后续阳极氧化的情况下，建议使用 ER 5356 填充金属。

2) 我们建议不要使用 Si < 7% 和 Si > 7% 的 Al Si Mg 熔合金作为母材。

AS 4043 AlSi5

Rod/wire electrode for Aluminium	
Typical composition in %	Si 4.50-5.50 Fe <0.60 Cu <0.30 Mn <0.15 Mg <0.20 Zn <0.10 Be <0.0003 Ti <0.15 Others <0.05 Others total <0.15
Classification	EN ISO 18273 S AI 4043(AISI5(A)) Material No 3.2245 AWS A5-10 ER4043
Remarks	This alloy is particularly used to prevent solidification cracks in connection with high dilution and clamp conditions. Anodizing gives dark gray colours and is not recommended. The weld pool is very fluid. Consider the technological application reference.
Physical properties of pure weld metal (Approx.values)	0.2 % yield strength R _{p0.2} [MPa] 40 Tensile strength R _m [MPa] 120 Elongation A ₅ (L ₀ =5d ₀)[%] 8 Test temperature [°C] 20
Welding position	PA, PB, PC, PF
Shielding gas	I1,12,13(Argon,Helium or Argon/Helium-mixtures)
Polarity	MIG =+, TIG~
Approvals	VdTUV, DB,
Dimensions Φ	MIG-wires [mm] 0,8; 1,0; 1,2; 1,6; 2,0; 2,4 TIG-rods [mm] 1.6; 2.0; 2,4; 3,2; 4,0; 5,0
Wire packagings	Spools Packaging units S 100/0.5 kg 20 spools = 10 kg (box) S 200/2 kg 4 spools = 8 kg (box) S 300 /6 kg 56 spools = 336 kg (pallet) B 300 /BS 300/7 kg 56 spools = 392 kg (pallet)
Rod packagings	Box 10 kg Length 1.000 mm

AS 4047 AISi12

Rod/Wire electrode for Aluminium	
Typical composition in %	Si 11.00-13.00 Fe <0.60 Cu <0.30 Mn <0.15 Mg <0.10 Zn <0.20 Be <0.0003 Ti <0.15 Others <0.05 Others total <0.15
Classification	EN ISO 18273 S AI 4047(AISI12(A)) Material No 3.2585 AWS A5-10 ER4047
Remarks	This alloy is particularly used to prevent solidification cracks in connection with high dilution and clamp conditions. Anodizing gives dark gray colours and is not recommended. The weld pool is very fluid. Consider the technological application reference.
Physical properties of pure weld metal (Approx.values)	0.2 % yield strength R _{p0.2} [MPa] 60 Tensile strength R _m [MPa] 130 Elongation A ₅ (L ₀ =5d ₀)[%] 5 Test temperature [°C] 20
Welding position	PA, PB, PC, PF
Shielding gas	L1,12,13(Argon,Helium or Argon/Helium-mixtures)
Polarity	MIG =+, TIG~
Approvals	VdTUV, DB,
Dimensions Φ	MIG-wires [mm] 0,8; 1,0; 1,2; 1,6; 2,0; 2,4 TIG-rods [mm] 1.6; 2.0; 2,4; 3,2; 4,0; 5,0
Wire packagings	Spools Packaging units S 100/0.5 kg 20 spools = 10 kg (box) S 200/2 kg 4 spools = 8 kg (box) S 300 /6 kg 56 spools = 336 kg (pallet) B 300 /BS 300/7 kg 56 spools = 392 kg (pallet)
Rod packagings	Box 10 kg Length 1.000 mm

AS 5183 AlMg4,5Mn0,7

Rod/wire electrode for Aluminium	
Typical composition in %	Si <0.40 Fe <0.40 Cu <0.10 Mn 0.50-1.00 Mg 4.30-5.20 Cr 0.05-0.25 Zn <0.25 Be 0.003 Ti <0.15 Others <0.05 Others total <0.15
Classification	EN ISO 18273 S AI 5813(AlMg4,5Mn0.7(A)) Material No. 3.3548 AWS A5-10 ER5183
Remarks	Seawater resistant weld metal. Consider the technological application reference.
Physical properties of pure weld metal (Approx.values)	0.2 % yield strength R _{p0.2} [MPa] 125 Tensile strength R _m [MPa] 275 Elongation A ₅ (L ₀ =5d ₀)[%] 17 Test temperature [°C] 20
Welding position	PA, PB, PC, PF
Shielding gas	L1,I2,I3(Argon,Helium or Argon/Helium-mixtures)
Polarity	MIG =+, TIG~
Approvals	VdTUV, DB,
Dimensions Φ	MIG-wires [mm] 0,8; 1,0; 1,2; 1,6; 2,0; 2,4 TIG-rods [mm] 1,6; 2,0; 2,4; 3,2; 4,0; 5,0
Wire packagings	Spools Packaging units S 100/0.5 kg 20 spools = 10 kg (box) S 200/2 kg 4 spools = 8 kg (box) S 300 /6 kg 56 spools = 336 kg (pallet) B 300 /BS 300/7 kg 56 spools = 392 kg (pallet)
Rod packagings	Box 10 kg Length 1.000 mm

AS 5356 AlMg5Cr

Rod/Wire electrode for ALuminium	
Typical composition in %	Si <0.25 Fe <0.40 Cu <0.10 Mn 0.05-0.20 Mg 4.50-5.50 Cr 0.05-0.20 Zn <0.10 Be <0.0003 Ti 0.06-0.20 Others <0.05 Others total <0.15
Classification	EN ISO 18273 S AI 5356 (AlMg5Cr(A)) Material No. 3.3556 AWS A5-10 ER5356
Remarks	The weld metal is sea water resistant. Suitable for anodizing when matching colours are required. Consider the technological application reference.
Physical properties of pure weld metal (Approx.values)	0.2 % yield strength R _{p0.2} [MPa] 110 Tensile strength R _m [MPa] 240 Elongation A ₅ (L ₀ =5d ₀)[%] 17 Test temperature [°C] 20
Welding position	PA, PB, PC, PF
Shielding gas	L1,I2,I3(Argon,Helium or Argon/Helium-mixtures)
Polarity	MIG =+, TIG~
Approvals	VdTUV, DB,
Dimensions Φ	MIG-wires [mm] 0,8; 1,0; 1,2; 1,6; 2,0; 2,4 TIG-rods [mm] 1,6; 2,0; 2,4; 3,2; 4,0; 5,0
Wire packagings	Spools Packaging units S 100/0.5 kg 20 spools = 10 kg (box) S 200/2 kg 4 spools = 8 kg (box) S 300 /6 kg 56 spools = 336 kg (pallet)
Rod packagings	Box 10 kg Length 1.000 mm

AS 5087 AlMg4,5MnZr

Rod/wire electrode for Aluminium	
Typical composition in %	Si<0.25 Fe<0.40 Cu<0.05 Mn 0.70-1.10 Mg 4.50-5.20 Cr 0.05-0.25 Zn<0.25 Be<0.0003 Ti<0.15 Zr 0,10-0.20 Others<0.05 Others total<0.15
Classification	EN ISO 18273 S Al 5087(AlMg4,5MnZr(A)) Material No 3.3546
Remarks	Zirconium micro alloyed. The weld is not susceptible to hot cracking. Particularly advantageous for complicated weldments involving clamp conditions. Consider the technological application reference.
Physical properties of pure weld metal (Approx.values)	0.2 % yield strength R _{p0.2} [MPa]125 Tensile strength R _m [MPa] 275 Elongation A ₅ (L ₀ =5d ₀)[%]17 Test temperature [°C]20
Welding position	PA, PB, PC, PF
Shielding gas	L1,I2,I3(Argon,Helium or Argon/Helium-mixtures)
Polarity	MIG =+, TIG~
Approvals	VdTUV, DB,
Dimensions Φ	MIG-wires [mm] 0,8; 1,0; 1,2; 1,6; 2,0; 2,4 TIG-rods [mm] 1.6; 2.0; 2,4; 3,2; 4,0; 5,0
Wire packagings	Spools Packaging units S 100/0.5 kg 20 spools = 10 kg (box) S 200/2 kg 4 spools = 8 kg (box) S 300 /6 kg 56 spools = 336 kg (pallet) B 300 /BS 300/7 kg 56 spools = 392 kg (pallet)
Rod packagings	Box 10 kg Length 1.000 mm

AS 1070 Al99,7

Rod/wire electrode for Aluminium	
Typical composition in %	Si<0.20 Fe<0.25 Cu<0.04 Mn<0.03 Mg<0.03 Zn<0.04 Be<0.0003 Ti<0.03 V<0.05 Others<0.03 AlMin.99.70
Classification	EN ISO 18273 S Al 1070(Al99,7) Material No 3.0259
Remarks	Welding of pure aluminium requires special precaution due to the narrow melting range in order to prevent hotcracking and porosity.This alloy replaces ML 1050. Consider the technological application reference.
Physical properties of pure weld metal (Approx.values)	0.2 % yield strength R _{p0.2} [MPa]20 Tensile strength R _m [MPa] 65 Elongation A ₅ (L ₀ =5d ₀)[%]35 Test temperature [°C]20
Welding position	PA, PB, PC, PF
Shielding gas	L1,I2,I3(Argon,Helium or Argon/Helium-mixtures)
Polarity	MIG =+, TIG~
Approvals	VdTUV, DB,
Dimensions Φ	MIG-wires [mm] 0,8; 1,0; 1,2; 1,6; 2,0; 2,4 TIG-rods [mm] 1.6; 2.0; 2,4; 3,2; 4,0; 5,0
Wire packagings	Spools Packaging units S 100/0.5 kg 20 spools = 10 kg (box) S 200/2 kg 4 spools = 8 kg (box) S 300 /6 kg 56 spools = 336 kg (pallet) B 300 /BS 300/7 kg 56 spools = 392 kg (pallet)
Rod packagings	Box 10 kg Length 1.000 mm