



中国船级社
CHINA CLASSIFICATION SOCIETY
工厂认可证书

证书编号/Certificate No.
SH24PWA00059

CERTIFICATE OF WORKS APPROVAL

兹证明本证书所述制造厂具备按照下列标准的要求生产本证书所列产品的能力和条件。

This is to certify that the manufacturer stated in the certificate meets the requirements of the standards listed below and is available with the ability and conditions to produce the products described in the certificate.

制造厂/Manufacturer

天泰焊材（昆山）有限公司
Tien Tai Electrode (Kunshan) Co., Ltd.

地址/Address

江苏省昆山市张浦镇花园路189号
No. 189, Huayuan Road, Zhangpu, Kunshan, Jiangsu

产品名称/Product

船用焊接材料
Marine Welding Materials

附加标志/Notations

无/Nil.

认可标准/Approval Standard

1. 中国船级社《材料与焊接规范》第3篇第2章
Chapter 2, Part Three of China Classification Society Rules for Materials and Welding

用于/Intended for

船舶/Ships

产品明细/Product Description

船用焊接材料/Marine Welding Materials (M0001)

名称/Name	属性（值）/Value	单位/Unit
牌号（型号）/Brand (Model)	详见附页 Details see the additional page	
等级/Grade	详见附页 Details see the additional page	
规格/Specification	详见附页 Details see the additional page	
焊接位置/Welding Position	详见附页 Details see the additional page	
电流极性/Current Polarity	详见附页 Details see the additional page	

批准的图纸/Approved Drawings

图纸批准号/ Drawings Approval No. : 无/Nil.

产品认可试验报告/Approval Test Report

证书有效期至/This Certificate is valid until 2025年06月19日/ Jun. 19,2025

发证机构 中国船级社 上海分社
Issued by CCS Shanghai Branch

签发日期 2024年11月29日
Date Nov. 29,2024

本证书根据中国船级社规范和相关规定签发。所有证书页为一个整体，必须同时使用。纸质证书每页均须由本社盖章方为有效，电子证书含数字签名方为有效，本证书复印件无效。任何单位和个人均不应摘录或节选本证书的部分内容。有关方对所持证书的真实性有疑问时，可以向本社检验机构咨询。This Certificate is issued pursuant to the Rules of the Society and related regulation. All pages of the certificate are taken as a whole and are used simultaneously. No paper certificate page is valid without bearing the stamp of the Society, no electronic certificates is valid without the digital signature, and no copied form of the certificate is regarded as valid. Any part of the certificate is not to be extracted or abridged by any unit or individual in any form. Related parties who are doubted about the authenticity of the certificate may inquire of the Society or its offices.



Form No: W01.

联系方式/Contact Us, 见本社官方网站/See official web site of the Society (<http://www.ccs.org.cn>)

UTN:P024-16228954

试验报告编号/ Test Report No. : KA210601C~37C, KI210501C/02C, KI210601C
试验报告日期/ Test Report Date : 2021-06-18
试验单位/ Laboratory: 天泰焊材(昆山)有限公司 Tien Tai Electrode (Kunshan) Co., Ltd.
试验单位地址/ Test Address: 江苏昆山张浦镇花园路189号 No. 189, Huayuan Road, Zhangpu Town, Kunshan, Jiangsu

试验报告编号/ Test Report No. : KI211101C
试验报告日期/ Test Report Date : 2021-11-05
试验单位/ Laboratory: 天泰焊材(昆山)有限公司 Tien Tai Electrode (Kunshan) Co., Ltd.
试验单位地址/ Test Address: 江苏昆山张浦镇花园路189号 No. 189, Huayuan Road, Zhangpu Town, Kunshan, Jiangsu

试验报告编号/ Test Report No. : KI220901C, KI220902C
试验报告日期/ Test Report Date : 2022-09-29
试验单位/ Laboratory: 天泰焊材(昆山)有限公司 Tien Tai Electrode (Kunshan) Co., Ltd.
试验单位地址/ Test Address: 江苏昆山张浦镇花园路189号 No. 189, Huayuan Road, Zhangpu Town, Kunshan, Jiangsu

试验报告编号/ Test Report No. : KI240901C
试验报告日期/ Test Report Date : 2024-09-27
试验单位/ Laboratory: 天泰焊材(昆山)有限公司 Tien Tai Electrode (Kunshan) Co., Ltd.
试验单位地址/ Test Address: 江苏昆山张浦镇花园路189号 No. 189, Huayuan Road, Zhangpu Town, Kunshan, Jiangsu

试验报告编号/ Test Report No. : KI241001C~05C
试验报告日期/ Test Report Date : 2024-10-25
试验单位/ Laboratory: 天泰焊材(昆山)有限公司 Tien Tai Electrode (Kunshan) Co., Ltd.
试验单位地址/ Test Address: 江苏昆山张浦镇花园路189号 No. 189, Huayuan Road, Zhangpu Town, Kunshan, Jiangsu

认可后的产品检验方式/Method of Product Inspection after Approval

按照规范只认可不进行产品检验的产品/The product approved only in term of the rules:
认可后的产品检验由制造厂按本社批准的产品检验计划进行检验, 经检验合格后由制造厂签发合格证明, 并连同该产品的本社认可证书复印件一并交付用户, 制造厂对产品符合公约、法规、本社规范和本社认可的标准规定负责。
After approval, product inspection should be carried out by the Manufacturer in accordance with the product inspection scheme approved by the Society. Upon satisfactory inspection, and the Quality Certificate issued by the Manufacturer should be provided to the purchaser together with the copy of the approval certificate issued by the Society. The manufacturer should take responsibility for the product being in compliance with the convention, statutory regulation, the Society rules and the standard accepted by the Society.

认可保持条件/Maintenance Requirements of Approval

1. 工厂认可后, 如果图纸、技术文件、工艺规程有较大改变, 应征得本社同意。若改变涉及或影响到产品的设计、主要制造材料、关键工艺或产品的特性、特征, 则与特性有关的图纸和技术文件应经过本社审批, 并在检验机构认为必要时, 经本社检验人员到厂进行检查和见证有关试验, 其结果应能证实仍符合认可条件。
After works approval, if there are any major changes to the drawings, technical documents, specifications, prior consent should be obtained from the survey office of the Society. If the changes involve or affect product design, major construction materials, key workmanship or product characteristics and properties, drawings and technical documents related to properties are to be examined and approved by the Society and, where deemed necessary by the survey office, the surveyor to the Society will go to the manufacturer to inspect or witness relevant tests and the results of the tests should be able to demonstrate compliance with the approval conditions
2. 工厂的质量管理体系应保持有效运行, 并且与认可时一致。如果质量管理体系发生改变, 应经原体系认证机构审核并报本社批准。
The quality management system of the factory shall be ensure effective operation, and shall be the same as the situation of approval. If there are any changes to the quality management system, auditing of the original certification organization for quality management system and the society's approval shall be obtained.
3. 工厂认可证书获得者应接受本社每年一次的定期审核, 定期审核日为认可证书期满之日对应的每一周年日, 检查工作可在定期审核日的前后三个月内进行。Those who have obtained the certificate of works approval shall receive periodical audit done by the Society on an annual basis. The date of periodical audit shall be each anniversary date which corresponds to the date of expiry of the relevant certificate and the

periodical audit may be done within a time span of three months before and after the annual surveillance date.

4. 在认可证书有效期内，本社检验人员可在未经事先通知的情况下对工厂的产品制造过程进行审核，以验证产品的生产是否符合业经本社批准的图纸和文件。工厂应予以配合。

Within the validity of the approval certificate, the surveyor to the Society may pay unannounced audit to the manufacturing process of the product in order to confirm whether it is in compliance with the drawings and documents approved by the Society. The factory should provide an active cooperation and necessary for the surveyor.

5. 认可证书有效期内，如果出现可能导致本社暂停或撤销认可的情况，工厂应及时采取有效的纠正措施。

Within the validity of the approval certificate, if cases occur that may cause the Society to suspend or withdraw the certificate, the manufacturer should take corrective actions in a prompt and effective manner.

备注/Remarks

本证书由原工厂认可证书 (No. SH22PWA00043) 变更并替代原证书。

This certificate is modified from and supersedes the previous Works Approval Certificate No. SH22PWA00043.

本社已审核了产品厂无石棉声明，但本社的审核不免除产品厂按照合同关系向订货方保证产品无石棉的责任。

The declaration of asbestos-free submitted by manufacturer has been reviewed by the Society. However, liability of the manufacturer to guarantee the products are asbestos-free to purchaser under contract will not be exempted.

中国船级社上海分社

CCS Shanghai Branch

注：本证书含有附页，共4页

Note: The certificate is attached with additional 4 page(s)

中国船级社 CHINA CLASSIFICATION SOCIETY

船用焊接材料 Marine Welding Consumables

材料名称 Name of Consumables	牌号 (型号) Brand (Model)	认可等级 Grade	焊接位置 Position	电流极性 Current Polarity	规格 (mm) Specification
船用手工电弧焊条 Marine electrode for Manual arc welding	TL-507	3YH10	F,H,Vu,OH	DCEP	2.6~5.0
	TL-508	3YH10	F,H,Vu,OH	AC/DCEP	3.2~5.0
	TS-309L	309L	F,H,Vu,OH	AC/DCEP	3.2~5.0
	TS-308L	304L	F,H,Vu,OH	AC/DCEP	2.6~5.0
	TS-316L	316L	F,H,Vu,OH	AC/DCEP	2.6~5.0
	TS-308LT	304L	F,H,Vu,OH	AC/DCEP	3.2,4.0
	TN-28	5Y46H5	F,H,Vu,OH	AC/DCEP	3.2,4.0
	TL-507Ni	4Y	F,H,Vu,OH	DCEP	3.2,4.0
	TL-118G	4Y69H5	F,H,Vu,OH	DCEP	3.2,4.0
	TNM-9	9Ni	F,H,Vu,OH	AC/DCEP	2.6,3.2,4.0
埋弧自动焊焊丝 /焊剂 Wire/Flux Combination for Submerged arc Automatic Welding	TW-308L/TFS-300	304LM	F	DCEP	2.0,2.4,3.2,4.0
	TW-309L/TFS-300	309LM	F	DCEP	3.2,4.0
	TW-308L/TFS-300NB	304LM	F	DCEP	2.4,3.2,4.0
	TSW-12KHG/TF-210	5Y40TMH5	F	DCEP	2.4,3.2,4.0,5.0
	TSW-12KHG(x2)/TF-210	5Y40MH5	F	DCEP	2.4,3.2,4.0,5.0
	TSW-14H/TF-560	4Y40TMH5	F	DCEP	2.4,3.2,4.0,5.0
	TSW-14H(x2)/TF-560	4Y40TMH5	F	AC/DCEP	2.4,3.2,4.0,5.0
	TSW-E41/TF-210	4Y55MH5	F	AC/DCEP	2.4,3.2,4.0
	TSW-E31/TF-250	5Y46MH5	F	DCEP	2.4,3.2,4.0,5.0
	TSW-E31*2/TF-250	5Y46MH5	F	AC/DCEP	2.4,3.2,4.0,5.0
	TSW-E5G/TF-210	4Y69MH5	F	DCEP	2.4,3.2,4.0

	TW-17/TFS-340	9NiM	F、H	DCEP/AC	1.6,2.0,2.4
	TSW-14H/TF-660	4Y42MH5	F	DCEP	2.4,3.2,4.0,5.0
	TSW-14H*2/ TF-660	4Y42MH5	F	DCEP/AC	2.4,3.2,4.0,5.0
	TSW-14HE/TF-650	4Y40TMH5	F	DCEP	2.4,3.2,4.0,5.0
	TSW-14HE*2/ TF-650	4Y40TMH5	F	DCEP/AC	2.4,3.2,4.0,5.0

船用焊接材料
Marine Welding Consumables

材料名称 Name of Consumables	牌号 (型号) Brand (Model)	保护气体 Gas Shield	认可等级 Grade	焊接位置 Position	电流极性 Current Polarity	规格 (mm) Specification
实心焊丝 Solid Wires	TM-56	CO ₂ (C ₁)	3YS	F,H,Vu,OH	DCEP	0.8,0.9,1.0,1.2,1.6
	TM-60	CO ₂ (C ₁)	3Y46S	F,H,Vu,OH	DCEP	1.0,1.2
氩弧焊丝 TIG/MIG Welding Wires	TIG-50	Ar(II)	3Y	F,H,Vu,OH	DCEN	1.2,1.6,2.0,2.4,3.2
	TGS-316L	Ar(II)	316L	F,H,Vu,OH	DCEN	1.6,2.0,2.4, 3.2
	MIG-308L	Ar(M12)	304L	F,H, Vu,OH	DCEP	1.0,1.2
	TGS-308L	Ar(II)	304L	F,H,Vu,OH	DCEN	1.6,2.0,2.4
	TGS-2209	Ar(II)	2205	F,H, Vu,OH	DCEN	2.0,2.4,3.2
	TGS-309L	Ar(II)	309L	F,H, Vu,OH	DCEN	1.6,2.0,2.4, 3.2
药芯焊丝 Flux Cored Wires	TM-70C	CO ₂ (C ₁)	3YSH10	F,H	DCEP	1.2,1.4,1.6
	TWE-711	CO ₂ (C ₁)	3YSH5	F,H,Vu,OH,Vd,	DCEP	1.0,1.2,1.4,
				F,H		1.6
	TWE-712	CO ₂ (C ₁)	3YSH10	F,H, Vu,OH,	DCEP	1.2,1.4
				F,H		1.6
	TWE-711Ni	CO ₂ (C ₁)	4YSH5	F,H,Vu,OH	DCEP	1.2,1.4,
				F,H		1.6
	TWE-811Ni1	CO ₂ (C ₁)	3Y46S	F,H,Vu,OH	DCEP	1.2,
				F,H		1.6
	TFW-308L	CO ₂ (C ₁)	304LS	F,H,Vu,OH	DCEP	1.2,1.6
	TFW-316L	CO ₂ (C ₁)	316LS	F,H,Vu,OH	DCEP	1.2,1.6
	TFW-309L	CO ₂ (C ₁)	309LS	F,H,Vu,OH	DCEP	1.2,
				F,H		1.6
	TWE-81K2	CO ₂ (C ₁)	5Y46SH5	F,H,Vu,OH	DCEP	1.2
	TM-70C	CO ₂ (C ₁)	3YMH10	F,H	DCEP	1.2,1.4,1.6
	TWE-110K3	CO ₂ (C ₁)	4Y69SH5	F,H,Vu,Vd,OH	DCEP	1.1,1.2
	TFW-2209	CO ₂ (C ₁)	2205S	F,H,Vu,OH	DCEP	1.2
	TWE-81K2C	CO ₂ (C ₁)	5Y40SH5	F,H,Vu,OH	DCEP	1.2,1.4
	TWE-91K2	CO ₂ (C ₁)	4Y55SH5	F,H,Vu,OH	DCEP	1.2
	TWE-711PRO	CO ₂ (C ₁)	4Y40SH5	F,H,Vu,OH	DCEP	1.2,1.4

备注/Remark: 兹证明产品 TS-308LT, TW-308L/TFS-300NB, MIG-308L, TGS-308L, TFW-308L, TW-308L/ TFS-300,TNM-9, TGS-309L, TW-17/TFS-340 满足-196° C 深冷条件的要求/This is to certify that the products TS-308LT, TW-308L/TFS-300NB, MIG-308L, TGS-308L, TFW-308L , TW-308L/TFS-300 ,TNM-9,TGS-309L, TW-17/TFS-340 are satisfied with the requirement of deep cold condition at-196℃.

注/Note:

F: 平焊位置/Flat position welding;

H: 横焊位置/Horizontal welding;

Vu: 立向上焊位置/Vertical-up position welding;

Vd: 立向下焊位置/Vertical-down position welding;

OH: 仰焊位置/Overhead position welding;

AC-交流/Alternating Current;

DCEP-直流反接/Direct Current Electrode Positive

DCEN-直流正接/Direct Current Electrode Negative