



中国船级社
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.
DL21PAA00001

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

大连产品质量检验检测研究院有限公司
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认可试验范围/Items of Test Approved

1. 金属材料类产品/Metal material products
2. 船舶涂料类产品/Marine coating products
3. 电气电子类产品/Electrical and electric products
4. 航行和无线电通信设备及系统/Maritime navigation and radio-communication equipment and system
5. 船用照明灯具/Marine illumination lights

试验主要适用标准/ Main Test Standards

1. 主要适用标准参见附页
Main test standards refer to 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 works 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

证书有效期至/ This Certificate is valid until 2026年06月08日 /Jun. 08,2026

发证机构/ Issued by 中国船级社大连分社
CCS Dalian Branch

签发日期/ Date 2022年06月09日
Jun. 09,2022

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Form No: A01.

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UTN:P022-40360112

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.

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.

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注：本证书含有附页，共7页

Note: The certificate is attached with additional 7 page(s)

认可试验范围及试验主要适用标准明细

Detail of items of test approved and main test standards

一、金属材料类产品/Metal material products

试验类别 Test Category	试验项目 Test Items	试验依据及标准 Test Standards
力学性能 Mechanical properties	拉伸试验 Tensile	GB/T 228.1-2010 《金属材料 拉伸试验 第 1 部分：室温试验方法》 Metallic materials - Tensile testing - Part 1: Method of test at room temperature
		GB/T 228.2-2015 《金属材料 拉伸试验 第 2 部分：高温试验方法》 Metallic materials - Tensile testing - Part 2: Method of test at elevated temperature *只测/Only for ≤1000℃
	冲击试验 Impact	GB/T 229-2020 《金属材料 夏比摆锤冲击试验方法》 Metallic materials - Charpy pendulum impact test method
	布氏硬度 Brinell hardness	GB/T 231.1-2018 《金属材料 布氏硬度试验 第 1 部分：试验方法》 Metallic materials - Brinell hardness test - Part 1: Test method
	维氏硬度 Vickers hardness	GB/T 4340.1-2009 《金属材料 维氏硬度试验 第 1 部分：试验方法》 Metallic materials - Vickers hardness test - Part1: Test method
	洛氏硬度 Rockwell hardness	GB/T 230.1-2018 《金属材料 洛氏硬度试验 第 1 部分：试验方法》 Metallic materials - Rockwell hardness test - Part 1: Test method
	里氏硬度 Leeb hardness	GB/T 17394.1-2014 《金属材料 里氏硬度试验 第 1 部分：试验方法》 Metallic materials - Leeb hardness test - Part 1: Test method *只测/Only for 150~960HLD
	弯曲试验 Bend test	GB/T 232-2010 《金属材料 弯曲试验方法》 Metallic materials - Bend test
	扩口试验 Drift-expanding test	GB/T 242-2007 《金属管 扩口试验方法》 Metal materials - Tube - Drift-expanding test
	压扁试验 Flattening test	GB/T 246-2017 《金属材料 管 压扁试验方法》 Metallic materials - Tube - Flattening test
物理性能 Physical properties	残余应力 Residual stress	GB/T 7704-2017 《无损检测 X 射线应力测法》 Non-destructive testing - Practice for residual stress measurement by X-ray
	残余奥氏体 Retained austenite	YB/T 5338-2019 《钢中奥氏体定量测定 X 射线衍射仪法》 Quantitative determination of austenite in steel - Methods of X-ray diffractometer
耐腐蚀性能 Corrosion resistant	硬化层深度 Hardened depth	GB/T 9450-2005 《钢件渗碳淬火硬化层深度的测定和校核》 Steel - Determination and verification of the depth of carburized and hardened cases
化学分析 Chemical analysis	合金元素 Alloying element	GB/T 20125-2006 《低合金钢 多元素的测定 电感耦合等离子体发射光谱法》 Low-alloy steel - Determination of multi-element content - Inductively coupled plasma atomic emission spectrometric method
		GB/T 4336-2016 《碳素钢和中低合金钢 多元素含量的测定 火花放电原子发射光谱法(常规法)》 Carbon and low-alloy steel - Determination of multi-element content - Spark discharge atomic emission spectrometric method (routine method)
		GB/T 5121.27-2008 《铜及铜合金化学分析方法 第 27 部分：电感耦合等离子体原子发射光谱法》 Methods for chemical analysis of copper and copper alloys - Part 27: The inductively coupled plasma atomic emission spectrometric method
	碳 C 硫 S	GB/T 20123-2006 《钢铁 总碳硫含量的测定 高频感应炉燃烧后红外吸收法(常规方法)》 Steel and iron - Determination of total carbon and sulfur content - Infrared absorption

试验类别 Test Category	试验项目 Test Items	试验依据及标准 Test Standards
	氧 O 氮 N	method after combustion in an induction furnace (routine method) *只测/Only for C: 4ppm~3.5%; S: 4ppm~0.4%
		GB/T 223.85-2009 《钢铁及合金 硫含量的测定 感应炉燃烧后红外吸收法》 Steel and iron - Determination of sulfur content - Infrared absorption method after combustion in an induction furnace *只测/Only for C: 4ppm~3.5%; S: 4ppm~0.4%
		GB/T 223.86-2009 《钢铁及合金 总碳含量的测定 感应炉燃烧后红外吸收法》 Steel and iron - Determination of total carbon content - Infrared absorption method after combustion in an induction furnace *只测/Only for C: 4ppm~3.5%; S: 4ppm~0.4%
		GB/T 11261-2006 《钢铁 氧含量的测定 脉冲加热惰气熔融-红外线吸收法》 Steel and Iron - Determination of oxygen content - The pulse heating inert gas fusion-infra-red absorption method *只测/Only for O: 0.05ppm~5.0%; N: 0.05ppm~3.0%; H: 0.1ppm~0.25%
		GB/T 20124-2006 《钢铁 氮含量的测定 惰性气体熔融热导法(常规方法)》 Steel and iron - Determination of nitrogen content - Thermal conductimetric method after fusion in a current of inert gas (routine method) *只测/Only for O: 0.05ppm~5.0%; N: 0.05ppm~3.0%; H: 0.1ppm~0.25%
		GB/T 14265-2017 《金属材料中氢、氧、氮、碳和硫分析方法通则》 General rule of chemical analysis for hydrogen, oxygen, nitrogen, carbon and sulfur in metallic materials *只测/Only for O: 0.05ppm~5.0%; N: 0.05ppm~3.0%; H: 0.1ppm~0.25%
		金相组织 Micro structure
GB/T 7216-2009 《灰铸铁金相检验》 Metallographic test for gray cast iron		
GB/T 9441-2009 《球墨铸铁金相检验》 Metallographic test for spheroidal graphite cast iron		
显微组织评定 Determination of microstructure	GB/T 13299-1991 《钢的显微组织评定方法》 Steel - Determination of microstructure	
非金属夹杂物 Nonmetallic inclusions	GB/T 10561-2005 《钢中非金属夹杂物含量的测定 - 标准评级图显微检验法》 Steel - Determination of content of nonmetallic inclusions - Micrographic method using standards diagrams	
平均晶粒度 Average grain size	GB/T 6394-2017 《金属平均晶粒度测定方法》 Determination of estimating the average grain size of metal *只做面积法/Only for area method	
脱碳层 decarburization	GB/T 224-2019 《钢的脱碳层深度测定法》 Determination of the depth of decarburization of steels *只用金相法/Only for metallographic method	
低倍组织 Macrostructure	GB/T 226-2015 《钢的低倍组织及缺陷酸蚀检验法》 Test method for macrostructure and defect of steel by etching GB/T 1979-2001 《结构钢低倍组织缺陷评级图》 Standard diagrams for macrostructure and defect of structural steels	

二、船舶涂料类产品/Marine coating products

试验类别 Test Category	试验项目 Test Items	试验依据及标准 Test Standards
常规性能 General performance	漆膜外观 Appearance	GB/T 6745-2008 《船壳漆》中 4.4.1 条 Topside paint, Clause 4.4.1
		GB/T 6746-2008 《船用油舱漆》中 4.6 条 Oil tank paint for ship, Clause 4.6
		GB/T 9260-2008 《船用水线漆》中 4.4 条 Boottopping paint for ship, Clause 4.4
		GB/T 9261-2008 《甲板漆》中 4.4.1 条 Deck paint, Clause 4.4.1
		GB/T 9262-2008 《船用货舱漆》中 5.4 条 Cargo hold paint for ship, Clause 5.4
		GB/T 6823-2008 《船舶压载舱漆》中 5.7 条 Ballast tanks paint for ship, Clause 5.7
	颜色 Color	GB/T 9761-2008 《色漆和清漆 色漆的目视比色》 Paints and varnishes - Visual comparison of the color of paints
		GB/T 6823-2008 《船舶压载舱漆》中 5.7 条 Ballast tanks paint for ship, Clause 5.7
	漆膜厚度 Film thickness	GB/T 13452.2-2008 《色漆和清漆 漆膜厚度的测定》 Paints and varnishes - Determination of film thickness
		GB/T 6747-2008 《船用车间底漆》附录 A.1 Shop primer for ship building, Annex A.1
		GB/T 6823-2008 《船舶压载舱漆》中 5.8 条 Ballast tanks paint for ship, Clause 5.8
	密度 Density	GB/T 6750-2007 《色漆和清漆 密度的测定 比重瓶法》 Paints and varnishes - Determination of density - Pycnometer method
	黏度 Viscosity	GB/T 1723-1993 《涂料粘度测定法》 Determination of viscosity of coatings
		GB/T 9269-2009 《涂料黏度的测定 斯托默黏度计法》 Determination of viscosity of paints and coatings - Stormer viscosimeter method
	细度 Fineness	GB/T 1724-2019 《色漆、清漆和印刷油墨 研磨细度的测定》 Paints, varnishes and printing inks - Determination of fineness of grind
	闪点 Flash point	GB/T 5208-2008 《闪点的测定 快速平衡闭杯法》 Determination of flash point - Rapid equilibrium closed cup method
	固体含量 Solid matter	GB/T 1725-2007 《色漆、清漆和塑料 不挥发物含量的测定》 Paints, varnishes and plastics - Determination of non-volatile-matter content
柔韧性 Flexibility	GB/T 1731-2020 《漆膜、腻子膜柔韧性测定法》 Determination of flexibility of coating and putty films	
干燥时间 Drying time	GB/T 1728-2020 《漆膜、腻子膜干燥时间测定法》 Determination of drying time of coating and putty films	
附着力 Adhesion	GB/T 1720-2020 《漆膜划圈试验》 Circle-drawing test of coating films	
	GB/T 5210-2006 《色漆和清漆 拉开法附着力试验》 Paints and varnishes - Pull-off test for adhesion	

试验类别 Test Category	试验项目 Test Items	试验依据及标准 Test Standards
	光泽 Gloss	GB/T 9754-2007 《色漆和清漆 不含金属颜料的色漆漆膜之 20°、60°和 85°镜面光泽的测定》 Paints and varnishes - Determination of specular gloss of non-metallic paint at 20°, 60° and 85°
	耐冲击性 Impact resistance	GB/T 20624.1-2006 《色漆和清漆 快速变形(耐冲击性)试验 第1部分:落锤试验(大面积冲头)》 Paints and varnishes - Rapid-deformation (impact resistance) tests - Part 1: Falling-weight test, large-area indenter
		GB/T 1732-2020 《漆膜耐冲击性测定法》 Determination of impact resistance of coating films
	耐盐水性 Salt water resistance	GB/T 10834-2008 《船舶漆 耐盐水性的测定 盐水和热盐水浸泡法》 Ship coatings - Determination of resistance to salt water - Salt water and hot salt water immersion method
	耐盐雾性 Salt spray (fog) resistance	GB/T 1771-2007 《色漆和清漆 耐中性盐雾性能的测定》 Paints and varnishes - Determination of resistance to neutral salt spray (fog)
	耐液体介质性 Liquids resistance	GB/T 9274-1988 《色漆和清漆 耐液体介质的测定》 Paints and varnishes - Determination of resistance to liquids
	耐磨性 Abrasion resistance	GB/T 1768-2006 《色漆和清漆 耐磨性的测定 旋转橡胶砂轮法》 Paints and varnishes - Determination of resistance to abrasion - Rotating abrasive rubber wheel method
	贮存稳定性 Package stability	GB/T 6753.3-1986 《涂料贮存稳定性试验方法》 Methods of test for package stability of paints
	挥发性有机 化合物 Volatile organic compound	GB/T 23985-2009 《色漆和清漆 挥发性有机化合物(VOC)含量的测定 差值法》 Paints and varnishes - Determination of volatile organic compound (VOC) content - Difference method
		GB/T 23986-2009 《色漆和清漆 挥发性有机化合物(VOC)含量的测定 气相色谱法》 Paints and varnishes - Determination of volatile organic compound (VOC) content - Gas-chromatographic method
	在容器中状态 Condition in container	GB/T 6746-2008 《船用油舱漆》中 4.4 条 Oil tank paint for ship, Clause 4.4
		GB/T 9262-2008 《船用货舱漆》中 5.5 条 Cargo hold paint for ship, Clause 5.5
	适用期 Pot life	GB/T 6746-2008 《船用油舱漆》中 4.7 条 Oil tank paint for ship, Clause 4.7
		GB/T 9262-2008 《船用货舱漆》中 5.9 条 Cargo hold paint for ship, Clause 5.9
		GB/T 6748-2008 《船用防锈漆》中 5.8 条 Anticorrosive paint for ship, Clause 5.8
		HG/T 3668-2020 《富锌底漆》中 5.4.7 条 Zinc rich primer, Clause 5.4.7
	对面漆适应性 Compatibility	GB/T 6748-2008 《船用防锈漆》中 5.13 条 Anticorrosive paint for ship, Clause 5.13
	施工性 Application property	GB/T 6748-2008 《船用防锈漆》中 5.14 条 Anticorrosive paint for ship, Clause 5.14
	不挥发物中金属锌含量 Metal zinc content in non-volatile	HG/T 3668-2020 《富锌底漆》中 5.4.6 条 Zinc rich primer, Clause 5.4.6

三、电气电子产品/Electrical and electric products

试验类别 Test Category	试验项目 Test Items	试验依据及标准 Test Standards
环境试验 Environment test	绝缘电阻测量 Insulation resistance	GD22-2015:2.3
	能源波动试验 Power supply variation	GD22-2015:2.4
	能源故障试验 Power supply failure	GD22-2015:2.5
	振动试验 Vibration	GD22-2015:2.7 (IEC 60068-2-6: 2007)
	高温试验 Dry heat	GD22-2015:2.8 (经 IACS UR E10 Rev.7 修订/Revised in accordance with IACS UR E10 Rev.7) (IEC 60068-2-2:2007)
	低温试验 Low temperature	GD22-2015:2.9 (IEC 60068-2-1:2007)
	交变湿热试验 Damp heat test-cyclic	GD22-2015:2.10 (IEC 60068-2-30:2005)
	耐电压试验 High voltage	GD22-2015:2.14
	外壳防护试验 Enclosure	GD22-2015:2.15 (GB/T 4208-2017 / IEC 60529:2013)
电磁兼容性试验 Electromagnetic compatibility	传导发射测量 Measurement of conducted emissions	GD22-2015:3.2 (CISPR 16-2-1:2017)
	外壳端口辐射发射测量 Measurement of radiated emissions from enclosure port	GD22-2015:3.3 (经 IACS UR E10 Rev.7 修订/Revised in accordance with IACS UR E10 Rev.7) (CISPR 16-2-3:2019)
	静电放电抗扰度试验 Electrostatic discharge immunity test	GD22-2015:3.4 (IEC 61000-4-2:2008)
	射频电磁场辐射抗扰度试验 Immunity to radiated, radiofrequency, electromagnetic field	GD22-2015:3.5 (经 IACS UR E10 Rev.7 修订/Revised in accordance with IACS UR E10 Rev.7) (IEC 61000-4-3:2020)
	电快速脉冲群抗扰度试验 Electrical fast transient/burst immunity	GD22-2015:3.6 (IEC 61000-4-4:2012)
	浪涌抗扰度试验 Surge immunity	GD22-2015:3.7 (IEC 61000-4-5:2017)
	低频传导抗扰度试验 Immunity to conducted low frequency disturbance	GD22-2015:3.8
	射频场感应的传导骚扰抗扰度试验 Immunity to conducted disturbances induced by radio-frequency fields	GD22-2015:3.9 (IEC 61000-4-6:2013)

四、航行和无线电通信设备及系统/Maritime navigation and radio-communication equipment and system

试验类别 Test Category	试验项目 Test Items	试验依据及标准 Test Standards
电源试验 Power supply	电源最大稳态波动 Extreme power supply variation	IEC 60945:2002/Cor1 2008 7.1, 5.2.2
	电源异常 Excessive conditions	IEC 60945:2002/Cor1 2008 7.2, 5.2.3
	电源瞬时波动 Immunity to power supply short-term variation	IEC 60945:2002/Cor1 2008 7.3, 10.7
	电源故障 Immunity to power supply failure	IEC 60945:2002/Cor1 2008 7.4, 10.8
环境条件试验 Environmental conditions	干热试验 Dry heat	IEC 60945:2002/Cor1 2008 8.2
	湿热试验 Damp heat	IEC 60945:2002/Cor1 2008 8.3
	低温试验 Low temperature	IEC 60945:2002/Cor1 2008 8.4
	振动试验 Vibration	IEC 60945:2002/Cor1 2008 8.7
电磁兼容性试验 Electromagnetic compatibility	传导发射 Conducted emissions	IEC 60945:2002/Cor1 2008 9.2
	外壳端口辐射发射 Radiated emission from enclosure port	IEC 60945:2002/Cor1 2008 9.3
	射频场感应的传导骚扰抗扰度 Immunity to conducted radio frequency disturbance	IEC 60945:2002/Cor1 2008 10.3
	射频电磁场辐射抗扰度 Immunity to radiated radiofrequencies	IEC 60945:2002/Cor1 2008 10.4
	电快速瞬变抗扰度 Immunity to fast transients on a.c. power, signal and control lines	IEC 60945:2002/Cor1 2008 10.5
	浪涌(冲击)抗扰度 Immunity to surges on a.c. power lines	IEC 60945:2002/Cor1 2008 10.6
	静电放电抗扰度 Immunity to electrostatic discharge	IEC 60945:2002/Cor1 2008 10.9
特殊试验 Special purpose	噪声和听觉信号 Acoustic noise and signals	IEC 60945:2002/Cor1 2008 11.1

五、船用照明灯具/Marine illumination lights

试验类别 Test Category	试验项目 Test Items	试验依据及标准 Test Standards
通用试验 General Test	标记 Marking	IEC 60598-1:2014+AMD1:2017 Section 3
	结构 Construction	IEC 60598-1:2014+AMD1:2017 Section 4
	外部接线和内部接线 External and internal wiring	IEC 60598-1:2014+AMD1:2017 Section 5

试验类别 Test Category	试验项目 Test Items	试验依据及标准 Test Standards
	接地规定 Provision for earthing	IEC 60598-1:2014+AMD1:2017 Section 7
	防触电保护 Protection against electric shock	IEC 60598-1:2014+AMD1:2017 Section 8
	防尘、防固体异物和水 Resistance to dust, solid objects and moisture	IEC 60598-1:2014+AMD1:2017 Section 9
	绝缘电阻和电气强度、接触电流和保护导体电流 Insulation resistance and electric strength, touch current and protective conductor current	IEC 60598-1:2014+AMD1:2017 Section 10
	爬电距离和电气间隙 Creepage distances and clearances	IEC 60598-1:2014+AMD1:2017 Section 11
	耐久性和热试验 Endurance test and thermal test	IEC 60598-1:2014+AMD1:2017 Section 12
	耐热、耐火和耐起痕 Resistance to heat, fire and tracking	IEC 60598-1:2014+AMD1:2017 Section 13
	螺纹接线端子 Screw terminals	IEC 60598-1:2014+AMD1:2017 Section 14
船用特殊试验 Special test in ship	灯具要求 Requirements on luminaires	IEC 60092-306:2009 Section 4
	灯具附具要求 Requirements on lighting accessories	IEC 60092-306:2009 Section 5
	特殊的化学和物理属性 Special chemical and physical attributes	IEC 60092-306:2009 7.2.5
固定式灯具试验 Fixed general purpose luminaires	耐久性试验和热试验 Endurance test and thermal test	IEC 60598-2-1:1979 Section 1.12
	防尘、防固体异物和水 Resistance to dust, solid objects and moisture	IEC 60598-2-1:1979 Section 1.13

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