



中国船级社
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.
ZG25PAA00001

产品检测和试验机构认可证书
CERTIFICATE OF TEST AGENCY APPROVAL

兹证明本证书所述试验机构具备按照本社接受的试验标准进行本证书所列产品试验的能力和条件。
This is to certify the agency stated in the certificate is available with the ability and conditions to test the relevant products in accordance with the standards accepted by this Society.

检测和试验机构/ Test Agency

宁波市产品食品质量检验研究院 (宁波市纤维检验所)
Ningbo Academy of Product and Food Quality Inspection (Ningbo Fibre Inspection Institute)

地址/Address

浙江省宁波市高新区江南路1588号D座
Building D, No.1588, Jiangnan Road, Hi-Tech Zone, Ningbo, Zhejiang, China

认可试验范围/Items of Test Approved

- 船用金属材料检测 Inspection of marine metal materials
- 焊接试样检测 Inspection of welded sample

试验主要适用标准/ Main Test Standards

- 见附页
See additional pages

认可保持条件/ Maintenance Requirements of Approval

1. 产品检测和试验机构认可后, 如果检测、试验设备或试验程序、方法有较大改变, 应征得本社同意。若改变涉及或影响到检测、试验的结果时, 本社检验人员将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 test agency approval, if there are any major changes to the inspection and testing instruments or testing procedure, prior consent should be obtained from the survey office of the Society. If the changes involve or affect the results of inspection and testing, the surveyor to the Society will go to the agency to inspect or witness relevant tests and the results of the tests should be able to demonstrate compliance with the approval conditions.

2. 认可证书获得者应接受本社一次定期审核, 定期审核日为认可证书的期满之日对应的第二个周年日, 检查工作应在定期审核日的前后三个月内进行。

Those who have obtained the certificate of agency approval shall receive periodical audit done by the Society. The date of periodical audit shall be the second anniversary date of the approval certificate which corresponds to the date of expiry of the relevant certificate and the periodical audit shall be done within a time span of three months before or after the above periodical audit date.

3. 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机构的检测和试验过程进行审核, 以验证检测和试验过程是否符合认可条件。机构应予以配合。

Within the validity of the approval certificate, the surveyor to the Society may pay unannounced audit to the inspection and testing process of the product in order to confirm whether it is in compliance with the approval conditions. The agency should provide an active cooperation and necessary for the surveyor.

证书有效期至/This Certificate is valid until 2029年03月14日 /Mar. 14, 2029

发证机构 中国船级社浙江分社
Issued by CCS Zhejiang Branch

签发日期 2025年03月05日
Date Mar. 05, 2025

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, 可以向我社检验机构咨询。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: A01.

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:P025-03521210

4. 认可证书有效期内, 如果出现可能导致本社取消认可的情况, 机构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 withdraw the certificate, the agency should take corrective actions in a prompt and effective manner.

备注/Remarks

1、试验地址/Test address:

1) 本部地址: 浙江省宁波市高新区江南路1588号D座

Building D, No.1588, Jiangnan Road, Hi-Tech Zone, Ningbo, Zhejiang, China

2) 分实验室地址: 浙江省宁波市北仑区长白山路616号(东区、西区)

No.616, Changbai Mountain Road, Beilun District, Ningbo, Zhejiang, China(East and West)

2、本证书由原产品检测和试验机构认可证书(No. ZG21PAA00001) 换新并替代原证书。

This certificate is renewed from and supersedes the previous Test Agency Approval Certificate No. ZG21PAA00001.

中国船级社浙江分社

CCS Zhejiang Branch

注: 本证书含有附页, 共14页

Note: The certificate is attached with additional 14 page(s)



认可试验范围
Items of test approved

试验产品 Test of product	试验类别 Test Category	试验项目 Test Items	试验依据及标准 Main test standards	备注 Note
船用金属材料 Marine metal materials	钢铁及合金化学成分 of Iron, steel and alloy	磷含量 P	GB/T 223.59-2008, GB/T 223.62-1988	1、材料种类/Material: 钢铁及合金、铜及铜合金、 铝及铝合金、镁及镁合金、 锌及锌合金、 Steel and alloy, copper and copper alloy, aluminum and aluminum alloy, magnesium and magnesium alloys, zinc and zinc alloys 2、拉伸试验机能力范围: Capacity range of tensile testing machine: 0~4000kN (室温/ Normal temperature) 0~300kN (0~1100℃) 3、金属管液压试验能力范围: Hydraulic Test Capability Range of metal tube: 最大压力 20MPa, 最大管径 160mm。
		锰含量 Mn	GB/T 223.4-2008, GB/T 223.58-1987, GB/T 223.63-2022, GB/T 223.64-2008	
		硅含量 Si	GB/T 223.5-2008, GB/T 223.60-2024	
		硼含量 B	GB/T 223.6-1994	
		铁含量 Fe	GB/T 223.7-2002, GB/T 223.73-2008	
		铝含量 Al	GB/T 223.8-2000, GB/T 223.9-2008	
		铬含量 Cr	GB/T 223.11-2008, GB/T 223.12-1991	
		钒含量 V	GB/T 223.13-2000, GB/T 223.14-2000	
		钛含量 Ti	GB/T 223.17-1989	
		铜含量 Cu	GB/T 223.18-1994, GB/T 223.19-1989, GB/T 223.53-1987	
		钴含量 Co	GB/T 223.20-1994, GB/T 223.21-1994, GB/T 223.22-1994	

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试验产品 Test of product	试验类别 Test Category	试验项目 Test Items	试验依据及标准 Main test standards	备注 Note
船用金属材料 Marine metal materials	钢铁及合金化学成分 Chemical composition of Iron,steel and alloy	镍含量 Ni	GB/T223.23-2008, GB/T 223.25-1994, GB/T 223.54-2022	
		钼含量 Mo	GB/T223.26-2008, GB/T 223.28-1989	
		铅含量 Pb	GB/T223.29-2008	
		氮含量 N	GB/T 223.36-1994	
		铌含量 Nb	GB/T223.40-2007	
		钨含量 W	GB/T223.43-2008, GB/T 223.66-1989	
		镁含量 Mg	GB/T 223.46-1989	
		铋含量 Sb	GB/T 223.47-1994	
		稀土总量 ΣRE	GB/T 223.49-1994	
		锡含量 Sn	GB/T 223.50-1994	
		锌含量 Zn	GB/T 223.51-1987	
		硫含量 S	GB/T 223.68-1997	



试验产品 Test of product	试验类别 Test Category	试验项目 Test Items	试验依据及标准 Main test standards	备注 Note
船用金属材料 Marine metal materials	钢铁及合金化学成分 Chemical composition of Iron,steel and alloy	碳含量 C	GB/T 223.69-2008	
		碳硫含量 C、S	GB/T 20123-2006	
		光谱分析 Spectrum analysis	GB/T 11170-2008 GB/T4336-2016 GB/T 20125-2006	
		氧含量 O	GB/T 11261-2006	
		氮含量 N	GB/T 20124-2006	
		氢含量 H	GB/T 223.82-2018 , Chapter 2,Part 3 of China Classification Society Rules for Material and Welding 2024 and its Amendments	
	铜及铜合金化学成分 Chemical composition of copper and copper	铜含量 Cu	GB/T 5121.1-2008, YS/T 521.1-2024, YS/T 910-2013	
		磷含量 P	GB/T 5121.2-2008	
		铅含量 Pb	GB/T 5121.3-2008	
		碳,硫含量 C,S	GB/T 5121.4-2008	
		镍含量 Ni	GB/T 5121.5-2008	
		铋含量 Bi	GB/T 5121.6-2008	
		砷含量 As	GB/T 5121.7-2008	



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试验产品 Test of product	试验类别 Test Category	试验项目 Test Items	试验依据及标准 Main test standards	备注 Note
船用金属材料 Marine metal materials	铜及铜合金化学成分 Chemical composition of copper and copper	氧含量 O	GB/T 5121.8-2024	
		铁含量 Fe	GB/T 5121.9-2008	
		锡含量 Sn	GB/T5121.10-2008	
		锌含量 Zn	GB/T5121.11-2008	
		铋含量 Sb	GB/T5121.12-2008	
		铝含量 Al	GB/T5121.13-2008	
		锰含量 Mn	GB/T5121.14-2008	
		铬含量 Cr	GB/T5121.16-2008	
		铍含量 Be	GB/T5121.17-2008	
		镁含量 Mg	GB/T5121.18-2008	
		银含量 Ag	GB/T5121.19-2008	
		钴含量 Zr	GB/T5121.20-2008	
		钛含量 Ti	GB/T5121.21-2008	



试验产品 Test of product	试验类别 Test Category	试验项目 Test Items	试验依据及标准 Main test standards	备注 Note
船用金属材料 Marine metal materials	铜及铜合金化学成分 Chemical composition of copper and copper	铜含量 Cd	GB/T 5121.22-2008	
		硅含量 Si	GB/T 5121.23-2008	
		光谱分析 Spectrum analysis	YS/T 482-2022, YS/T 483-2022 GB/T 5121.27-2008 SN/T 2259-2009	
	铝及铝合金化学成分 Chemical composition of aluminum and aluminum alloys	铜含量 Cu	GB/T 20975.3-2020	
		铁含量 Fe	GB/T 20975.4-2020	
		硅含量 Si	GB/T 20975.5-2020	
		锰含量 Mn	GB/T 20975.7-2020	
		锌含量 Zn	GB/T 20975.8-2020	
		锡含量 Sn	GB/T 20975.10-2020	
		铅含量 Pb	GB/T 20975.11-2018	
		钛含量 Ti	GB/T 20975.12-2020	
		钒含量 V	GB/T 20975.13-2020	
		镍含量 Ni	GB/T 20975.14-2020	



No. 23437913

试验产品 Test of product	试验类别 Test Category	试验项目 Test Items	试验依据及标准 Main test standards	备注 Note
船用金属材料 Marine metal materials	铝及铝合金化学成分 Chemical composition of aluminum and aluminum alloys	镁含量 Mg	GB/T 20975.16-2020	
		铬含量 Cr	GB/T 20975.18-2020	
		锆含量 Zr	GB/T 20975.19-2020	
		镓含量 Ga	GB/T 20975.20-2020	
		铍含量 Be	GB/T 20975.22-2020	
		锑含量 Sb	GB/T 20975.23-2020	
		稀土总含量 Σ RE	GB/T 20975.24-2020	
		镉含量 Cd	GB/T 20975.6-2020	
		锂含量 Li	GB/T 20975.9-2020	
		光谱分析 Spectrum analysis	GB/T 7999-2015 GB/T 20975.25-2020	
		铝含量 Al	GB/T 13748.1-2013	
	镁及镁合金化学成分 Chemical composition of magnesium and magnesium alloys	锡含量 Sn	GB/T 13748.2-2005	
		锂含量 Li	GB/T 13748.3-2005	



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试验产品 Test of product	试验类别 Test Category	试验项目 Test Items	试验依据及标准 Main test standards	备注 Note
船用金属材料 Marine metal materials	镁及镁合金化学成分 Chemical composition of magnesium and magnesium alloys	锰含量 Mn	GB/T 13748.4-2013	
		银含量 Ag	GB/T 13748.6-2005	
		锆含量 Zr	GB/T 13748.7-2013	
		稀土含量 Σ RE	GB/T 13748.8-2013	
		铁含量 Fe	GB/T 13748.9-2013	
		硅含量 Si	GB/T 13748.10-2013	
		铍含量 Be	GB/T 13748.11-2005	
		铜含量 Cu	GB/T 13748.12-2013	
		铅含量 Pb	GB/T 13748.13-2005	
		镍含量 Ni	GB/T 13748.14-2013	
		锌含量 Zn	GB/T 13748.15-2013	
		钙含量 Ca	GB/T 13748.16-2005	
		钾,钠含量 K, Na	GB/T 13748.17-2005	



试验产品 Test of product	试验类别 Test Category	试验项目 Test Items	试验依据及标准 Main test standards	备注 Note
船用金属材料 Marine metal materials	镁及镁合金化学成分 Chemical composition of magnesium and magnesium alloys	氯含量 Cl	GB/T 13748.18-2005	
		钛含量 Ti	GB/T 13748.19-2005	
	锌及锌合金化学成分 Chemical composition of zinc and zinc alloys	铝含量 Al	GB/T 12689.1-2010	
		砷含量 As	GB/T 12689.2-2004	
		镉含量 Cd	GB/T 12689.3-2004	
		铜含量 Cu	GB/T 12689.4-2004	
		铁含量 Ti	GB/T 12689.5-2004	
		镁含量 Mg	GB/T12689.7-2010	
		硅含量 Si	GB/T 12689.8-2004	
		锑含量 Sb	GB/T 12689.9-2004	
		锡含量 Sn	GB/T 12689.10-2004	
		光谱分析 Spectrum analysis	GB/T 12689.12-2004	



试验产品 Test of product	试验类别 Test Category	试验项目 Test Items	试验依据及标准 Main test standards	备注 Note
船用金属材料 Marine metal materials	性能试验 Performance test	拉伸试验 Tensile test	GB/T 228.1-2021, ISO 6892-1:2019, ASTM E8/E8M-2024, GB/T 228.2-2015, ISO 6892-2:2018, Chapter 2, Part One of China Classification Society Rules for Materials and Welding 2024 and its Amendments	
		Z 向拉伸试验 Z tensile test	Chapter 2, Part One of China Classification Society Rules for Materials and Welding 2024 and its Amendments	
		弯曲试验 Bend test	GB/T 232-2024, ISO 7438-2020, ASTM E290-2022 GB/T 244-2020 Chapter 2, Part One of China Classification Society Rules for Materials and Welding 2024 and its Amendments	
		冲击试验 Impact test	GB/T 229-2020, ASTM E23-2024, ISO 148-1:2016 Chapter 2, Part One of China Classification Society Rules for Materials and Welding 2024 and its Amendments	
		布氏硬度 Brinell Hardness	GB/T 231.1-2018, ISO 6506-1:2014, ASTM E10-2023	
		维氏硬度 Vickers hardness	GB/T 4340.1-2024, ISO 6507-1:2023, ASTM E384-2022	
		洛氏硬度 Rockwell hardness	GB/T 230.1-2018, ISO 6508-1:2023, ASTM E18-2024	
		管材延性试验 Pipe ductility test	GB/T 242-2007 Chapter 2, Part One of China Classification Society Rules for Materials and Welding 2024 and its Amendments GB/T 246-2017 GB/T 245-2016	
		压缩试验 Compression test	GB/T 7314-2017	



试验产品 Test of product	试验类别 Test Category	试验项目 Test Items	试验依据及标准 Main test standards	备注 Note
船用金属材料 Marine metal materials	性能试验 Performance test	液压试验 Hydrostatic pressure test	GB/T 241-2007	
		不锈钢晶间腐蚀 Intergranular corrosion of stainless steel	GB/T 4334-2020, ASTM A262-2015 (2021), ISO 3651-2-1998 Chapter 2, Part One of China Classification Society Rules for Materials and Welding 2024 and its Amendments	
		双相不锈钢点蚀 Pitting Corrosion of duplex stainless steels	ASTM A923-2023 Chapter 2, Part One of China Classification Society Rules for Materials and Welding 2024 and its Amendments	
		耐脱锌腐蚀 Dezincification corrosion resistance	GB/T 10119-2008, ISO 6509-1:2014	
		残余应力 Residual stress	GB/T 10567.1-1997, GB/T 10567.2-2007, ISO 6957:1988	
		金属镀层重量测定 Gravimetric determination of the mass per unit area	GB/T 1839-2008, GB/T 13825-2008	
		盐雾试验 Salt spray tests	GB/T 10125-2021, GB/T 6461-2002	
		钢丝绳破断拉力 Breaking tension of Wire Rope	Section 4, Chapter 10, Part One of China Classification Society Rules for Materials and Welding 2024 and its Amendments GB/T 8358-2023	
		显微组织检验 Microstructure	GB/T 13298-2015, GB/T 13299-2022 JB/T 7713-2007 JB/T 8420-2008	
	金相分析 Metallographic analysis			

试验产品 Test of product	试验类别 Test Category	试验项目 Test Items	试验依据及标准 Main test standards	备注 Note
船用金属材料 Marine metal materials	金相分析 Metallographic analysis	非金属夹杂物 Inclusion	GB/T 10561-2023, ASTM E45-2018a (2023), TB/T 2942.1-2020	
		平均晶粒度 Average grain size	GB/T 6394-2017, ISO 643-2024, ASTM E112-2024 GB/T 4335-2013 YS/T 347-2020	
		低倍组织检验 Macrostructure	GB/T 226-2015	
		铸铁显微检验 Microstructure of cast irons	GB/T 7216-2023, GB/T 9441-2021, ISO 945-1-2019	
		铁素体含量 Ferrite content	GB/T 1954-2008	
		α-相面积含量测定 Content of α-phases	GB/T 13305-2024	
		脱碳层 Decarburization	GB/T 224-2019	
		共晶碳化物不均匀度 Eutectic carbide	GB/T 14979-1994	
		塔形发纹酸浸 Etch test of tower sample	GB/T 15711-2018	
		铸造高锰钢金相 Metallographs for high manganese cast steel	GB/T 13925-2010	
		马氏体等级 Martensite grade	JB/T 9211-2008	



试验产品 Test of product	试验类别 Test Category	试验项目 Test Items	试验依据及标准 Main test standards	备注 Note
船用金属材料 Marine metal materials	金相分析 Metallographic analysis	感应淬火金相检验 Metallographic examination of induction harden	JB/T 9204-2008	
		有害金属间相 Intermetallic Phase	ASTM A923-2023	
		金相组织评级 Metallographic grading	GB/T 13320-2007	
		渗碳淬火回火金相检验 Metallographic examination for carburizing quenching and tempering	GB/T 25744-2010	
		金属镀层和化学处理层 厚度 The depth of metallic coating and chemical treatment layer	GB/T 6462-2005, JB/T 5069-2007 GB/T 9450-2005, GB/T 9451-2005, GB/T 5617-2005 GB/T 11354-2005 GB/T 9793-2012, GB/T 9799-2024	
		铝合金低倍组织 Macrostructure for aluminum alloy	GB/T 3246.2-2012	
		铝合金高倍组织 Microstructure for aluminum alloy	GB/T 3246.1-2024	

试验产品 Test of product	试验类别 Test Category	试验项目 Test Items	试验依据及标准 Main test standards	备注 Note
焊接试样 Welded sample	性能试验 Performance test	拉伸试验 Tensile test	GB/T 2651-2023, GB/T 2652-2022 Chapter 1, Part Three of China Classification Society Rules for Materials and Welding 2024 and its Amendments	见“船用金属材料”部分的描述 See "Marine metal materials"
		弯曲试验 Bend test	GB/T 2653-2008, CB/T 3351-2005, ASTM E190-2021 Chapter 1, Part Three of China Classification Society Rules for Materials and Welding 2024 and its Amendments	
		冲击试验 Impact test	GB/T 2650-2022 Chapter 1, Part Three of China Classification Society Rules for Materials and Welding 2024 and its Amendments	
		硬度测试 Hardness test	GB/T 2654-2008 Chapter 1, Part Three of China Classification Society Rules for Materials and Welding 2024 and its Amendments	
		角焊缝破断试验 Fillet weld fracture test	CB/T 3692-2016 Chapter 1, Part Three of China Classification Society Rules for Materials and Welding 2024 and its Amendments	
	化学成分 Chemical composition	晶间腐蚀试验 Intercrystalline corrosion test	CB/T 3949-2001	
		双相不锈钢点腐蚀试验 Point corrosion test of double-phase stainless steel	见“船用金属材料”部分的描述 See "Marine metal materials"	
		化学成分分析 Chemical composition analysis	见“船用金属材料”部分的描述 See "Marine metal materials"	
	金相分析 Metallographic analysis	宏观试验 Macro test	CB/T 3380-2013	

试验产品 Test of product	试验类别 Test Category	试验项目 Test Items	试验依据及标准 Main test standards	备注 Note
焊接试样 Welded sample	金相分析 Metallographic analysis	焊接接头金相检查 Metallographic inspection of welding joint	见“船用金属材料”部分的描述 See" Marine metal materials "	



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*****附页结束 / End of Text*****

