河北钰金弘科技有限公司

Hebei Yujinhong Technology Co., Ltd.

ADDRESS: No.368 Youyi North Street, Xinhua District, Shijiazhuang City, China.
TEL: 0086-311-68035766 MOBILE: 0086-13739727566
EMAIL: INFO@STEELTOOLSCHINA.COM
WEBSITE: https://www.steeltoolschina.com/

河北钰金弘科技有限公司

Hebei Yujinhong Technology Co., Ltd.

焊材产品手册

Welding Material Product Manual

GREAT MASTER

■ 系列化 ■ 专业化 ■ 高品质

品质源于专业 创新立足科技

工厂展示 | PRODUCTION FACILITIES

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公司简介
ABOUT US

我们是一家专业的焊条制造商和焊丝供应商。自1996 年以来在行业中占有重要地位。

我们公司位于中国北方著名的城市石家庄，我们专注于为所有焊接配件需求提供全面的解决方案。

多年来，我们已将产品范围扩大到包括八条主要产品线。我们的产品系列包括E6013 焊条、E6010 焊条、E6011 焊条、E7016 焊条、E7018 焊条、不锈钢焊条、铸铁焊条等。此外，我们还供应ER70S-6 焊丝和药芯焊丝。我们的制造工厂占地面积达1,200,000 平方米，拥有约525 名员工。

我们很自豪能够获得ISO 9001、ISO 14001 和ISO 50001 能源管理系统认证，且产品已获得十家国际航运船级社的认可，包括ABS、BV、CCS、DNV、LR、NK、KR、RINA、RS 和BKI。

公司生产的焊材覆盖国内所有省份，并以“GREAT MASTER”品牌在多个国家建立了强大的海外销售网络。

We are a professional welding electrode manufacturer and welding wire supplier with a strong presence in the industry since 1996.

Our company is located in the renowned city of Shijiazhuang in northern China, where we focus on providing comprehensive solutions for all welding accessory needs.

Over the years, we have expanded our offerings to include eight main product lines. Our product range features E6013 Welding Rods, E6010 Welding Rods, E6011 Welding Rods, E7016 Welding Rods, E7018 Welding Rods, stainless steel welding electrodes, cast iron welding rods, and more. Additionally, we supply welding wire ER70S-6 and flux-cored welding wire. Our manufacturing facility spans an impressive 1,200,000 square meters and is staffed by approximately 525 employees.

We are proud to be certified for ISO 9001, ISO 14001 and ISO 50001 energy management systems, and our products have been approved by ten international shipping classification societies, including ABS, BV, CCS, DNV, LR, NK, KR, RINA, RS and BKI.

Our welding consumables reach all provinces in China, and we have established a strong overseas sales network across multiple countries under the “GREAT MASTER” brand.

In order to facilitate users to consult this manual and better understand the technical features of the products, the following instructions are made:

1. The contents of this manual have been carefully reviewed to ensure its accuracy. However, Hebei Yujinhong Technology Co., Ltd, is not responsible for its possible errors and misleading information.
2. This manual is for reference only in terms of product performance, application and usage. Before using our products, users must understand their applicability and conduct procedure evaluation according to relevant specifications .
3. If you find any mistakes of the content, please give us your valuable opinions.

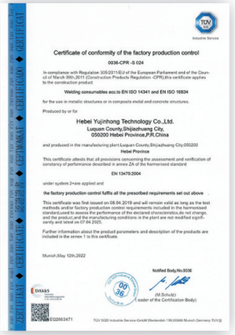
为方便广大用户查询本手册，更好了解产品的技术性及特点，现做出如下说明:

1.本手册的内容虽然经过认真审核确保其准确性，但河北钰金弘科技有限公司对其可能产生的错误以及可能造成误导信息不承担责任。对此，请用户谅解。

2.本手册对其产品性能、用途，使用方法等说明仅供参考，用户在使用我司产品前，请务必了解其适用性并按照相关规范进行工艺评定。

3.如您发现本手册内容有误，请您提出宝贵意见。

资质证书
CERTIFICATES



● AWS E6013

APPLICATIONS:

It is suitable for welding low carbon steel structure, especially for welding thin plate steel with short discontinuous weld and requirement of smooth welding pass.

CHARACTERISTICS:

E6013 is a rutile type electrode. Can be welding by both AC & DC power source and can be applied in all-position. It have excellent welding performance as stable arc, little spatter, easy slag removal and restrick-ability etc.

ATTENTION:

Usually, it’s no need to re-dry the electrode before welding. When it was affected with damp, should be redried 150℃ -170℃ for 0.5-1 hour.

WELDING POSITIONS : PA, PB, PC, PD, PE, PF

X-ray flaw detection : Ⅱ level

DEPOSIT COMPOSITION (Quality Score): %

items	C	Mn	Si	P	S
Requirements	≤ 0. 10	0. 32-0. 55	≤ 0. 30	≤ 0. 035	≤ 0. 030
Typical Results	0. 08	0. 37	0. 18	0. 025	0. 020

MECHANICAL PROPERTIES:

items	Tensile Strength Rm/MPa	Yield Strength Rel/$Rp_{0.2}$ MPa	Elongation A/%	Charpy V-NotchKV_2(J)0℃
Requirements	440-560	≥ 355	≥ 22	≥ 47
Typical Results	500	430	27	80

TYPICAL OPERATING PROCEDURES: (AC,DC)

Diameter (mm)	2. 0	2. 5	3. 2	4. 0	5. 0	5. 8
Current (A)	40-70	50-90	80-130	150-200	180-240	220-280

AWS E6011

APPLICATIONS:

It is suitable for welding of low carbon steel structure as pipeline, shipbuilding and bridge etc.

CHARACTERISTICS:

E6011 is a rutile-cellulosic potassium type electrode.
Can be weld for all-position (especially for vertical-down position) with AC and DC+. It have excellent welding performance as stable arc, little spatter, easy slag removal and reigniting-ability etc. Also it has advantages of better molten pool control, stronger arc force and deeper penetration at vertical-down position.

ATTENTION:

1. In generally, don't need to re-dry the electrode before welding. When it be affected with damp, should be re-dry it at 70℃ -90℃ for 1 hour.
2. The rust, oil, water and other impurities of the weld area must be removed before welding.

WELDING POSITIONS : PA, PB, PC, PD, PE, PF

X-ray flaw detection : Ⅱ level

DEPOSIT COMPOSITION (Quality Score): %

Items	C	Mn	Si	P	S
Requirements	≤ 0. 20	≤ 1. 20	≤ 1. 00	≤ 0. 040	≤ 0. 035
Typical esults	0. 09	0. 42	0. 15	0. 025	0. 020

MECHANICAL PROPERTIES:

Items	Tensile Strength Rm/MPa	Yield Strength Rel/$Rp_{0.2}$ MPa	Elongation A/%	Charpy V-Notch KV_2(J)-30℃
Requirements	≥ 430	≥ 330	≥ 20	≥ 27
Typical Results	475	400	26	80

TYPICAL OPERATING PROCEDURES: (AC,DC+)

Diameter (mm)	2. 5	3. 2	4. 0	5. 0
Current (A)	40-60	80-100	100-140	150-200

AWS E7018

APPLICATIONS:

It is suitable for the welding of carbon steel and low alloy steel structure, such as Q345, and so on.

FEATURES:

E7018 is basic coated iron powder low potassium hydrogen type electrode. Both AC and DC can be used and can be all-position welding. It can reach excellent welding performance, good arc stiffness, little spatter, easy slag removal and good weld appearance, high deposition efficiency, and can reduce welding layers.

ATTENTION:

1. Electrode must be approved by 350-380℃ for 1 hour before welding, dry the electrode when use it.
2. The rust, oil, water and other impurities of the weld must be removed before welding.
3. Must use short arc welding, the swings should not be too large, narrow bead welding is appropriate.
4. To prevent producing arc porosity, arc plate should be adopted or use return method for arc welding.

WELDING POSITIONS : PA, PB, PC, PD, PE, PF

X-ray flaw detection : Ⅰ level

DEPOSIT COMPOSITION (Quality Score): %

Items	C	Mn	Si	P	S	Cr	Ni	Mo	V
Requirements	≤ 0. 10	0. 85-1. 40	≤ 0. 65	≤ 0. 035	≤ 0. 030	≤ 0. 20	≤ 0. 30	≤ 0. 30	≤ 0. 08
Typical Results	0. 06	1. 00	0. 30	0. 020	0. 015	0. 035	0. 030	0. 005	0. 004

MECHANICAL PROPERTIES:

Items	Tensile Strength Rm/MPa	Yield Strength Rel/$Rp_{0.2}$ MPa	Elongation A/%	Charpy V-Notch KV_2(J)-30℃
Requirements	490-660	≥ 400	≥ 20	≥ 80
Typical Results	590	480	28	160

TYPICAL OPERATING PROCEDURES: (AC,DC+)

Diameter (mm)	2. 5	3. 2	4. 0	5. 0
Current (A)	60-100	100-150	170-210	210-250

非合金钢及细晶粒钢焊条
NON ALLOY STEEL AND FINE GRAIN STEEL WELDING ELECTRODE

品名 Class	规格（毫米） Specification (mm)	符合标准 Equivalent Standard		焊接位置 Welding Position	电流类型 Type Of Current	典型的熔敷金属化学成分例值 (wt%) Typical Chemical Composition Of Deposited Metal(wt%)								
		国标 GB	美标 AWS			C	Mn	Si	P	S	Cr	Ni	Mo	V
JH.J421	2.0/2.5/3.2/4.0/5.0	E4313	E6013	PA,PB,PC,PD,PE,PF	DC/AC	0.08	0.37	0.18	0.025	0.02	-	-	-	-
JH.J421-T	2.0/2.5/3.2/4.0/5.0	E4313	E6013-T	PA,PB,PC,PD,PE,PF	DC/AC	0.08	0.37	0.18	0.025	0.020	-	-	-	-
JH.J421Fe18	2.0/2.5/3.2/4.0/5.0	E4324	-	PA,PB	DC/AC	0.09	0.4	0.18	0.025	0.02	-	-	-	-
JH.J422	2.0/2.5/3.2/4.0/5.0	E4303	-	PA,PB,PC,PD,PE,PF	DC/AC	0.08	0.37	0.14	0.022	0.018	-	-	-	-
JH.J425	2.0/2.5/3.2/4.0/5.0	E4311	E6011	PA,PB,PC,PD,PE,PF	DC+/AC	0.09	0.42	0.15	0.025	0.020	-	-	-	-
JH.J425G	2.0/2.5/3.2/4.0/5.0	E4310	E6010	PA,PB,PC,PD,PE,PF,PG	DC+	0.09	0.42	0.15	0.025	0.020	-	-	-	-
JH.J426	2.0/2.5/3.2/4.0/5.0	E4316	-	PA,PB,PC,PD,PE,PF	DC+/AC	0.08	0.65	0.28	0.021	0.016	0.035	0.030	0.005	0.004
JH.J427	2.0/2.5/3.2/4.0/5.0	E4315	-	PA,PB,PC,PD,PE,PF	DC+	0.08	0.64	0.31	0.019	0.013	0.035	0.030	0.005	0.004
JH.J501Fe18	2.0/2.5/3.2/4.0/5.0	E5024	E7024	PA,PB	DC/AC	0.08	0.74	0.27	0.022	0.017	0.035	0.030	0.005	0.004
JH.J502	2.0/2.5/3.2/4.0/5.0	E5003	-	PA,PB,PC,PD,PE,PF	DC/AC	0.09	0.70	0.24	0.025	0.020	0.035	0.030	0.005	0.004
JH.J506	2.0/2.5/3.2/4.0/5.0	E5016	E7016	PA,PB,PC,PD,PE,PF	DC+/AC	0.07	1.10	0.35	0.018	0.012	0.035	0.030	0.005	0.004
JH.J506X	2.0/2.5/3.2/4.0/5.0	E5016	E7016	PA,PB,PC,PD,PE,PF,PG	DC+/AC	0.07	1.10	0.35	0.021	0.016	0.035	0.030	0.005	0.004
JH.J506Fe	2.0/2.5/3.2/4.0/5.0	E5018	E7018	PA,PB,PC,PD,PE,PF	DC+/AC	0.06	1.00	0.30	0.020	0.015	0.035	0.030	0.005	0.004
JH.J506Fe16	2.0/2.5/3.2/4.0/5.0	E5028	E7028	PA,PB	DC+/AC	0.07	1.10	0.30	0.021	0.012	0.035	0.030	0.005	0.004
JH.J507	2.0/2.5/3.2/4.0/5.0	E5015	E7015	PA,PB,PC,PD,PE,PF	DC+	0.07	1.00	0.32	0.017	0.012	0.035	0.030	0.005	0.004

※ 上表对应焊条药粉，我司也可生产。Our company also produce welding powder for electrode making corresponding to above table.

典型的熔敷金属机械性能例值 Typical Mechanical Properties Of Deposited Metal				应用 Application
屈服强度 Y.P.(MPa)	抗拉强度 T.S.(MPa)	延伸率 E.L.(%)	冲击 I.V.(J)	
430	500	27	0℃ / 80	适用于焊接一般低碳钢结构。 For welding general low carbon steel structures.
440	510	24	0℃ / 87	
430	490	28	0℃ / 70	用于船体结构低碳钢和相应等级的普低钢的平焊、平角焊。 Used for downhand welding and flat fillet welding on general low-carbon steel structures.
420	480	28	0℃ / 80	焊接较重要的低碳钢结构和相同强度的等级的低合金钢。 For welding key structures of low carbon steel and low alloy steels with corresponding strength.
400	475	26	-30℃ / 80	焊接建筑薄板及钢管焊接。 For welding steel sheets and pipes for building.
400	475	26	-30℃ / 80	各种碳钢钢管环缝向下焊接。 For girth downward welding on all kinds of carbon steel pipes.
410	485	30	-30℃ / 160	焊接较重要的低碳钢及某些低合金钢结构。 For welding key structures of low carbon steel and some low alloy steel.
421	487	30	-30℃ / 165	
480	590	25	0℃ / 90	焊接 16Mn 及某些低合金钢结构的高效率焊条。 High efficient electrode for welding 16Mn and some low alloy steel structures.
460	530	28	0℃ / 90	焊接 16Mn 及相同强度等级的低合金钢的一般结构。 For welding 16Mn and general low alloy steel structures with corresponding strength.
510	590	30	-30℃ / 160	焊接中碳钢及 16Mn 等重要的低合金钢结构。 For welding medium carbon steel and some important low alloy steel structures, for example 16Mn.
490	580	28	-30℃ / 150	
480	590	28	-30℃ / 160	焊接 16Mn 及某些低合金结构的高效率焊条。 High efficient electrode for welding 16Mn and some low alloy steel structures.
480	590	28	-20℃ / 160	焊接 16Mn 及某些低合金结构的高效率焊条。 High efficient electrode for welding 16Mn and some low alloy steel structures
490	580	30	-30℃ / 180	焊接中碳钢及 16Mn 等重要的低合金钢结构。 For welding medium carbon steel and some important low alloy steel structures, for example 16Mn.

不锈钢焊条
STAINLESS STEEL WELDING ELECTRODE

品名 Class	规格（毫米） Specification (Mm)	符合标准 Equivalent Standard		焊接位置 Welding Position	电流类型 Type Of Current	典型的熔敷金属化学成分例值 (wt%) Typical Chemical Composition Of Deposited Metal(wt%)									
		国标 GB	美标 AWS			C	Mn	Si	P	S	Cr	Ni	Mo	Cu	Others
JH.A002	2.5/3.2/4.0/5.0	E308L-16	E308L-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.018	0.85	0.65	0.022	0.008	19.80	9.51	0.08	0.05	-
JH.A002Nb	2.5/3.2/4.0/5.0	E347L-16	E347L-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.031	0.73	0.62	0.025	0.008	19.95	9.92	0.13	0.18	Nb+Ta:0.33
JH.A022	2.5/3.2/4.0/5.0	E316L-16	E316L-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.030	0.93	0.55	0.021	0.007	18.81	11.39	2.20	0.05	-
JH.A032	2.5/3.2/4.0/5.0	E317L-16	E317L-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.027	0.90	0.58	0.024	0.007	20.10	12.40	3.80	0.06	-
JH.A042	2.5/3.2/4.0/5.0	E309LMo-16	E309LMo-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.027	0.81	0.65	0.022	0.009	22.85	13.10	2.58	0.02	-
JH.A062	2.5/3.2/4.0/5.0	E309L-16	E309L-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.018	0.73	0.68	0.021	0.009	23.56	13.23	0.28	0.02	-

典型的熔敷金属机械性能例值 Typical Mechanical Properties Of Deposited Metal				应用 Application
屈服强度 Y.P.(MPa)	抗拉强度 T.S.(MPa)	延伸率 E.L.(%)	冲击 I.V.(J)	
-	590	38	-	用于焊接 00Cr19Ni10 不锈钢，也可用于工作温度低于 300℃耐腐蚀的 06Cr18Ni11Ti 不锈钢结构件。 For welding 00Cr19Ni10 stainless steel and corrosion-resistant 06Cr18Ni11Ti stainless steel structural parts whose working temperature is below 300℃ .
-	610	43	-	用于焊接重要的超低碳耐腐蚀含钛稳定的 Cr19Ni11Ti 型不锈钢，也可用于热壁加氢反应器内壁不锈钢堆焊。 For welding Cr19Ni11Ti stainless steel with corrosion resistance and tianium stability, and also caldding on stainless steel of the inner wall of hot-wall hydrogenation reactor.
-	565	37	-	用于焊接尿素、合成纤维等设备及相同类型的不锈钢结构，也可用于不能进行热处理的铬不锈钢以及复合钢和异种钢。 For welding urea, synthetic fibers and other equipments and the same type of stainless steel structure, can also be used for chromium stainless steel, composite steel and heterogeneous steel which can not being heat treatment.
-	580	29	-	用于焊接在稀、中浓度硫酸中工作的同类超低碳不锈钢结构。 For welding similar ultra-low carbon stainless steel structure which works in dilute and medium sulphuric acid.
-	595	36	-	用于焊接同类超低碳不锈钢结构（如尿素合成塔衬里），也可用于异种钢焊接。 For welding the same type of ultra-low carbon stainless steel structure(such as urea synthesis tower lining), and also can be used to weld dissimilar steel.
-	570	35	-	用于焊接石油化工设备制造的同类不锈钢结构，复合钢和异种钢的构件。 For welding similar carbon stainless steel structure, composite steel and dissimilar steel components for petrochemical equipment manufacturing.

品名 Class	规格 (毫米) Specification (Mm)	符合标准 Equivalent Standard		焊接位置 Welding Position	电流类型 Type Of Current	典型的熔敷金属化学成分例值 (wt%) Typical Chemical Composition Of Deposited Metal(wt%)									
		国标 GB	美标 AWS			C	Mn	Si	P	S	Cr	Ni	Mo	Cu	Others
JH.A102	2.5/3.2/4.0/5.0	E308-16	E308-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.041	0.66	0.46	0.027	0.005	18.42	9.32	0.10	0.05	-
JH.A102H	2.5/3.2/4.0/5.0	E308H-16	E308H-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.050	0.86	0.72	0.027	0.014	19.72	9.39	0.18	0.12	-
JH.A132	2.5/3.2/4.0/5.0	E347-16	E347-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.047	0.83	0.64	0.022	0.005	19.53	9.52	0.13	0.05	Nb+Ta:0.42
JH.A172	2.5/3.2/4.0/5.0	E307-16	E307-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.070	3.76	0.88	0.026	0.005	20.16	9.06	0.91	0.38	-
JH.A202	2.5/3.2/4.0/5.0	E316-16	E316-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.016	0.79	0.57	0.022	0.009	19.27	11.64	2.26	0.08	-
JH.A212	2.5/3.2/4.0/5.0	E318-16	E318-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.026	0.75	0.60	0.019	0.006	19.30	11.60	2.30	0.04	Nb+Ta:0.26
JH.A302	2.5/3.2/4.0/5.0	E309-16	E309-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.038	0.98	0.63	0.022	0.006	24.51	12.18	0.23	0.05	-
JH.A312	2.5/3.2/4.0/5.0	E309Mo-16	E309Mo-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.057	0.81	0.52	0.021	0.008	22.12	12.93	2.32	0.05	-
JH.A402	2.5/3.2/4.0/5.0	E310-16	E310-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.12	2.41	0.48	0.022	0.009	26.30	21.60	0.23	0.14	-
JH.A412	2.5/3.2/4.0/5.0	E310Mo-16	E310Mo-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.10	2.20	0.32	0.025	0.007	25.23	20.12	2.85	0.03	-
JH.A432	2.5/3.2/4.0/5.0	E310H-16	E310H-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.41	1.98	0.35	0.026	0.006	25.62	20.77	0.05	0.02	-
JH.A902	2.5/3.2/4.0/5.0	E320-16	E320-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.038	1.91	0.38	0.020	0.004	19.28	32.28	2.24	3.31	Nb+Ta:0.36
JH.E2209	2.5/3.2/4.0/5.0	E2209-16	E2209-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.037	0.74	0.65	0.021	0.007	22.95	9.08	3.43	0.01	N:0.16
JH.E2253	2.5/3.2/4.0/5.0	E2553-16	E2553-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.034	0.67	0.52	0.025	0.001	24.50	8.38	3.62	1.89	N:0.18
JH.E2594	2.5/3.2/4.0/5.0	E2594-16	E2594-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.032	0.64	0.67	0.022	0.012	25.26	8.82	4.38	0.01	N:0.25
JH.E312	2.5/3.2/4.0/5.0	E312-16	E312-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.065	0.86	0.90	0.029	0.008	30.32	9.38	0.06	0.07	-
JH.E385	2.5/3.2/4.0/5.0	E385-16	E385-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.013	1.46	0.57	0.011	0.009	20.75	25.90	4.68	1.54	-
JH.E630	2.5/3.2/4.0/5.0	E630-16	E630-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.034	0.38	0.69	0.025	0.013	16.31	4.71	0.18	3.73	Nb+Ta: 0.26
JH.G202	2.5/3.2/4.0/5.0	E410-16	E410-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.074	0.38	0.44	0.025	0.011	12.58	0.20	0.08	0.08	-
JH.G207	2.5/3.2/4.0/5.0	E410-15	E410-15	PA,PB,PC,PD,PE,PF	DC+	0.066	0.23	0.75	0.024	0.009	13.62	0.10	0.01	0.02	-
JH.G232	2.5/3.2/4.0/5.0	E410NiMo-16	E410NiMo-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.041	0.56	0.42	0.029	0.011	11.51	4.52	0.60	0.08	-
JH.G302	2.5/3.2/4.0/5.0	E430-16	E430-16	PA,PB,PC,PD,PE,PF	DC+/AC	0.075	0.38	0.45	0.027	0.013	16.78	0.20	0.16	0.14	-
JH.G307	2.5/3.2/4.0/5.0	E430-15	E430-15	PA,PB,PC,PD,PE,PF	DC+	0.036	0.16	0.71	0.019	0.006	17.86	0.12	0.26	0.05	-

典型的熔敷金属机械性能例值 Typical Mechanical Properties Of Deposited Metal				应用 Application
屈服强度 Y.P.(MPa)	抗拉强度 T.S.(MPa)	延伸率 E.L.(%)	冲击 I.V.(J)	
-	595	39	-	用于焊接工作温度低于 300 C 的 06Cr19Ni10 不锈钢结构件。 For welding 06Cr19Ni10 stainless steel structural parts whose working temperature is below 300 C .
-	612	44	-	广泛用于石油化工和化工厂，特别是旋分离器的制造，催化裂化装置中用于催化剂在循环的输送管线的制造。 Widely used in petrochemical and chemical plants, especially in the manufacture of rotary separators, catalyitc cracking unit for the production of catalyst recycling pipelines.
-	580	37	-	用于焊接重要的含钛或铌稳定的 Cr18Ni11 型耐腐蚀不锈钢。 For welding Cr18Ni11 type corrosion resistant stainless steel with titanium or niobium stability.
-	620	39	-	用于焊接 ASTM 307 钢或其它异种钢，也可用于耐冲击腐蚀钢和过渡层的堆焊。 For welding ASTM 307 steel or other dissimilar steel. It can also be used for cladding of impact corrsion resistant steel and transition layer.
-	590	38	-	用于焊接在有机和无机酸 (非氧化性酸) 介质中工作的 06Cr17Ni12Mo2 不锈钢设备。 For welding 06Cr17Ni12Mo2 stainless steel equipments which are in organic and inorganic acid(non-oxidizing acid)medium.
-	595	39	-	用于焊接重要的 06Cr17Ni12Mo2Ti, 06Cr17Ni12Mo2Nb，超低碳 00Cr17Ni12Mo2 不锈钢。 For welding important 06Cr17Ni12Mo2Ti, 06Cr17Ni12Mo2Nb, and ultra-low carbon 00Cr17Ni12Mo2 stainless steel.
-	590	37	-	用于焊接相同类型不锈钢，不锈钢衬里，异种钢 (Cr19Ni10 和低碳钢) 以及高铬钢、高锰钢。 For welding the same type of stainless steel structure, stainless steel lining, dissimilar steel (Cr19Ni10 and low carbon steel), high chromium steel, high manganese steel, etc.
-	590	37	-	用于焊接耐硫酸介质腐蚀的同类型不锈钢容器，也可用于不锈钢衬里、复合钢板、异种钢焊接。 For welding the same type stainless steel vessel which is resistant to sulfuric acid medium. It can also be used for welding stainless steel liner, clad steel plate and dissimilar steel.
-	610	40	-	用于焊接高温条件下工作的同类型不锈钢，并可焊接 Cr5Mo、Cr9Mo、Cr13 以及异种钢等。 For welding the same type of stainless steel at high temperature, and also can weld Cr5Mo, Cr9Mo, Cr13 and dissimilar steel, etc.
-	595	40	-	用于焊接高温条件下工作的耐热不锈钢，也可用于不锈钢衬里、复合钢板、异种钢焊接。 For welding the resistant-heat stainless steel at high temperature. It can also be used for welding stainless steel liner, clad steel plate and dissimilar steel.
-	660	13	-	用于焊接 HK40 耐热钢。 For welding HK40 resistant-heat steel.
-	595	35	-	用于焊接硫酸、硝酸、磷酸和氧化性酸腐蚀介质中使用的 Carpenter20Cb 镍合金等。 For welding Carpenter 20Cb nickel alloy used for welding in sulphuric acid, nitric acid, phosphoric acid and oxidizing acid corrosive medium.
-	750	28	-	用于焊接石化、水工行业的同类型超低碳不锈钢。 For welding the same type of Ultra-low carbonstainless steel which are used in petrochemical and hydraulic industries.
-	850	21	-	用于焊接含 25%Cr 的双相不锈钢。 For welding duplex stainless steel containing 25% Cr.
-	790	23	-	用于焊接海洋石油、天然气、石化行业的同类型双相不锈钢，如 03Cr25NiMo4N 等。 For welding the same type of duplex stainless steel in offshore oil, natrual gas and petrochemical industries, such as 03Cr25NiMo4N.
-	740	28	-	用于焊接高碳钢、工具钢及异种钢等，具有优良的抗裂性。 It has excellent crack resistance for welding high carbon steel, tool steel and dissimilar steel.
-	598	41	-	合金成分为 20%Cr-25%Ni-5%Mo-2%Cu, 具有优良的耐硫酸、磷酸、其它有机酸和无机酸的腐蚀，适用于生产化肥、磷酸、硫酸等的应用场合。 The alloy compostion is 20%Cr-25%Ni-5%Mo-2%Cu. It has excellent corrosion resistance to sulphuric acid, phosphoric acid, other organic acids and inorganic acids. It is suitable for the application of fertilizer, phosphoric acid, sulphuric acid, etc.
-	975	15	-	适用于强度非常高的马氏体不锈钢，通过添加 Cu 来沉淀硬化，强度可达到标准 300 系列奥氏体不锈钢的 3 倍，适用于油气、石化等行业中的泵轴、叶轮、液压设备等。 It is suitable for martensitic stainless steel with very high strength. It can be precipitated and hardened by adding copper. Its strength can reach three times of standard 300 series austenitic stainless steel. It is suitable for pump shaft, impeller and hydraulic quipment in oil, gas and petrochemical industries.
-	540	28	-	用于焊接 06Cr13 及 12Cr13 钢，也可用于耐蚀耐磨的表面堆焊。 For welding 06Cr13 and 12Cr13 steel, as well as for cladding of corrosion-resistant and wear-resistant surface.
-	585	29	-	用于焊接 06Cr13 及 12Cr13 钢，也可用于耐蚀耐磨的表面堆焊。 For welding 06Cr13 and 12Cr13 steel, as well as for cladding of corrosion-resistant and wear-resistant surface.
-	850	20	-	用于焊接 Cr13NiMo 同类钢或 06Cr13 钢，强度和硬度高于 E410，用于更苛刻的耐蚀耐磨的表面堆焊。 For welding Cr13NiMo similar steel or 06Cr13 steel. It's strength and hardness are higher thanE410. It is used for surface cladding with more severe corrosion resistance and wear resistance.
-	535	33	-	用于焊接耐硝酸腐蚀的、耐热的 Cr17 不锈钢结构件。 For welding stainless steel Cr17 structure parts with nitric acid corrosion resistance and heat resistance.
-	561	25	-	用于焊接耐硝酸腐蚀的、耐热的 Cr17 不锈钢结构件。 For welding stainless steel Cr17 structure parts with nitric acid corrosion resistance and heat resistance.

高强度钢焊条
HIGH TENSILE STRENGTH STEEL WELDING ELECTRODE

品名 Class	规格（毫米）Specification (mm)	符合标准 Equivalent Standard		焊接位置 Welding Position	电流类型 Type Of Current	典型的熔敷金属化学成分例值 (wt%) Typical Chemical Composition Of Deposited Metal(wt%)									
		国标 GB	美标 AWS			C	Mn	Si	P	S	Cr	Ni	Mo	V	Others
JH.E9018M	2.5/3.2/4.0/5.0	E6218-N3M1	E9018M	PA,PB,PC,PD,PE,PF	DC+/AC	0.058	1.02	0.37	0.024	0.011	0.13	1.66	0.33	0.01	-
JH.E11018M	2.5/3.2/4.0/5.0	E7618-N4M2	E11018M	PA,PB,PC,PD,PE,PF	DC+/AC	0.065	1.38	0.42	0.019	0.008	0.26	2.19	0.43	0.01	-

典型的熔敷金属机械性能例值 Typical Mechanical Properties Of Deposited Metal				应用 Application
屈服强度 Y.P.(MPa)	抗拉强度 T.S.(MPa)	延伸率 E.L.(%)	冲击 I.V.(J)	
595	690	26	-50℃ /85	620MPa 级高强度钢焊接用，铁粉低氢型药皮。 For welding 620MPa grade high strength steel, the coat is iron powder low hydrogen type.
750	830	23	-50℃ /80	760MPa 级高强度钢焊接用，铁粉低氢型药皮。 For welding 760MPa grade high strength steel, the coat is iron powder low hydrogen type.

耐热钢焊条
HEAT RESISTING STEEL WELDING ELECTRODE

品名 Class	规格（毫米）Specification (mm)	符合标准 Equivalent Standard		焊接位置 Welding Position	电流类型 Type Of Current	典型的熔敷金属化学成分例值 (wt%) Typical Chemical Composition Of Deposited Metal(wt%)									
		国标 GB	美标 AWS			C	Mn	Si	P	S	Cr	Mo	V	Cu	Others
JH.R307	2.5/3.2/4.0/5.0	E5515-1CM	E8015-B2	PA,PB,PC,PD,PE,PF	DC+	0.065	0.6	0.39	0.021	0.012	1.18	0.55	-	-	-
JH.R308	2.5/3.2/4.0/5.0	E5518-1CM	E8018-B2	PA,PB,PC,PD,PE,PF	DC+/AC	0.073	0.75	0.35	0.018	0.010	1.25	0.50	-	-	-
JH.R317	2.5/3.2/4.0/5.0	E5515-1CMV	-	PA,PB,PC,PD,PE,PF	DC+	0.058	0.64	0.25	0.018	0.012	1.16	0.44	0.18	-	-
JH.R407	2.5/3.2/4.0/5.0	E6215-2C1M	E9015-B3	PA,PB,PC,PD,PE,PF	DC+	0.076	0.71	0.34	0.016	0.010	2.43	1.15	-	-	-
JH.R408	2.5/3.2/4.0/5.0	E6218-2C1M	E9018-B3	PA,PB,PC,PD,PE,PF	DC+/AC	0.070	0.75	0.35	0.020	0.008	2.28	1.05	-	-	-
JH.R507	2.5/3.2/4.0/5.0	E5515-5CMV	-	PA,PB,PC,PD,PE,PF	DC+	0.070	0.70	0.41	0.020	0.008	5.25	0.55	0.25	0.05	-
JH.R707	2.5/3.2/4.0/5.0	E6215-9C1M	E8015-B8	PA,PB,PC,PD,PE,PF	DC+	0.086	0.61	0.21	0.019	0.007	10.28	0.95	-	-	Ni:0.15
JH.R717	2.5/3.2/4.0/5.0	E6215-9C1MV	E9015-B91	PA,PB,PC,PD,PE,PF	DC+	0.092	0.73	0.23	0.018	0.009	9.50	0.99	0.25	-	Ni:0.65 Nb:0.05 N:0.05 Al:0.01

典型的熔敷金属机械性能例值 Typical Mechanical Properties Of Deposited Metal				应用 Application
屈服强度 Y.P.(MPa)	抗拉强度 T.S.(MPa)	延伸率 E.L.(%)	冲击 I.V.(J)	
501	595	26	常温 /165	适用于焊接工作温度低于 520℃的珠光体耐热钢，如 15CrMo 等。 For welding pearlite heat-resistant steel, such as 15CrMo, whose welding working temperature is lower than 520℃.
520	590	21	常温 /145	适用于焊接工作温度低于 520℃的珠光体耐热钢，如 15CrMo 等。 For welding pearlite heat-resistant steel, such as 15CrMo, whose welding working temperature is lower than 520℃.
545	641	22	常温 /115	适用于焊接工作温度低于 540℃的珠光体耐热钢，如 12CrMoV 等。 For welding pearlite heat-resistant steel, such as 12CrMoV, whose welding working temperature is lower than 540℃.
580	650	19	常温 /150	适用于焊接 2.25Cr-1Mo 类珠光体耐热钢结构。 For welding pearlite heat-resistant steel, such as 2.25Cr-1Mo.
575	675	19.5	常温 /160	适用于焊接 2.25Cr-1Mo 类珠光体耐热钢结构。 For welding pearlite heat-resistant steel, such as 2.25Cr-1Mo.
510	625	22	常温 /182	适用于焊接 Cr5MoV 类钢，如 400℃的高温抗氢腐蚀的管道。 For welding Cr5MoV, such as high temperature hydrogen corrosion resistant pipeline at 400℃.
640	720	20	-	适用于 9Cr-1Mo 钢的焊接。 For welding 9Cr-1Mo.
621	764	20	-	适用于焊接高温高压锅炉的过热管、封头等，如 A213-T91/A335-P91 等耐热钢结构。 For welding superheater tubes and heads of high temperature and high pressure boilers, suh as A213-T91/A335-P91 and other heat-resistant steel structures.

硬面堆焊焊条
HARD-FACED CLADDING WELDING ELECTRODE

品名 Class	规格（毫米）Specification (mm)	符合标准 Equivalent Standard		焊接位置 Welding Position	电流类型 Type Of Current	典型的熔敷金属化学成分例值 (wt%) Typical Chemical Composition Of Deposited Metal(wt%)									
		国标 GB	美标 AWS			C	Mn	Si	P	S	Cr	Mo	V	W	Others
JH.D256	3.2/4.0/5.0	EDMn-A-16	EFeMn-A	PA,PB	DC+/AC	0.68	14.16	0.52	-	-	-	-	-	-	-
JH.D506	3.2/4.0/5.0	EDCr-A1-16	-	PA,PB	DC+/AC	0.12	-	-	0.022	0.007	12.85	-	-	-	-
JH.D507	3.2/4.0/5.0	EDCr-A1-15	-	PA,PB	DC+	0.12	-	-	0.024	0.008	13.47	-	-	-	-
JH.D608	3.2/4.0/5.0	EDZ-A1-08	-	PA,PB	DC+/AC	3.61	-	-	-	-	3.82	4.16	-	-	-

典型的熔敷金属机械性能例值 Typical Mechanical Properties Of Deposited Metal	应用 Application
HB:190	适用于堆焊各种破碎机、高锰钢轨、推土机等受冲击而易磨损的部分。 For cladding all kinds of crushers, high manganese rails, bulldozers and other parts which are vulnerable to impact and die damage.
HRC:41	适用于堆焊工作温度低于 450℃的碳钢或合金钢的轴及阀门等。 For cladding shafts and valves of carbon steel or alloy steel whose surfacing temperature is below 450℃.
HRC:41	适用于堆焊工作温度低于 450℃的碳钢或合金钢的轴及阀门等。 For cladding shafts and valves of carbon steel or alloy steel whose surfacing temperature is below 450℃.
HRC:56	适用于农业机械、矿山设备等、承受沙粒磨损与轻微冲击的零件。 Hardfacing of agricultural and mining mechanical parts, which bear light impact load and have good resistance to abrasion of sands and minerals.

铸铁焊条
CAST IRON WELDING ELECTRODE

品名 Class	规格（毫米） Specification (mm)	符合标准 Equivalent Standard		焊接位置 Welding Position	电流类型 Type Of Current	典型的熔敷金属化学成分例值 (wt%) Typical Chemical Composition Of Deposited Metal(wt%)						
		国标 GB	美标 AWS			C	Mn	Si	S	Fe	Ni	Others
JH.Z208	2.5/3.2/4.0/5.0	EZC	-	PA,PB,PC,PD,PE,PF	DC+/AC	2.61	0.34	3.67	0.012	Rem	-	-
JH.Z308	2.5/3.2/4.0/5.0	EZNi-1	ENi-CI	PA,PB,PC,PD,PE,PF	DC+/AC	1.12	0.31	1.55	0.007	1.52	92.80	-
JH.Z408	2.5/3.2/4.0/5.0	EZNiFe-1	ENiFe-CI	PA,PB,PC,PD,PE,PF	DC+/AC	1.19	1.21	0.38	0.007	Rem	53.01	-
JH.Z508	2.5/3.2/4.0/5.0	EZNiCu-1	ENiCu-B	PA,PB,PC,PD,PE,PF	DC+/AC	0.4	1.80	0.45	0.012	4.70	63.50	Cu：28.7

典型的熔敷金属机械性能例值 Typical Mechanical Properties Of Deposited Metal				应用 Application
屈服强度 Y.P.(Mpa)	抗拉强度 T.S.(Mpa)	延伸率 E.L(%)	冲击 I.V.(J)	
-	-	-	-	适用于焊补一般灰口铸铁件。 For welding and repairing general gray iron castings.
-	-	-	-	适用于焊补重要灰口铸铁薄壁件和加工件。 For welding and repairing important thin-walled gray cast iron parts and workpieces.
-	-	-	-	适用于焊补重要灰口铸铁及球磨铸铁件。 For welding and repairing important gray cast iron parts and ball-milled cast iron.
-	-	-	-	适用于焊补强度不高的灰口铸铁件。 For welding gray iron castings with low strength.

镍及镍合金钢焊条
NICKEL AND NICKEL-BASED ALLOY STEEL WELDING ELECTRODE

品名 Class	规格（毫米） Specification (mm)	符合标准 Equivalent Standard		焊接位置 Welding Position	电流类型 Type Of Current	典型的熔敷金属化学成分例值 (wt%) Typical Chemical Composition Of Deposited Metal(wt%)									
		国标 GB	美标 AWS			C	Mn	Si	P	S	Cu	Ni	Fe	Ti	Others
JH.Ni107	2.5/3.2/4.0	ENi2061	ENi-1	PA,PB,PC,PD,PE,PF	DC+/AC	0.021	0.32	0.71	0.009	0.004	0.11	95.47	0.54	1.38	Al:0.01
JH.Ni207	2.5/3.2/4.0	ENi4060	ENiCu-7	PA,PB,PC,PD,PE,PF	DC+	0.023	3.34	0.81	0.009	0.005	27.30	67.38	0.50	0.42	Al:0.03
JH.Ni307-3	2.5/3.2/4.0	ENi6182	ENiCrFe-3	PA,PB,PC,PD,PE,PF	DC+	0.038	6.79	0.35	0.007	0.005	0.05	68.85	5.71	0.09	Cr:15.93 Nb+Ta:1.52
JH.Ni327-3	2.5/3.2/4.0	ENi6625	ENiCrMo-3	PA,PB,PC,PD,PE,PF	DC+	0.038	0.20	0.45	0.014	0.002	0.03	62.40	2.51	-	Cr:21.45 Nb+Ta:3.56 Mo:9.59
JH.Ni327-4	2.5/3.2/4.0	ENi6276	ENiCrMo-4	PA,PB,PC,PD,PE,PF	DC+	0.016	0.73	0.18	0.008	0.007	0.04	58.20	4.90	-	Cr:15.70 W:3.92 Mo:16.25

典型的熔敷金属机械性能例值 Typical Mechanical Properties Of Deposited Metal				应用 Application
屈服强度 Y.P.(MPa)	抗拉强度 T.S.(MPa)	延伸率 E.L.(%)	冲击 I.V.(J)	
310	440	26	-	用于商业纯镍锻件和铸件本身及连接镍与钢的焊接，也可作为堆焊过渡层。 For welding of commercial pure nickel forgings and castings themselves and for joining nickel and steel. It can also be used as surfacing transition layer.
350	505	38	-	用于镍 - 铜系合金的焊接，也可用于钢和镍 - 铜系合金的异材焊接，以及钢的表面堆焊。 For welding of nickel-copper alloys, welding of steel and nickel-copper alloys, and cladding of steel.
395	625	42	-	用于镍 - 铬 - 铁系合金的焊接，也可用于钢的表面堆焊及钢和镍基合金的异材焊接。 For welding of nickel-chromium-iron alloys, cladding of steel and welding of different materials of steel and nickel-based alloys.
510	785	38	-	用于镍 - 铬 - 钼系合金的焊接，也可用于钢的表面堆焊及钢和镍基合金的异材焊接。 For welding of nickel-chromium-molybdenum alloys, cladding of steel and welding of different materials between steel and nickel-based alloys.
488	710	48	-	用于低碳 - 镍 - 铬 - 钼系合金的焊接，也可用于其它镍基合金的异材焊接。 It can be used in low-carbon nickel-chromium-molybdenum alloys, as well as in the welding of other nickel-based alloys.

钴基焊条
COBALT-BASED WELDING ELECTRODE

品名 Class	规格（毫米） Specification (mm)	符合标准 Equivalent Standard		焊接位置 Welding Position	电流类型 Type Of Current	典型的熔敷金属化学成分例值 (wt%) Typical Chemical Composition Of Deposited Metal(wt%)									
		国标 GB	美标 AWS			C	Mn	Si	Cr	W	Fe	Co	Ni	Mo	Others
JH.D802	2.5/3.2/4.0/4.8	EDCoCr-A-03	EDCoCr-A	PA,PB	DC+/AC	1.21	0.79	0.78	30.83	4.75	2.80	Rem	2.71	0.23	-
JH.D812	2.5/3.2/4.0/4.8	EDCoCr-B-03	EDCoCr-B	PA,PB	DC+/AC	1.41	1.28	0.99	30.45	8.55	2.97	Rem	2.45	0.18	-

典型的熔敷金属机械性能例值 Typical Mechanical Properties Of Deposited Metal				应用 Application
屈服强度 Y.P.(MPa)	抗拉强度 T.S.(MPa)	延伸率 E.L.(%)	冲击 I.V.(J)	
-	-	-	-	用于堆焊高温高压阀门、热剪切刀刃发动机气门等。 Used for cladding high temperature and high pressure valves, thermal cutting blade engine valves, etc.
-	-	-	-	用于堆焊高温高压阀门，高压泵的轴套筒和内衬套筒、螺旋推杆等。 Used for cladding high temperature and high pressure valves,axle sleeve and liner sleeve of high pressure pump, screw push rod, etc.

碳钢实心焊丝
CARBON STEEL SOLID WELDING WIRE

品名 Class	规格（毫米）Specification (mm)		符合标准 Equivalent Standard		焊接位置 Welding Position	电流类型 / 气体 Type Of Current/Gas	典型的熔敷金属化学成分例值 (wt%) Typical Chemical Composition Of Deposited Metal(wt%)										
	MIG	TIG	国标 GB	美标 AWS			C	Mn	Si	P	S	Cu	Cr	Ni	Mo	V	Others
JH.ER50-6Z	0.6 0.8 0.9 1.0 1.2 1.6 2.0	1.2 1.6 2.0 2.4 3.2 4.0	ER50-6	ER70S-6	PA PB PC PD PE PF	DC+/CO_2	0.08	1.5	0.80	0.010	0.020	0.11	0.022	0.029	0.008	0.020	-
JH.ER50-6			ER50-6	ER70S-6		DC+/CO_2	0.07	1.53	0.85	0.011	0.010	0.12	0.022	0.029	0.008	0.010	-
JH.ER50-2			ER50-2	ER70S-2		DC+/CO_2	0.05	1.20	0.60	0.016	0.010	0.20	-	-	-	-	Al: 0.08 Ti: 0.11 Zr:0.08
JH.ER50-3			ER50-3	ER70S-3		DC+/CO_2	0.074	1.01	0.62	0.015	0.011	0.11	0.020	0.021	0.007	0.010	-
JH.ER50-4			ER50-4	ER70S-4		DC+/CO_2	0.11	1.11	0.72	0.016	0.013	0.19	0.022	0.026	0.007	-	-
JH.ER49-1			ER49-1	-		DC+/CO_2	0.06	1.90	0.80	0.015	0.011	0.11	0.021	0.005	-	-	-
JH.ER50-G			ER50-G	ER70S-G		DC+/CO_2	0.10	1.45	0.71	0.011	0.013	0.14	-	-	-	-	Ti: 0.15
JH.ER55-G			ER55-1	ER80S-G		DC+/CO_2	0.07	1.70	0.60	0.005	0.05	0.21	-	-	0.18	-	Ti: 0.15
JH.ER60-G			ER60-G	ER90S-G		DC+/CO_2	0.07	1.70	0.60	0.005	0.05	0.21	-	-	0.18	-	Ti: 0.15
JH.ER70-G			ER70-G	ER100S-G		DC+/80%Ar +20%CO_2	0.083	1.72	0.62	0.014	0.008	0.24	-	1.14	0.42	-	Ti: 0.10
JH.ER80-G			ER80-G	ER110S-G		DC+/CO_2	0.074	1.75	0.47	0.008	0.004	0.20	0.30	2.11	0.54	-	-

典型的熔敷金属机械性能例值 Typical Mechanical Properties Of Deposited Metal				应用 Application
屈服强度 Y.P.(MPa)	抗拉强度 T.s.(MPa)	延伸率 E.L.(%)	冲击 I.V.(J)	
470	560	31	-30℃ /90	无镀铜焊丝 ER70S-6 用于焊接 500MPa 低合金钢单道和多道焊；也可用于高速薄板、管道钢的焊接。适用于手工焊接、自动焊接和机器人焊接，如石油机械、重型起重机械、压力容器、石油化工容器、船体、桥梁、建筑钢结构等。 Non-copper coated wire is used for welding 500MPa low alloy steel single and multi-pass welding; also for high speed thin plates, pipe line steel welding.Suitable for manual welding, automatic welding and robot welding, such as oil machinery, heavy crane machinery, pressure vessels, oil-chemical vessels, ship body, bridge, construction steel structure, etc.
425	540	31	-30℃ /89	用于焊接 500MPa 低合金钢单道和多道焊；也可用于高速薄板、管道钢的焊接。适用于手工焊接、自动焊接和机器人焊接，如石油机械、重型起重机械、压力容器、石油化工容器、船体、桥梁、建筑钢结构等。 Used for welding 500MPa low alloy steel single and multi-pass welding; also for high speed thin plates, pipe line steel welding. Suitable for manual welding, automatic welding and robot welding, such as oil machinery, heavy crane machinery, pressure vessels, oil-chemical vessels, ship body, bridge, construction steel structure, etc.
445	540	25	-30℃ /60	ER70S-2 实心焊丝，用于单道和多道焊接以及由 450MPa 和 500MPa 抗拉强度钢制成的对接或角焊缝结构，特别适用于高速焊接薄板，如汽车。 ER70S-2 is a solid wire for single-pass and multi-pass welding and butt or fillet structures made of 450MPa and 500MPa tensile strength steel, in particular for high speed welding sheet, eg, automobile.
435	540	29	-20℃ /90	用于焊接低碳钢薄板、表面处理彻底的低碳钢零件。 Used for welding low-carbon steel thin plates, low-carbon steel parts with thorough surface treatment.
425	540	29	-30℃ /75	用于焊接金属板和薄板、钢管。 Used for welding sheet metal and thin plates, steel pipes.
400	520	30	-	用于焊接低碳钢和一些低合金钢结构。 Used for welding low-carbon steel and some low-alloy steel structures.
520	593	30	-30℃ /157	用于焊接各种 500MPa 结构钢件、厚板、厚管道，用于 500MPa 母材的高速焊接。 Used for welding all kinds of 500MPa structural steel parts, thick plates and thick pipelines, for high speed welding on 500MPa base metals.
495	590	28	-40℃ /112	用于 500MPa 的耐候结构，如车辆、海洋工程、桥梁等。 Used for the weathering resistant structure on 500MPa such as vehicle, offshore engineering and bridge.
550	650	25	-20℃ /103	适用于焊接 600MPa 高强度钢结构，如工程机械、管道、船舶、压力容器等。 Suitable for welding 600MPa high strength steel structures, such as construction machinery, pipelines, ships, pressure vesse:s, etc.
650	750	23	-20℃ /121	适用于 700MPa 高强度钢结构的焊接，如工程机械、起重机械、桥梁、管道、船舶、压力容器等。 Suitable for welding 700MPa high strength steel structure, such as construction machinery, hoisting machinery, bridges, pipelines, ships, pressure vessels, etc.
730	840	24	-20℃ /90	适用于焊接抗拉强度 790MPa 的高强度结构。可用于压力容器、工程机械、起重机械、船舶、矿山机械等关键结构的焊接。 Suitable for welding high strength structures with tensile strength of 790MPa. It can be used for welding some key structures, such as pressure vessels, construction machinery, hoisting machinery, ships, mining machinery, etc.

不锈钢实芯焊丝
STAINLESS STEEL SOLID WELDING WIRE

品名 Class	规格（毫米）Specification (mm)		符合标准 Equivalent Standard		焊接位置 Welding Position	电流类型 / 气体 Type Of Current/Gas	典型的熔敷金属化学成分例值 (wt%) Typical Chemical Composition Of Deposited Metal(wt%)								
	MIG	TIG	国标 GB	美标 AWS			C	Mn	Si	Cr	Ni	Mo	P	S	Others
JH.ER307	0.8 0.9 1.0 1.2 1.6 2.0	1.2 1.6 2.0 2.4 3.2 4.0	H09Cr21Ni9Mn4Mo	ER307	PA PB PC PD PE PF	DC+/Ar	0.080	4.50	0.43	20.02	9.52	0.97	0.012	0.011	-
JH.ER308			H08Cr21Ni10Si	ER308			0.040	1.80	0.31	20.15	9.52	0.43	0.013	0.008	-
JH.ER308L			H03Cr21Ni10Si	ER308L			0.023	1.63	0.40	20.12	10.35	0.37	0.013	0.009	-
JH.ER308LSi			H03Cr21Ni10Si1	ER308LSi			0.023	2.20	0.75	19.82	10.54	0.36	0.018	0.011	-

典型的熔敷金属机械性能例值 Typical Mechanical Properties Of Deposited Metal				应用 Application
屈服强度 Y.P.(MPa)	抗拉强度 T.S.(MPa)	延伸率 E.L.(%)	冲击 I.V.(J)	
-	635	39	-	用于核潜艇、弹道钢等需要无磁性的特殊场合，也可用于焊接困难、易开裂的异种钢。 Used in nuclear submarines, ballistic steel and other special occasions which require non-magnetic, and can also be used for dissimilar steel which is difficult to weld and easy to crack.
-	590	39	-	广泛用于焊接石油化工、压力容器、食品机械、医疗设备、化肥设备、纺织机械、核反应堆等，如焊接 12Cr18Ni9（SUS302）、06Cr19Ni10（SUS304）等材料。 Widely used for welding petrochemical, pressure vessels, food machinery, medical equipment, fertilizer equipment, textile machinery, nuclear reactors, such as welding 12Cr18Ni9(SUS302), 06Cr19Ni10(SUS 304) and other materials.
-	605	38	-	广泛用于石油化工、压力容器、食品机械、医疗设备、化肥设备、化肥设备、纺织机械、核反应堆等的焊接，如 022Cr19Ni10（SUS304L）等材料。 Widely used for welding petrochemical, pressure vessels, food machinery, medical equipment, fertilizer equipment, fertilizer equipment, textile machinery, nuclear reactors, such as welding 022Cr19Ni10(SUS 304L) and other materials.
-	610	39	-	广泛用于石油化工、压力容器、食品机械、医疗器械、化肥等相关行业的焊接，如 022Cr19Ni10（SUS304L）等材料的焊接。 Widely used for welding petrochemical, pressure vessels, food machinery, medical equipment, fertilizers and other related industries, such as welding 022Cr19Ni10(SUS 304L) and other materials.

品名 Class	规格（毫米）Specification (mm)		符合标准 Equivalent Standard		焊接位置 Welding Position	电流类型 / 气体 Type Of Current/Gas	典型的熔敷金属化学成分例值 (wt%) Typical Chemical Composition Of Deposited Metal(wt%)									典型的熔敷金属机械性能例值 Typical Mechanical Properties Of Deposited Metal				应用 Application
	MIG	TIG	国标 GB	美标 AWS			C	Mn	Si	Cr	Ni	Mo	P	S	Others	屈服强度 Y.P.(MPa)	抗拉强度 T.S.(MPa)	延伸率 E.L.(%)	冲击 I.V.(J)	
JH.ER309			H12Cr24Ni13Si	ER309			0.081	1.61	0.40	23.85	13.15	0.23	0.012	0.013	-	-	600	38	-	用于焊接碳钢和不锈钢异种材料或适用于韧性较差的马氏体、珠光体不锈钢。适用于石油化工、火力发电等行业。 Used for welding carbon steel and stainless steel dissimilar materials or applied to poor toughness martensite, pearlite stainless steel. Suitable for petrochemical, thermal power and other industries.
JH.ER309L			H03Cr24Ni13Si	ER309L			0.021	1.95	0.34	23.90	12.92	0.39	0.012	0.008	-	-	590	38	-	用于焊接碳钢和不锈钢异材焊接，石油化工行业或韧性较差的马氏体、铁素体不锈钢。 Used for welding carbon steel and stainless steel dissimilar materials, petrochemical industry such as the reation vessel wall cladding transition metal or applied to poor toughness martensite, ferritic stainless steel.
JH.ER309LSi			H03Cr24Ni13Si1	ER309LSi			0.021	2.33	0.78	23.93	13.84	0.46	0.012	0.014	-	-	585	39	-	用于焊接碳钢和不锈钢异材焊接，石油化工行业或韧性较差的马氏体、铁素体不锈钢。 Used for welding carbon steel and stainless steel dissimilar materials, petrochemical industry such as transition metal container wall cladding or applied to poor toughness martensite, ferritic stainless steel.
JH.ER310	0.8	1.2	H12Cr26Ni21Si	ER310	PA		0.087	2.00	0.38	27.42	21.82	0.35	0.011	0.009	-	-	595	38	-	常用于高温炉、煤焦化设备等产品的焊接，也可应用于复合层堆焊和异种钢的焊接。 Often used for welding products such as high-temperature furnaces, coal coking equipment, can also be applied to the composite layer surfacing and welding dissimilar steels.
JH.ER316	0.9 1.0	1.6 2.0	H08Cr19Ni12Mo2Si	ER316	PB PC		0.048	1.75	0.45	19.63	12.52	2.5	0.011	0.010	-	-	580	40	-	常用于石油化工、化肥设备的焊接，如 06Cr17Ni12Mo2（SUS 316）等材料。 Often used for welding petrochemical, fertilizer equipment, such as 06Cr17Ni12Mo2(SUS 316) and other materials.
JH.ER316L	1.2 1.6	2.4 3.2	H03Cr19Ni12Mo2Si	ER316L	PD PE	DC+/Ar	0.023	1.90	0.42	19.12	12.59	2.59	0.009	0.008	-	-	590	38	-	常用于石油化工、化肥设备的焊接，如 022Cr17Ni12Mo2（SUS 316L）等材料。 Often used for welding petrochemical, fertilizer equipment, such as 022Cr17Ni12Mo2(SUS 316L) and other materials.
JH.ER316LSi	2.0	4.0	H03Cr19Ni12Mo2Si1	ER316LSi	PF		0.024	1.61	0.73	18.72	11.54	2.31	0.011	0.010	-	-	580	37	-	常用于石油化工、化肥设备等材料的焊接。适用于同类型不锈钢及复合钢的焊接，具有良好的耐蚀性，如 00Cr17Ni14Mo2（SUS316L）。 Often used for welding petrochemical, fertilizer equipment and other materials. For the welding of same type of stainless steel and composite steel, has good corrosion resistance, such as 00Cr17Ni14Mo2(SUS316L).
JH.ER321			H08Cr19Ni10Ti	ER321			0.028	1.54	0.47	19.60	9.76	0.42	0.015	0.009	Ti: 0.58	-	595	37	-	常用于焊接食品机械、医疗设备、压力容器、石化等场合，如 07Cr19Ni11Ti（SUS321）。 Often used for welding food machinery, medical equipment, pressure vessel, petrochemical and other occasions, such as 07Cr19Ni11Ti(SUS 321).
JH.ER347			H08Cr20Ni10Nb	ER347			0.027	1.80	0.40	20.39	9.92	0.33	0.015	0.012	-	-	627	38	-	常用于食品机械、医疗设备、压力容器、石油化工等场合的焊接，如 07Cr19Ni11Ti（SUS 321）、07Cr18Ni11Nb（SUS 347）。 Often used for welding food machinery, medical equipment, pressure vessel, petrochemical and other occasions, such as 07Cr19Ni11Ti(SUS 321), 07Cr18Ni11Nb(SUS 347).
JH.ER410			H12Cr13	ER410			0.080	0.41	0.30	11.83	0.19	0.33	0.021	0.011	-	-	520	22	-	通常用于水电站以及阀门和其他磨损和腐蚀件的焊接，如 12Cr13（SUS 410）。 Often used for hydropower stations as well as valves and other wear and corrosion applications, such as 12Cr13(SUS 410).
JH.ER430			H10Cr14	ER430			0.035	0.43	0.35	16.39	0.22	0.21	0.018	0.012	-	-	540	28	-	常用于焊接耐腐蚀构件，如 10Cr17（SUS 430）材料器件、护栏、高尔夫球场等。 Often used for welding corrosion component, such as 10Cr17(SUS 430) material devices, fence, golf class.

埋弧焊丝
SUBMERGED ARC WELDING WIRE

品名 Class	规格（毫米）Specification (mm)	符合标准 Equivalent Standard		焊接位置 Welding Position	电流类型 Type Of Current	典型的熔敷金属化学成分例值 (wt%) Typical Chemical Composition Of Deposited Metal(wt%)								典型的熔敷金属机械性能例值 Typical Mechanical Properties Of Deposited Metal				应用 Application
		国标 GB	美标 AWS			C	Mn	Si	P	S	Cu	Cr	Ni	屈服强度 Y.P.(MPa)	抗拉强度 T.s.(MPa)	延伸率 E.L.(%)	冲击 I.V.(J)	
JH.H08A	2.0/2.4/4.0/4.8	H08A	EL12	PA	DC/AC	0.07	0.40	0.018	0.014	0.011	0.10	-	-	360	450	29	-20℃ /80	与焊剂HJ431 或烧结焊剂SJ301、SJ501 配套使用。用于 50kg 级母材的高速焊和填充焊。 Used together with fused flux HJ431 or sintered fluxes SJ301 and SJ501. Used for both high speed welding and filling welding on 50kg class base metals.
JH.EM12K	2.0/2.4/4.0/4.8	-	EM12K	PA	DC/AC	0.056	1.30	0.30	0.020	0.010	0.50	0.025	0.010	420	510	31	-20℃ /145	EM12K 用于焊接 450-500MPa 抗拉强度的结构，如锅炉、船舶、桥梁、压力容器以及液化石油气钢瓶。焊接前，母材必须清除杂质，焊剂必须在 300-350℃的温度下烘烤 1-2 小时。 EM12K is for welding 450-500MPa tensile strength structures, such as boiler, ships, bridges, pressure vessels as well as LPG cylinders. Before welding, the base metal must clear away impurities and the flux must be baked in a temperature of 300-350℃ for 1-2 hours.
JH.H08MnA	2.0/2.4/4.0/4.8	H08MnA	EM12	PA	DC/AC	0.066	0.88	0.022	0.010	0.013	0.075	0.02	0.021	360	480	31	-20℃ /110	与焊剂HJ350 或烧结焊剂SJ101 配套使用。用于 50kg 级母材的高速焊和填充焊。 Used together with fused flux HJ350 or sintered flux SJ101. Used for both high speed welding and filling welding on 50kg class base metals.
JH.H10Mn2	2.0/2.4/4.0/4.8	H10Mn2	EH14	PA	DC/AC	0.013	1.87	0.05	0.013	0.011	0.020	0.018	0.015	440	530	30	-20℃ /150	与焊剂 HJ350 或烧结焊剂 SJ101 配套使用。用于 50kg 级母材的高速焊和填充焊。熔敷金属具有非常稳定的力学性能。 Used together with fused flux HJ350 or sintered flux SJ101. Used for both high speed welding and filling welding on 50kg class base metals. The deposited metal has very stable mechanical properties.
JH.H10MnSi	2.0/2.4/3.2/4.0/4.8	H10MnSi	EM13K	PA	DC/AC	0.089	1.01	0.61	0.016	0.016	0.110	-	-	425	535	32	-20℃ /110	与焊剂 SJ301 或 SJ101 配套使用。用于 50kg 级母材的高速焊和填充焊。主要用于锅炉、压力容器、桥梁、船舶等的焊接。 Used together with fused flux SJ301 or sintered flux SJ101. Used for both high speed welding and filling welding on 50kg class base metals. Mostly used for welding boilers, pressure vessels, bridges, ships, etc.
JH.EH12K	2.0/2.4/3.2/4.0/4.8	-	EH12K	PA	DC/AC	0.084	1.84	0.65	0.020	0.009	0.046	0.020	0.021	450	590	26	-20℃ /85	用于 450-500MPa 抗拉强度碳钢或低合金钢焊接结构，如锅炉、桥梁、压力容器等。 For welding structures made by 450-500MPa tensile strength carbon steels or low alloy steels, such as boiler, bridge, pressure vessels and so on.

碳钢药芯焊丝
CARBON STEEL FLUX-CORED WELDING WIRE

品名 Class	规格 (毫米) Specification (mm)	符合标准 Equivalent Standard		焊接位置 Welding Position	电流类型 / 气体 Type Of Current/Gas	典型的熔敷金属化学成分例值 (wt%) Typical Chemical Composition Of Deposited Metal(wt%)					
		国标 GB	美标 AWS			C	Mn	Si	P	S	Others
JH.501T-1	0.8/0.9/1.0/1.2/1.6	E501T-1/9	E71T-1C/9C	PA,PB,PC, PD,PE,PF	DC+/CO_2	0.05	1.35	0.45	0.012	0.01	-
JH.711	0.8/0.9/1.0/1.2/1.6	E501T-1L	E71T-1C-J	PA,PB,PC, PD,PE,PF	DC+/CO_2	0.05	1.41	0.39	0.011	0.006	100%CO_2
JH.70MC	0.8/0.9/1.0/1.2/1.6	E500T-1	E70T-1C	PA,PB	DC+/CO_2	0.05	1.47	0.41	0.013	0.008	-
JH.71T-5	0.8/0.9/1.0/1.2/1.6	E501T-5/5M	E71T-5C/5M	PA,PB,PC, PD,PE,PF	DC+/CO_2	0.07	1.58	0.34	0.022	0.012	-
JH.71T-11	1.2/1.6/2.0	E501T-11	E71T-11	PA,PB,PC,PD, PE,PF,PG	DC-/None	0.08	0.6	0.14	0.012	0.009	-
JH.71T-GS	0.8/0.9/1.0/1.2/1.6	E501T-GS	E71T-GS	PA,PB,PC, PD,PE,PF	DC-/None	0.09	0.88	0.34	0.012	0.009	-

典型的熔敷金属机械性能例值 Typical Mechanical Properties Of Deposited Metal				应用 Application
屈服强度 Y.P.(MPa)	抗拉强度 T.S.(MPa)	延伸率 E.L.(%)	冲击 I.V.(J)	
480	580	27	-20℃ /128	适用于低碳钢和 490MPa 级高强钢中、厚板结构的焊接，如汽车、桥梁、建筑、造船、机械、压力容器、锅炉等的焊接。 Used for welding structures made of carbon steel and low-alloy structural steel with tensile strength higher than or equal to 490MPa. Most widely used for welding some key structures like shipbuilding, mechanical manufacture, pressure vessels, boilers, petroleum machinery, chemical machinery, hoisting machinery, etc.
465	540	29	-40℃ /98	可用于造船、桥梁、海洋工程、机械等领域，电弧稳定，飞溅小，烟雾少，除渣效果好。 Can be used in a variety of applications, such as for shipbuilding, bridges, oceaneering, machineries, etc. Arc is stable, low spatter generation, little fume generation and good slag removal.
480	560	29	-20℃ /120	用于焊接抗拉强度大于等于 490MPa 的碳钢和低合金结构钢结构。广泛用于造船、机械制造、压力容器、锅炉、石油机械、化工机械、起重机械等关键结构的焊接。 Used for welding structures made of carbon steel and low-alloy structural steel with tensile strength higher than or equal to 490MPa. Most widely used for welding some key structures like shipbuilding, mechanical manufacture, pressure vessels, boilers, petroleum machinery, chemical machinery, hoisting machinery, etc.
480	570	31	-30℃ /185	用于焊接抗拉强度大于等于 490MPa、低温韧性好、抗裂性好的碳钢和低合金结构钢。用于船舶、车辆、机械制造、压力容器、石油化工机械、起重机械等关键结构的焊接。 Used for welding carbon steel and low-alloy structural steel with tensile strength higher than or equal to 490MPa and with excellent low temperature toughness and good crack-resistance. Used for welding some key structures like shipbuilding, vehicles, mechanical manufacture, pressure vessels, petrochemical machinery, hoisting machinery, etc.
480	530	23	-20℃ /105	E71T-11 为 50 公斤级自保护药芯焊丝。适用于包括立向下焊在内的全位置焊接。焊接时飞溅小、电弧稳定、柔和，易脱渣，焊缝成型美观。 E71T-11 is a self-shielded flux cored wire for single and multi-pass applications in all positions. Arc is smooth and soft, good welding performance, full slag covering and easy slag removal.
450	530	-	-	E71T-GS 适用于桥梁采油平台、石油管道等的焊接。 E71T-GS is suitable for welding of mild on bridge oil production platform, petroleum pipeline and its dabber.

不锈钢药芯焊丝
STAINLESS STEEL FLUX-CORED WELDING WIRE

品名 Class	规格 (毫米) Specification (mm)	符合标准 Equivalent Standard		焊接位置 Welding Position	电流类型 / 气体 Type Of Current/Gas	典型的熔敷金属化学成分例值 (wt%) Typical Chemical Composition Of Deposited Metal(wt%)									
		国标 GB	美标 AWS			C	Cr	Ni	Mo	Mn	Si	P	S	Cu	Others
JH.308	1.2/1.6	E308LT1-1	E308LT1-1	PA PB PC PD PE PF	DC+/CO_2	0.029	19.82	9.61	0.01	1.24	0.63	0.018	0.008	0.01	-
JH.308L	1.2/1.6	E308LT1-1	E308LT1-1		DC+/CO_2	0.022	19.51	9.47	0.01	1.52	0.77	0.019	0.003	0.01	-
JH.309L	1.2/1.6	E309LT1-1	E309LT1-1		DC+/CO_2	0.036	24.31	12.10	0.02	1.48	0.73	0.023	0.002	0.06	-
JH.316L	1.2/1.6	E316LT1-1	E316LT1-1		DC+/CO_2	0.034	19.15	12.27	2.64	1.64	0.60	0.017	0.005	0.03	-
JH.317L	1.2/1.6	E317LT1-1	E317LT1-1		DC+/CO_2	0.025	18.3	13.7	3.3	1.73	0.41	0.018	0.005	0.02	-
JH.310	1.2	E310LT1-1	E310LT1-1		DC+/CO_2	0.12	25.78	20.25	0.01	2.41	0.59	0.011	0.003	0.01	-
JH.347L	1.2/1.6	E347LT1-1	E347LT1-1		DC+/CO_2	0.022	19.66	9.38	0.02	1.45	0.64	0.019	0.002	0.01	Nb+Ta:0.38
JH.312	1.2	E312LT1-1	E312LT1-1		DC+/CO_2	0.050	28.50	8.5	0.01	1.2	0.6	0.016	0.002	0.01	-

典型的熔敷金属机械性能例值 Typical Mechanical Properties Of Deposited Metal				应用 Application
屈服强度 Y.P.(MPa)	抗拉强度 T.S.(MPa)	延伸率 E.L.(%)	冲击 I.V.(J)	
-	610	41	-	用于焊接相同类型 (06Cr19Ni10) 的不锈钢结构件。 Used for welding stainless steel structures parts of the same type (06Cr19Ni10).
-	590	43	-	用于焊接 022Cr19Ni10 不锈钢，也可用于工作温度低于 300℃耐腐蚀的 06Cr18Ni11Ti 不锈钢结构件。 For welding 022Cr19Ni10 stianless steel anf for corrosion resistant 06Cr18Ni11Ti stainless steel structure parts whose working temperature is below 300℃ .
-	590	40	-	用于工作温度低于 400℃石油化工等设备制造的同类型不锈钢结构、复合钢、异种钢等的构件，也可用于过渡层的堆焊。 For welding the same type of stainless steel structure, composite steel and dissimilar steel components, which are manufactured by petrochemical equipment with working temperature below 400℃ , can also be used for caldding of transition layer.
-	580	38	-	用于焊接同类型的超低碳不锈钢结构 (如尿素合成塔衬里)，也可用于异种钢焊接。 Used for welding same type of ultra-low-carbon stainless steel structure (such as urea synthesis tower lining), and also can be used to weld dissimilar steel.
-	560	34	-	在 316L 的基础上多添加了 1% 的 Mo，耐点蚀性能更优异。 On the basis of 316L, the pitting corrosion resistance is better by adding 1%.
-	595	38	-	用于耐高温产品，如高温炉、煤炭焦化设备，也可用于复合堆焊及异种钢的焊接。 For high temperature resistance products, such as high temperature furnace, coal coking equipment, can also be used for clad surfacing and dissimilar steel welding.
-	590	39	-	用于焊接重要的含钛或铌稳定的 06Cr18Ni11 型耐腐蚀不锈钢。 For welding 06Cr18Ni11 corrosion-resistant stainless steel with titanium or niobium stability.
-	740	24	-	用于高镍合金和其它金属的焊接，因具有优良的抗裂性，也可用于高碳钢、工具钢及异种钢等焊接以及过渡层的堆焊。 It can be used for welding high nickel alloy and other metals, because of its excellent crack resistance. It can also be used for welding high carbon steel, dissimilar steel and surfacing of transtion layer.

烧结焊剂
SINTERED FLUX

品名 Class	符合标准 Equivalent Standard		焊接位置 Welding Position	电流类型 Type Of Current	典型的熔敷金属化学成分例值 (wt%) Typical Chemical Composition Of Deposited Metal(wt%)										典型的熔敷金属机械性能例值 Typical Mechanical Properties Of Deposited Metal				应用 Application
	国标 GB	美标 AWS			SiO_2 +TiO_2	Al_2O_3	CaO +MgO	CaF_2	S	P	Al_2O_3 +MnO	SiO_2 +MnO	Al_2O_3 +MgO	CaF + CaO	屈服强度 Y.P.(MPa)	抗拉强度 T.S.(MPa)	延伸率 E.L.(%)	冲击 I.V.(J)	
JH.SJ101	F4A2-H08MnA	A5.17 F7A4-EH14 A5.23 F7A0-EA2-A2 A5.17 F7A2-EM12	-	-	15~20	25~30	25~30	15~20	≤ 0.05	≤ 0.05		-	-	-	-	-	-	-	适用于各种焊丝（如 H08MnA、H10Mn2、H08MnMoA、H08Mn2MoA 等），适用于低碳钢、低合金钢的焊接。可用于管道钢的快速焊接，也可用于各种高强度钢厚壁结构的焊接。 Can be applied to different welding wires(such as H08MnA, H10Mn2, H08MnMoA, H08Mn2MoA, etc.) and is suitable for welding low carbon steel and low alloy steel. Moreover, it can be used for fast welding for pipeline steel and thick wall structures of different high-tensile steel.
JH.SJ301	F4A2-H08A F5A2-H08MnA	F6A2-EL12 F7A0-EM12K	-	-	15~20	-	25~30	15~20	≤ 0.05	≤ 0.05	25~30	-	-	-	-	-	-	-	该焊剂适用于低碳钢、低合金钢与适当焊丝（如 H08A、H08MnA、H08MnMoA）配合使用的埋弧焊接，也适用于薄钢板的快速单向双面焊接，通常用于液化气储罐气瓶和管道钢的埋弧焊接。 The flux is fit for the submerge-arc welding of low-carbon steel and low alloy steel used together with appropriate wires (such as H08A, H08MnA and H08MnMoA), as well as the fast single-way and double-surface welding of thin steel sheet, and it is usually used for the submerge-arcwelding of liquefied gas storge tanks, gas bottles and pipeline steel.
JH.SJ302	F4A2-H08A F5A2-H08MnA	F6A2-EL12 F7A2-EL12	-	-	20~30	30~40	15~25	7~10	≤ 0.06	≤ 0.06		-	-	-	-	-	-	-	用于焊接焊丝（H08A 或 H08MnA）时，可用于锅炉、管道钢和普通钢的焊接。 When applied to welding wires (H08A or H08MnA), it can weld boilers, pipeline steel and common steel.
JH.SJ501	F4A2-H08A F5A2-H08MnA	F6A2-EL12 F7A0-EM12	-	-	25~35	50~60	5~10	5~10	≤ 0.05	≤ 0.05		-	-	-	-	-	-	-	适用于 H08A、H08MnA、H08MnMo、H10MnSi 等各种焊丝，可焊接低碳钢、低合金钢和压力容器钢。适用于锅炉厂煤气罐、膜式水冷壁等薄钢板的快速焊接。 When applied to various welding wires such as H08A, H08MnA, H08MnMo and H10MnSi, it can weld low-carbon steel, low-alloy steel and pressure vessel steel. And it is fit for fast welding of thin steel sheet like gas steel tanks and membrane water-cooled wall in boiler factory.
JH.HJ431	F4A0-H08A F5A2-H08MnA	F6AZ-EL12	-	-	-	-	-	-	≤ 0.06	≤ 0.08		74~82	9~12	110~140	-	-	-	-	当用于 H08A，H08MnA，H08MnMo 和 H10MnSi 等焊丝时，可焊接低碳钢和一些低合金钢，例如 16Mn 和 15MnV，以及船舶，锅炉和高压容器。 也可用于电渣和铜焊接。 When applied to welding wires such as H08A, H08MnA, H08MnMo and H10MnSi, it can weld low-carbon steel and some low-alloy steel like 16Mn and 15MnV, as well as ships, boilers and high-pressure vessels. And it also can be used for electro-slag and copper welding.

铝合金焊丝
ALUMINUM ALLOY WELDING WIRE

品名 Class	规格（毫米）Specification (mm)		符合标准 Equivalent Standard		焊接位置 Welding Position	电流类型 Type Of Current	典型的熔敷金属化学成分例值 (wt%) Typical Chemical Composition Of Deposited Metal(wt%)									应用 Application
	MIG	TIG	国标 GB	美标 AWS			Cu	Si	Fe	Mn	Mg	Cr	Zn	Ti	Al	
JH.ER1100	0.6 0.8 0.9 1.0 1.2 1.6 2.0	1.2 1.6 2.0 2.4 3.2 4.0	SAI 1100	ER1100	-	-	0.10	0.95	-	0.05	-	-	0.10	-	99.5	纯铝焊丝用于焊接电力、化工、食品、冶金和铁路机车等与铝有关的行业。 Pure aluminum welding wire used for welding electric power, chemical, food, metallurgical and railway locomotives and other industries related to aluminum.
JH.ER5183			SAI 5183	ER5183	-	-	0.10	0.40	0.40	0.05-1.00	4.30-5.20	0.05-0.25	0.25	0.15	Rem	铝镁合金焊丝用于船舶、海洋平台、铁路机车、车辆制造等与铝相关行业的焊接。 Al-Mg alloy welding wire used for welding ships, offshore platforms, railway locomotive and car manufacturing and other industries related to aluminum.
JH.ER5356			SAI 5356	ER5356	-	-	0.10	0.25	0.40	0.05-0.20	4.50-5.50	0.05-0.20	0.10	0.06-0.20	Rem	铝镁合金焊丝用于船舶、海洋平台、铁路机车、车辆制造等与铝相关行业的焊接。 Al-Mg alloy welding wire used for welding ships, offshore platforms, railway locomotive and car manufacturing and other industries related to aluminum.
JH.ER5087			SAI 5087	ER5087	-	-	0.05	0.25	0.40	0.70-1.10	4.50-5.20	0.05-0.25	0.25	0.15	Rem	广泛用于发动机、电力、能源、化工、食品等对强度有特殊要求的焊接。 Widely used in welding joint with special requirement of higher intensity, like engine, electric, power, chemistry, and food, etc.
JH.ER4047			SAI 4047	ER4047	-	-	0.3	11.0-13.0	0.80	0.15	0.10	0.05	0.20	-	Rem	用于焊接或堆焊轻合金加工。 Used for jointing or overlay light alloy processing.
JH.ER4043			SAI 4043	ER4043	-	-	0.30	4.5-6.0	0.80	0.05	0.05	-	0.10	0.20	Rem	铝硅焊丝用于焊接船舶、化工、模具、冶金、汽车等与铝有关的行业。 Al-Si welding wire used for welding ships, chemicals, mold, metallurgy and automobile industries related to aluminum.

铜及铜合金焊丝
COPPER & COOPER ALLOY WELDING ROD & WIRE

硅青铜 SILICON BRONZE

Chemical Composition 化学成分（%）													
Standard 执行标准	Class 分类号	Alloy 合金号	Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Other 其他元素总量
ISO24373	Cu6560	CuSi3Mn1	bal.	0.02	0.5	0.5-1.5	-	0.05	0.02	2.8-4.0	0.2	0.4	0.5
GB/T9460	SCu6560	CuSi3Mn	bal.	Max 0.01	Max 0.5	Max 1.5	-	-	Max 0.02	2.8-4.0	Max 1.0	Max 1.0	Max 0.5
BS EN14640	Cu6560	CuSi3Mn1	bal.	0.01	0.5	0.5-1.5	-	0.02	0.02	2.8-4.0	0.2	0.2	0.4
AWS A5.7	C65600	ER CuSi-A	bal.	0.01	0.05	1.5	-	-	0.02	2.8-4.0	1.0	1.0	0.50
DIN 1733	2.1461	SG-CuSi3	bal.	Max 0.01	Max 0.3	0.5-1.5	-	Max 0.02	Max 0.02	2.8-4.0	Max 0.2	Max 0.2	Max 0.4

熔敷金属物理性能及机械性能 Physical Properties and Mechanical Properties:						应用范围 Application
固相线 Solids-Temperature	密度 Density	延伸率 Elongation	液相线 Liquids-Temperature	抗拉强度 Tensile Strength	布氏硬度 Brinell Hardness	
910 C	8.5kg/dm3	40%	1025 C	330-370 N/mm2	80-90HB	适用于对黄铜的对接焊和堆焊，特别适合镀锌钢板的 MIG 焊接，用于大焊件的 MIG 堆焊时需预热。堆焊钢材时建议使用脉冲氩弧焊。 Best for butt and the hard facing of brass, especially for the MIG welding of zinc coated steel sheet. Pre-heat suggested when MIG hard facing for large size products and use pulsed argon are welding while hard facing on steel.

铝青铜 ALUMINUM BRONZE

Chemical Composition 化学成分（%）													
Standard 执行标准	Class 分类号	Alloy 合金号	Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Other 其他元素总量
ISO24373	Cu6100	CuA17	bal.	6.0-8.5	-	0.5	-	-	0.02	0.2	-	0.2	0.4
GB/T9460	SCu6100	CuA17	bal.	6.0-8.5	-	Max 0.5	-	-	-	Max 0.1	-	Max 0.2	Max 0.5
GB/T9460	SCu6100A	CuA18	bal.	7.0-9.0	Max 0.5	Max 0.5	Max 0.5	-	Max 0.02	Max 0.2	Max 0.1	Max 0.2	Max 0.2
BS EN14640	Cu6100	CuA18	bal.	6.0-9.5	0.5	0.5	0.8	-	0.02	0.2	-	0.2	0.4
AWS A5.7	C61000	ERCuAl-A1	bal.	6.0-8.5	-	0.5	-	-	0.02	0.1	-	0.2	0.5
DIN 1733	2.0921	SC-CuA18	bal.	7.5-9.5	Max 0.5	Max 1.0	Max 0.8	-	Max 0.02	Max 0.2	-	Max 0.2	Max 0.4

熔敷金属物理性能及机械性能 Physical Properties and Mechanical Properties:						应用范围 Application
固相线 Solids-Temperature	密度 Density	延伸率 Elongation	液相线 Liquids-Temperature	抗拉强度 Tensile Strength	布氏硬度 Brinell Hardness	
1030 C	7.7kg/dm3	40-45%	1040 C	380-450 N/mm2	100HB	特别适合于碳钢、不锈钢的焊接。熔化金属的流动性好，焊缝成型美观，也适用于钢与铜的对接焊。应用于船舶制造，机械制造。在多层钢夹层焊时建议使用脉冲氩弧焊。 Perfect for welding of pure and austenitic steel sheet. Maintains good temperament flow and creates seamless welding line. Suggested for the butt joining welding of copper with steel, particularly suitable for machinery and shipbuilding industry. Pulsed argon arc welding is recommended for multilayer hard facing on steel.

锡黄铜 TIN BRASS

Chemical Composition 化学成分（%）														
Item	Standard 执行标准	Class 分类号	Alloy 合金号	Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Other
HS221	AWS A5.8	C47000	RBCuZn-A	57.0~61.0	0.01	---	---	---	---	0.05	---	0.25~1.00	bal.	0.50

Physical Properties and Mechanical Properties						应用范围 Application
固相线 Solids-Temperature	密度 Density	延伸率 Elongation	液相线 Liquids-Temperature	抗拉强度 Tensile Strength	布氏硬度 Brinell Hardness	
886 C	8.45kg/dm3	35%	901 C	375N/mm2	85HB	黄铜氧 - 乙炔气焊及碳弧焊时用作填充材料。广泛用于钎焊铜、钢、铜镍合金、灰口铸铁以及镶嵌硬质合金刀具等。 Most popular for padding material of gas-welding and carbon are welding in brass. It can also used in brazing of copper, steel, copper-nickel, cast iron and carbide cutting alloy tools incrustation.

铁黄铜 LOW-FUMING BRONZE

Chemical Composition 化学成分（%）														
Item	Standard 执行标准	Class 分类号	Alloy 合金号	Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Other
HS222	AWS A5.8	C68100	RBCuZn-C	56.0~60.0	0.01	0.25~1.20	0.01~0.50	---	---	0.05	0.04~0.15	0.8~1.10	bal.	0.50

Physical Properties and Mechanical Properties			应用范围 Application
固相线 Solids-Temperature	密度 Density	液相线 Liquids-Temperature	
886 C	8.38kg/dm3	901 C	黄铜氧 - 乙炔气焊及碳弧焊时用作填充材料。广泛用于钎焊铜、钢、铜镍合金、灰口铸铁以及镶嵌硬质合金刀具等。 Most popular for padding material of gas-welding and carbon are welding in brass. It can also used in brazing of copper, steel, copper-nickel, cast iron and carbide cutting alloy tools incrustation.