

质量求生存 创新求发展
QUALITY FOR SURVIVAL INNOVATION AND DEVELOPMENT



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船王焊材
CHUANWANG WELDING CONSUMABLE

铝及铝合金焊丝专业制造商
ALUMINUM AND ALUMINUM ALLOY WELDING WIRE
PROFESSIONAL MANUFACTURER



郑州市船王焊材有限公司
ZHENGZHOU CHUANWANG WELDING MATERIAL CO. LTD.

公司年鉴 ENTERPRISE COURSE

- 1990年 马英武先生创办郑州市金船焊材经营部
- 2010年 郑州市船王焊材有限公司出口部建立
- 1993年 郑州市金船焊材有限公司成立
- 2015年 郑州市船王焊材有限公司产品通过欧盟CE认证
- 1995年 郑州市金船焊接器材有限公司成立
- 2019年 郑州市船王焊材有限公司取得VDTUV证书
- 2000年 郑州市船王焊材有限公司成立
- 2020年 郑州市船王焊材有限公司通过CCS工厂认证
- 2008年 ISO9001:2008更新质量管理体系认证
- 2020年 郑州市船王焊材有限公司取得DB证书

关于我们 ABOUT US

郑州船王自1990年专注于焊丝制造领域，致力于高质量铝、钛合金焊材的研发、生产。产品应用于军工、航天、航空、高铁、船舶、汽车、石油化工及建筑冶金等领域，为国内5000多家、15个国家焊接用户提供服务。

30多年的发展历程，公司始终坚持“诚信、创新、品质、服务”的经营理念，引进高端人才，组成专业焊接技术团队，并自主创新国内焊丝生产工艺和设备。参照GB/T10858-2023、AWS A5.16等标准，严格执行GJB9001C-2017、ISO9001:2015质量管理体系认证要求，严把质量关口，产品已通过欧盟CE认证、DB认证、CCS船检认证、VDTUV认证、SGS认证，是中船重工、中国航发集团、中石化合格供应商。

船王人格守“追求卓越，崇尚完美”的企业精神，坚信产品质量和服务是合作的基础，我们一直致力于优质的产品和焊接技术服务于焊接产业！

Since 1990, Zhengzhou Chuanwang has been focusing on the field of welding wire manufacturing, and is committed to the research and development and production of high-quality aluminum and titanium alloy welding materials. Products are used in military industry, aerospace, aviation, high-speed rail, ships, automobiles, petrochemical industry, construction metallurgy and other fields, providing services for more than 5,000 domestic welding users in 15 countries.

Over the past 30 years, the company has always adhered to the business philosophy of "honesty, innovation, quality and service", introduced high-end talents, formed a professional welding technical team, and independently innovated domestic welding wire production technology and equipment. With reference to GB/T10858-2023, AWS A5.16 and other standards, the quality management system certification requirements of GJB9001C-2017 and ISO 9001: 2015 are strictly implemented, and the quality is strictly controlled. The products have passed the EU CE certification, DB certification, CCS ship inspection certification, VDTUV certification and SGS certification, and they are CSIC, China Hangfa Group and SGS certification.

Ship Wang Ren adheres to the enterprise spirit of "pursuing excellence and advocating perfection", and firmly believes that product quality and service are the basis of cooperation. We have been committed to quality products and welding technology to serve the welding industry!

公司资质 COMPANY QUALIFICATION



产品展示 PRODUCT DISPLAY

桶装铝焊丝

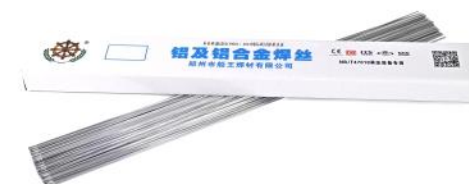


为适应铝焊市场国产化所需，我公司从设备和技术上投入，经过反复的研究、探索、实验，在2018年成功推出国产首家机器人焊接专用桶装铝焊丝，并为客户推荐配套使用的桶装铝焊丝帽、桶装铝焊丝送丝机、导丝管等配件，以满足客户从进口到国产的降本转化。

相较于盘装铝焊丝，桶装铝焊丝具有均匀连续送丝、容量大无接头等特点，适用于自动控制焊接和长时间无中断焊接，在焊接时产生焊接缺陷明显降低，焊缝成形美观，以降低客户成本，提高工作效率。

In order to meet the needs of localization of aluminum welding market, our company invested in equipment and technology, and after repeated research, exploration and experiments, successfully launched the first domestic special-purpose barreled aluminum welding wire for robot welding in 2018, and recommended the matching accessories such as barreled aluminum welding wire cap, barreled aluminum welding wire feeder and wire guide tube for customers to meet the cost reduction and transformation from imported to domestic.

Compared with the coiled aluminum welding wire, the barreled aluminum welding wire has the characteristics of uniform and continuous wire feeding, large capacity and no joints, and is suitable for automatic control welding and long-term uninterrupted welding. The welding defects produced during welding are obviously reduced, and the weld seam is beautiful, so as to reduce customer costs and improve work efficiency.



生产实力 PRODUCTION STRENGTH



适用行业 APPLICABLE INDUSTRY



质量求生存 创新求发展
QUALITY FOR SURVIVAL INNOVATION AND DEVELOPMENT

合作伙伴 COOPERATIVE PARTNER



化学成分 CHEMICAL COMPOSITION %

化学成分分类 Classification of chemical constituents		化学成分 (质量分数) % Chemical composition (mass fraction) %														其他 Other	
字符代号 Character code	化学成分代号 Chemical Elements	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ga,V,Sc	Ti	Zr	Al	Be	单值 Unit value	合计 Total		
铝-低合金																	
SAL1070	Al99.7	0.20	0.25	0.04	0.03	0.03	-	0.04	V:0.05	0.03	-	≥99.70	0.0003	0.03	-		
SAL1100	Al99.0Cu	Si+Fe: 0.95		0.05-0.20	0.05	-	-	0.10	-	-	-	≥99.00	0.0003	0.05	0.15		
SAL1188	Al99.88	0.06	0.06	0.005	0.01	0.01	-	0.03	Ga:0.03 V:0.05	0.01	-	≥99.88	0.0003	0.01	-		
SAL1450	Al99.5Ti	0.25	0.40	0.05	0.05	0.05	-	0.07	-	0.10-0.20	-	≥99.50	0.0003	0.03	-		
铝-铜																	
SAL2319	AlCu6MnZrTi	0.20	0.30	5.8-6.8	0.20-0.40	0.02	-	0.10	V: 0.05-0.15	0.10-0.20	0.10-0.25	余量	0.0003	0.05	0.15		
铝-锰																	
SAL3003		0.60	0.70	0.05-0.20	1.0-1.5	-	-	0.10	-	-	-	余量	-	0.05	0.15		
SAL3103	AlMn1	0.50	0.70	0.10	0.9-1.5	0.30	0.10	0.20	-	Ti+Zr:0.10		余量	0.0003	0.05	0.15		
SAL3A21		0.60	0.70	0.20	1.0-1.6	0.05	-	0.10	-	0.15	-	余量	-	0.05	0.10		
铝-硅																	
SAL4010	AlSi7Mg	6.5-7.5	0.20	0.20	0.10	0.30-0.45	-	0.10	-	0.20	-	余量	0.0003	0.05	0.15		
SAL4011	AlSi7Mg0.5Ti	6.5-7.5	0.20	0.20	0.10	0.45-0.7	-	0.10	-	0.04-0.20	-	余量	0.04-0.07	0.05	0.15		
SAL4043	AlSi5	4.5-6.0	0.80	0.30	0.05	0.05	-	0.10	-	0.20	-	余量	0.0003	0.05	0.15		
SAL4047	AlSi12	11.0-13.0	0.80	0.30	0.15	0.10	-	0.20	-	-	-	余量	0.0003	0.05	0.15		
铝-镁																	
SAL5087	AlMg4.5MnZr(A)	0.25	0.40	0.05	0.7-1.1	4.5-5.2	0.05-0.25	0.25	-	0.15	0.10-0.20	余量	0.0003	0.05	0.15		
SAL5183	AlMg4.5Mn0.7(A)	0.40	0.40	0.10	0.50-1.0	4.3-5.2	0.05-0.25	0.25	-	0.15	-	余量	0.0003	0.05	0.15		
SAL5356	AlMg5Cr(A)	0.25	0.40	0.10	0.05-0.20	4.5-5.5	0.05-0.20	0.10	-	0.06-0.20	-	余量	0.0003	0.05	0.15		
SAL5554	AlMg2.7Mn	0.25	0.40	0.10	0.50-1.0	2.4-3.0	0.05-0.20	0.25	-	0.05-0.20	-	余量	0.0003	0.05	0.15		
SAL5556	AlMg5Mn1Ti(A)	0.25	0.40	0.10	0.50-1.0	4.7-5.5	0.05-0.20	0.25	-	0.05-0.20	-	余量	0.0003	0.05	0.15		
SAL5A06		0.40	0.40	0.10	0.50-0.8	5.8-6.8	-	0.20	-	0.02-0.10	-	余量	0.0001-0.005	0.05	0.10		
SAL5B06		0.40	0.40	0.10	0.50-0.8	5.8-6.8	-	0.20	-	0.10-0.30	-	余量	0.0001-0.005	0.05	0.10		
铝-镁硅																	
SAL6061		0.40-0.8	0.70	0.15-0.40	0.15	0.8-1.2	0.04-0.35	0.25	-	0.15	-	余量	-	0.05	0.15		
SAL6063		0.20-0.6	0.35	0.10	0.10	0.45-0.9	0.10	0.10	-	0.10	-	余量	-	0.05	0.15		
铝-锌																	
SAL7075		0.40	0.50	1.2-2.0	0.30	2.1-2.9	0.18-0.28	5.1-6.1	-	0.20	-	余量	-	0.05	0.15		

包装形式 PACKAGE

状态 Form	包装尺寸 Package Size		重量 Wr.	规格 Size
盘装 Mig	270mm塑料盘	D270Plastic Spool	7kg	0.8mm、0.9mm、1.0mm
	300mm塑料盘	D300Plastic Spool	9kg	1.2mm、1.6mm、2.0mm
	200mm塑料盘	D200Plastic Spool	2kg	0.8mm、0.9mm、1.0mm、1.2mm
	100mm塑料盘	D100Plastic Spool	0.5kg	
直条 Tig	1m长纸箱	1000mm Carton	10kg	1.6mm、2.0mm、2.4mm、3.0mm 3.2mm、4.0mm、5.0mm、6.0mm
	1.2m长纸箱	1200mm Carton	10kg	4.0mm、5.0mm、6.0mm
圈装 Coil	D450mm、D300mm		10kg、20kg	2.0mm、2.4mm、3.0mm 3.2mm、4.0mm、5.0mm
桶装 Drum	D660mm		100kg	1.0mm、1.2mm、1.6mm

焊丝型号对照表 MODEL TABLE

焊丝型号 Model	化学成分代号 Chemical Elements	GB/T10858-1989	ANSI/AWS A5.10M:2021
SAL1070	Al99.7	SAL-2	ER1070
SAL1100	Al99.0Cu		ER1100
SAL1188	Al99.88		ER1188
SAL1450	Al99.5Ti	SAL-3	ER1450
SAL2319	AlCu6MnZrTi	SALCu	ER2319
SAL3003			
SAL3103	AlMn1	SALMn	ER3103
SAL3A21			
SAL4010	AlSi7Mg		ER4010
SAL4011	AlSi7Mg0.5Ti		ER4011
SAL4043	AlSi5	SALSi-1	ER4043
SAL4047	AlSi12	SALSi-2	ER4047
SAL5087	AlMg4.5MnZr(A)		ER5087
SAL5183	AlMg4.5Mn0.7(A)	SALMg-3	ER5183
SAL5356	AlMg5Cr(A)		ER5356
SAL5554	AlMg2.7Mn	SALMg-1	ER5554
SAL5556	AlMg5Mn1Ti(A)	SALMg-5	ER5556
SAL5A06			
SAL5B06			
SAL6061			
SAL6063			
SAL7075			

参考焊接参数 WELDING PARAMETER RECOMMENDATION

焊丝直径 mm Welding wire diameter mm	保护气体组成 Protective gas composition	送丝速度mm/min Wire feed rate mm/min	焊接电流 A Welding current A	电弧电压 V Arc voltage V	导电嘴到工件距离 mm Distance from contact tip to workpiece mm	焊接速度 mm/min Welding speed mm/min
1.2	100%Ar	7500-16500	200-300	23-28	16-22	510-900
1.6	100%Ar	3900-9000	200-350	23-29	19-25	510-900

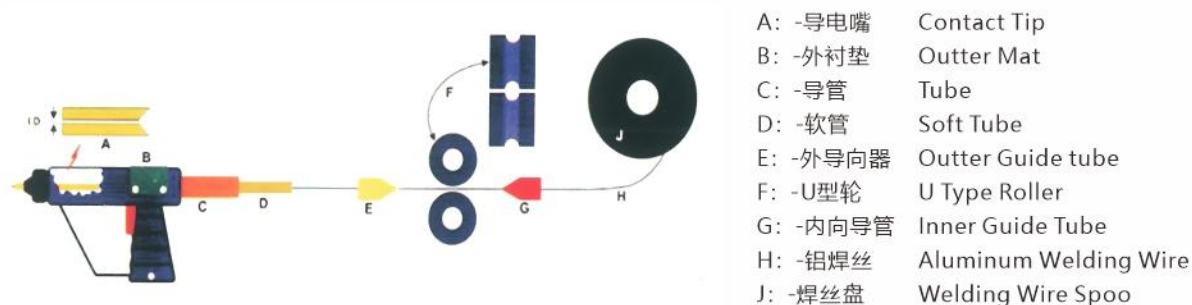
注意事项：
焊前应严格清除工作焊接边缘和焊丝表面的氧化膜和油污，否则会使焊缝产生焊合不良并引起气孔、夹渣等缺陷。焊接时可采用垫板托住熔化金属，以保证焊缝成形，并避免产生裂纹。

The rust scale,moisture,oil stain and dust in the welding position should be definitely cleaned before welding.Or else,it can cause bad welding effects like bad welding joints,airholes,slagincusion,etc. backing board is recommended to holding the melting metals when welding.This will ensure a good shaping of soldering seam and avoid

熔覆金属力学性能 MECHANICAL PROPERTY DEPOSITED METAL

化学成分分类 Classification of chemical constituents		抗拉强度Rm MPa Tensile strength Rm Mpa	规定塑性延伸强度Rp 0.2 MPa Specified plastic extension strength Rp 0.2 MPa	断后伸长率 % Elongation %
字符代号 Character code	化学成分代号 Chemical Elements			
铝-低合金				
SAL1070	Al99.7	≥60	-	≥35
SAL1100	Al99.0Cu	≥75	-	-
SAL1450	Al99.5Ti	≥65	≥20	≥35
铝-铜				
SAL2319	AlCu6MnZrTi	≥240	-	-
铝-锰				
SAL3103	AlMn1	≥90	≥35	≥24
铝-硅				
SAL4010	AlSi7Mg	-	-	-
SAL4011	AlSi7Mg0.5Ti	-	-	-
SAL4043	AlSi5	≥165	≥70	≥4
SAL4047	AlSi12	≥170	≥80	≥4
铝-镁				
SAL5087	AlMg4.5MnZr(A)	≥285	≥140	≥18
SAL5183	AlMg4.5Mn0.7(A)	≥275	≥130	≥18
SAL5356	AlMg5Cr(A)	≥250	≥120	≥18
SAL5554	AlMg2.7Mn	≥215	≥100	≥18
SAL5556	AlMg5Mn1Ti(A)	≥290	-	-

铝焊丝的送丝技术(图) WIRE FEEDING TECHNOLOGY OF ALUMINUM WIRE



MIG铝合金焊接设备的使用状况会影响送丝性能，如果发生断弧或回烧代表附件发生问题，造成这样的问题的主要原因是由于附件组合不当和欠缺适当的保养。若这些问题得到改善，将可以大幅度提高焊接。上图显示的是重要配件图，对于不同尺寸，都必须依照厂商的规格来选定适当的配件。

The usage of MIG aluminum alloy welding equipment will affect the wire feeding performance. If arc breaking or back burning is found, it means that there is something wrong with the accessories. The main reason for this problem is improper combination and lack of maintenance of the accessories. If these problems are improved, welding will be greatly improved. The picture above shows the important parts drawing. For different sizes, the appropriate accessories must be selected according to the manufacturer's specifications.

配件的功能和保养 FUNCTION & MAINTENANCE OF ACCESSORIES

送丝轮:

除了选用合适的U型轮外，正确的送丝轮压力也是必须的。过大的压紧力会导致焊丝变形，增加焊丝通过送丝软管和导电嘴的送丝摩擦力。U型槽的边缘还必须倒角不能尖锐。

防尘罩:

使用防尘罩并定期对软管内部进行清理，可以增加其使用寿命，储存适当也可以减少污染。

导电嘴:

正确的导电嘴内径是非常重要的。如果导电嘴和焊丝有太大的间隙那么电弧将不可避免的产生。连续的电弧会造成导电嘴内径里颗粒的累积，如此会增加送丝的摩擦力，使送丝不稳定也会产生回火。当送丝不稳定时，将导电嘴清洁和抛光，再抛光或更换导电嘴就可以提升整体的焊接性能。

导丝管:

适当尺寸且具有弹性的导丝管并配合特氟龙，尼龙或塑料内衬使用，可减少焊丝的磨损从而大大增加送丝距离。非金属的连接接头会影响送丝性能，需要定期保养。

达到高品质的焊接:

虽然焊接的设备相当耐用，如果天天使用，定期的保养相当重要。不适当甚至错误的保养焊机，也会造成很差的焊接效果。只要选择合适的焊接参数，正确的设备和配件，有效的预防保养，再加上使用优质的焊丝，要达到高品质的焊接不是难事。

Feeding Roller

It is necessary that use the suitable feeding roller and feeding pressure. The edges of U type slot must be chamfered without sharp edge.

Protection Cap

It can lengthen service life if use protection cap and clean the soft tube timely.

Contact Tip

It is important to choose the right size of contact tip. It will come out electric arc if too big space exists between contact tip and welding wire, and this will increase the accumulation of welding wire granule inside of the contact tip. All this may cause a bad feeding of aluminium welding wire.

Guide tube

Right and elastic guide tubes will help to reduce the abrasion and increase the feeding distance when feed wires.

How to reach to high quality welding effect

Timely maintenance for welding accessories & welding machine in daily usage. Use the right welding parameters, welding accessories and good welding wires.

常见问题和焊接技巧 COMMON PROBLEMS AND WELDING TECHNIQUES



使用正确的尺寸的导电嘴(内径和长度)
导电嘴越长，送丝效果越好，导电嘴孔径应该比焊丝直径大10%。

Use suitable contact tip (Inner diameter & length)

The longer of the contact tip, the better of the wire feeding effect. The inner diameter of contact tip should be 10% larger than that of welding wire.



维持适当的防尘罩和导电嘴关系

导电嘴应该凹在防尘罩内部，离防尘罩距离大概从1.6mm到最大6.4mm为宜。

Keep suitable space between protection cap and contact tip

The contact tip is fixed into the protection cap and the space is about 1.6mm to 6.4mm away from the cap



使用直筒型的喷嘴焊枪还是选用鹅颈状的
选用直筒型的焊枪所需要较小的送丝轮压力。

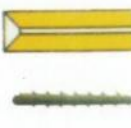
Direct or Swan neck welding torch

Direct welding torch need less feeding pressure.



使用非金属(特富龙/尼龙)的输入和输出导引嘴

Use non-metal guiding tips



如果发现焊丝跳动或螺旋的现象，需要换新的导电嘴或者将导电嘴内径磨光。
用一段圆形的距刀片，将新的导电嘴的内径磨光即使使用过的导电嘴也要磨

In case of facing a spiral or jumping condition of welding wire,
change a new contact tip or polish contact tip with a round blade



使用U型输送轮

其它类型送丝轮会造成焊丝的扭曲或刮削从而产生更多的断弧回烧。确定U型轮的边缘已经被去角而不是尖锐的。

Use U type feeding roller without

shape edges to protect welding wire from warping or shaving.



检查水和气体是否有泄漏情况

使用PTFE内衬软管，不要将水管和内衬垫气体软管交换使用。

Check whether there is leakage of water & gas

Use PTFE inner soft tube, and do not alternate use water tube and gas tube.



使用合适的焊接设备

要选择那些适合用于铝合金焊接的机器和相关配件。

Use the right welding machine and accessories for aluminium welding wire.



不要卷曲或弯曲导电嘴

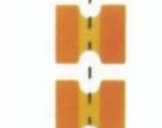
使用直的导电嘴能有效的减少导电嘴内的堆积和导电嘴内引弧的发生。

Do not curl or bend the contact tip.



在发生回烧后，需清除送丝管内的所有焊丝

Remove all the welding wire from the feeding soft tube if there is a back turn.



将引导轮排列在直线上

不当的排列导丝轮或压力过高也会造成焊丝扭曲，发生送丝问题。

Keep the feeding roller into a line to avoid a bad feeding effect.



适当的保护和储存焊丝

不要将焊丝放在送丝机中过夜，最好储存在温度与湿度控制箱中。相对湿度必须小于30%。

Keep welding wire in a good storage condition and protection.

Don't leave wires on the feeding machine when there is no use in a long time. It's better to store wire in a controlled situation, and the relative humidity should be less than 30%.

填充材料选用指南 GUIDE FOR SELECTION OF FILLING MATERIALS

母材	1060	319.0	356.0	7005k	6061													1060
	1070	333.0	357.0	7018	6063													1070
	1080	354.0	359.0	7021	6082													1080
	1350	355.0	413.0	7029	6101													1080
		380.0	444.0	7039	6201													1350
			443.0	710.0	6151													1188
			511.0	711.0	6351													
			512.0	712.0	6951													
			513.0															
			514.0															
4145	4145	4043	5356	4043	4043	5356	5456	5454	5154	5086	5083	5052	5005	3004	2219	2014	1100	
c.i	c.i	i.f	c.e.i	i	i	c	c	i	c.e.i	c	c	5652a	5050	4043	2519	2036	3003	
				c.e.i	c.e.i				c.e.i			i	c		4145	4145	c	j
1100	4145	4043	5356	5356	4043	4043	5356	4043	5356	5356	5356	4043	4043	4043	4145	4145	1100	
3003	c.i	i.f	c.e.i	c.e.i	i	i	c	e.i	c.e.i	c	c	e.i	e	e			c	
2014	4145	4145			4145	4145									4145	4145		
2036	g														g	g		
2219	4145	4145	4043	5356	4043	4043	4043	4043	4043	4043	4043	4043	4043	4043	2319			
2519	g.c.i	c.i	i	i	f.i	f.i			i			i			c.f.i			
3004	4043	4043	5654	5356	4043	4043	5356	5654	5654	5356	5356	4043	4043	4043				
	i	i	b	e	e	b	e	b	b	e	e	e.i	e	e				
5005	4043	4043	5654	5356	4043	4043	5356	5654	5654	5356	5356	4043	4043	4043				
5050	i	i	b	e	e	e	e	b	b	e	e	e.i	d.e					
5052	4043	4043	5654	5356	5356	5356	5356	5654	5654	5356	5356	5654						
5652	i	b.i	b	e	b.c	b.c	b	b	b	e	e	a.b.c						
5083		5356	5656	5183	5356	5356	5183	5356	5654	5356	5356							
		c.e.i	e	e	e	e	b	e	e	e	e							
5086		5356	5656	5356	5356	5356	5356	5356	5356	5356								
		c.e.i	e	e	e	e	e	b	b	e								
5154		4043	5654	5356	5356	5356	5356	5654	5654									
5254a		b.i	b	b	b.c	b.c	b	e	a.b									
5454	4043	4043	5654	5356	5356	5356	5356	5654										
	i	b.i	b	b	b.c	b.c	b	c.e										
5456		5356	5656	5356	5356	5356	5356											
		c.e.i	e	e	e	e	b											
6061	4145	4043	5356	5356	4043	4043												
6063	c.i	f.i	b.c	b.c.i	b.i	b.i												
6082																		
6101																		
6201																		
6151																		
6351																		
6951																		
6070	4145	4043	5356	5356	4043													
	c.i	f.i	c.e	c.e.i	e.i													
7005k	4043	4043	5356	5356														
7018	i	b.i	b	e														
7021																		
7029																		
7039																		
710.0																		
711.0																		
712.0																		
511.0		4043	5654															
512.0		b.i	b.d															
513.0																		
514.0																		
356.0	4145	4043																
357.0	c.i	d.i																
359.0																		
413.0																		
444.0																		
443.0																		
319.0	4145																	
333.0	d.c.i																	
354.0																		
355.0																		
380.0																		

FILLER METAL SELECTION GUIDE

注：所有填充材料被列在AWS A5.10标准中
a、母材5652和5254用于氢的过氧化物，填充合金5654可以低温150°F（65°C）下用于两种母材的焊接。
b、5183、5356、5454、5556、5654可被采用，因其提供了阳极处理后高度的颜色配比强度。5554适用于高温环境。
c、4043可能在某种应用中被采用
d、与母材相同分析的填充材料可被采用。
e、5183、5356或5556可能被采用。
f、4145可能在某种应用中被采用。
g、2319可能在某种应用中被采用
l、4047可能在某种应用中被采用
j、1100可能在某种应用中被采用。
k、仅指7005挤制件

附加指南：
1、如在纯水或盐水的浸泡下，暴露于某种化学成分中或需要承受高温（高于150°F）时，填充合金的选择可能会受到限制。5356、5183和5654不易承受高温。
2、此表中的方针适用于氩气保护电弧焊接。
3、在没有列出填充材料的地方，其母材是不建议进行焊接的。

ADDITIONAL GUIDELINES

1.Service conditions such as immersion in pure or salt water,exposure to specific chemicals,or exposure sustained high temperature(over150°F)may limit the choice of filler metals.Filler alloys 5356,5153,5556 and 5654 are not recommended for sustained elevated temperature service.
2.Guide lines in this table apply to gas shielded arc welding processes.
3.Where no filler metal is listed,the base metal combination is not recommended for welding.

Notes:All filler materials are listed in AWS A5.10specification

a.Base metal alloys 5652 and 5254 are used for hydrogen peroxide service,5654 filler metal is used for welding both alloys for low temperature 150°F (65°C) service.
b.5183,5356,5454,5556 and 5654 may be used.In some cases they provide improved color match after anodizing,highest weld ductility and higher weld strength.5554 is suitable for elevated temperature service.
c.4043 may be used for some applications.
d.Filler metal with the same analysis as the base metal is sometimes used
e.5183,5356 or 5556 may be used.
f.4145 may be used for some applications.
g.2319 may be used for some applications.
i.4047 may be used for some applications.
j.1100 may be used for some applications.
k.This refers to 7005 extrusions only.

使用此类材料时，某种产品和结构的适用性是而且必须是使用者的独家责任。船王公司控制以外的许多变量可影响这一资料的结果。这些变量包括但不限于以下因素：焊接过程。金属板的化学成分和温度，焊接件设计，制造方法和服务要求。

The service ability a product or structure utilizing this type information is and must be the sole responsibility If the buyer/user.Many variables beyond the control of"Chuan Wang" affect the results obtained in applying this type of information.These variables include,but are not limited to welding procedure,plate chemistry and temperature,plate chemistry and temperature,welding pieces design,fabrication methods and service requirements.