

MATERIAL TEST CERTIFICATE

EN10204:2004 3.1

YONGJIA TONG BALL Valve Co., Ltd.

Address: Dongou Industrial Zone, Qubei Street, Yongjia County, Zhejiang Province(1st Floor Plant of Wenzhou Huangfang Industrial Co., Ltd)

Purchaser: JC VALVULIAS INDIA PVT LTD

Material Specification: ASTM A479 Gr F317-Edition 2024

ASTM A479 Gr F317-Edition 2024

NO: R2501015

Order No.: JCCMP-2425001581

Date: 2025-01-08

Chemical Composition (%)

Heat No.	C	Mn	Si	S	P	Cr	Mo	Ni	Forging Ratio
Specification	≤0.08	≤2.00	≤1.00	≤0.030	≤0.045	18.0-20.0	3.00-4.00	11.0-15.0	≥3: 1
Actual	0.017	0.848	0.449	0.001	0.033	18.309	3.071	11.164	4.20:1

Mechanical Property Test

H.T Batch No.	Test Temp.	Tensile Test			Elongation (%)	Reduction of Area (%)	Temp. (°C)	Impact Test			Hardness
		σb (Mpa)	σs 0.2 (Mpa)	σb/σs				Specimen	Akv	Hardness	
BD932412167	Ambient Temp.	Min515	Min205	Min30	Min40	71					162,165
		Actual	625	337	58						

Other Test

Heat No.	PT	UT	ASME BPVC SECTION VIII, DIVISION.1 UF-45 & UF-46	Heat Treatment	Remarks
SF6004P	Accepted	Accepted	Accepted	solution treat 1040°C, 2h, Quenching below 260 °C, water cold	

PO.SR.No.

Drawing No.

Item Description

Qty

Heat No.

YONGJIA TONG BALL Valve Co., Ltd

Q.A. Head: Zhongli Hu

3 X0B-100-3530-00 REV.0

SEAT DOWN STREAM DN100 FIG-3530 ASTM A182 Gr.F317+STELLITE

2

SF6004P

Q.A. Head: Zhongli Hu

26 XDA-100-3530-00 REV.3

SEAT DOWN STREAM DN100 FIG-3530 ASTM A182 Gr.F317+STELLITE

2

SF6004P

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28 XUA-100-3530-00 REV.2

SEAT UPSTREAM DN100 3530 ASTM A182 Gr.F317+STELLITE-6/250

2

SF6004P

Q.A. Head: Zhongli Hu

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JC Valvulias India Pvt. Ltd.

Chennai, Tamil Nadu, India

Verified & Accepted

Q.A. R. S. K.

We hereby certify that the parts listed above are manufactured and inspected, tested in accordance with the requirements of material specification ASTM A479 Gr F317-Edition 2024&JC-MDS-489 REV.2&JC-MDS-102 REV.2&SP-314 the material conforms to MR0175 for hardness.

Heat treatment record report

热处理记录报告

委托单位 (Entrust Company): 永嘉通球阀门有限公司

NO: TQ02412161

Material trademark 材料牌号		A182 F317		Process name 工艺名称		固溶	
Equipment number 设备编号	BD1701-7	Thermocouple number 热电偶编号	70387	Recorder number 记录仪编号	18090356	Order number 炉序号	BD032412167
Procedure content 工序内容	Holding temperature 保温温度	Soaking time 保温时间 h		Cooling medium 冷却介质	Pre-quenching temperature (介质) 淬前温度℃	Quenching temperature (介质) 淬后温度℃	
固溶	1040	2		水冷	30	39	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Product name 产品名称</p> <p>Production number 生产编号</p> <p>Description 型号规格</p> <p>Quantity 数量</p> <p>Heat NO. 炉号</p> </div> <div style="width: 45%;"> <p>Test item 实验项目</p> <p>EMR</p> <p>6_b MPa</p> <p>δ%</p> <p>ψ%</p> <p>AK/J/cm²</p> <p>硬度值</p> </div> <div style="width: 45%;"> <p>Mechanical property 机械性能</p> </div> </div>							
浮动球	IYD2412025-1	160*100*121.5	2	SF6004P			
阀座	IYD2412025-2	124.8*100*12.8	2	SF6004P			
阀座	IYD2412025-3	124.8*100*11	2	SF6004P			
试棒	IYD2412025-4	30*360	1	SF6004P			

Q.S. Mad. Shengshi Hu

Yongjia Boda machinery heat treatment co., Ltd
永嘉县博大机械热处理有限公司

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Chennai, Tamil Nadu, India
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R. S. B. S.



填表人: 叶建玲
日期: 2024-12-16
审核人: 方建东

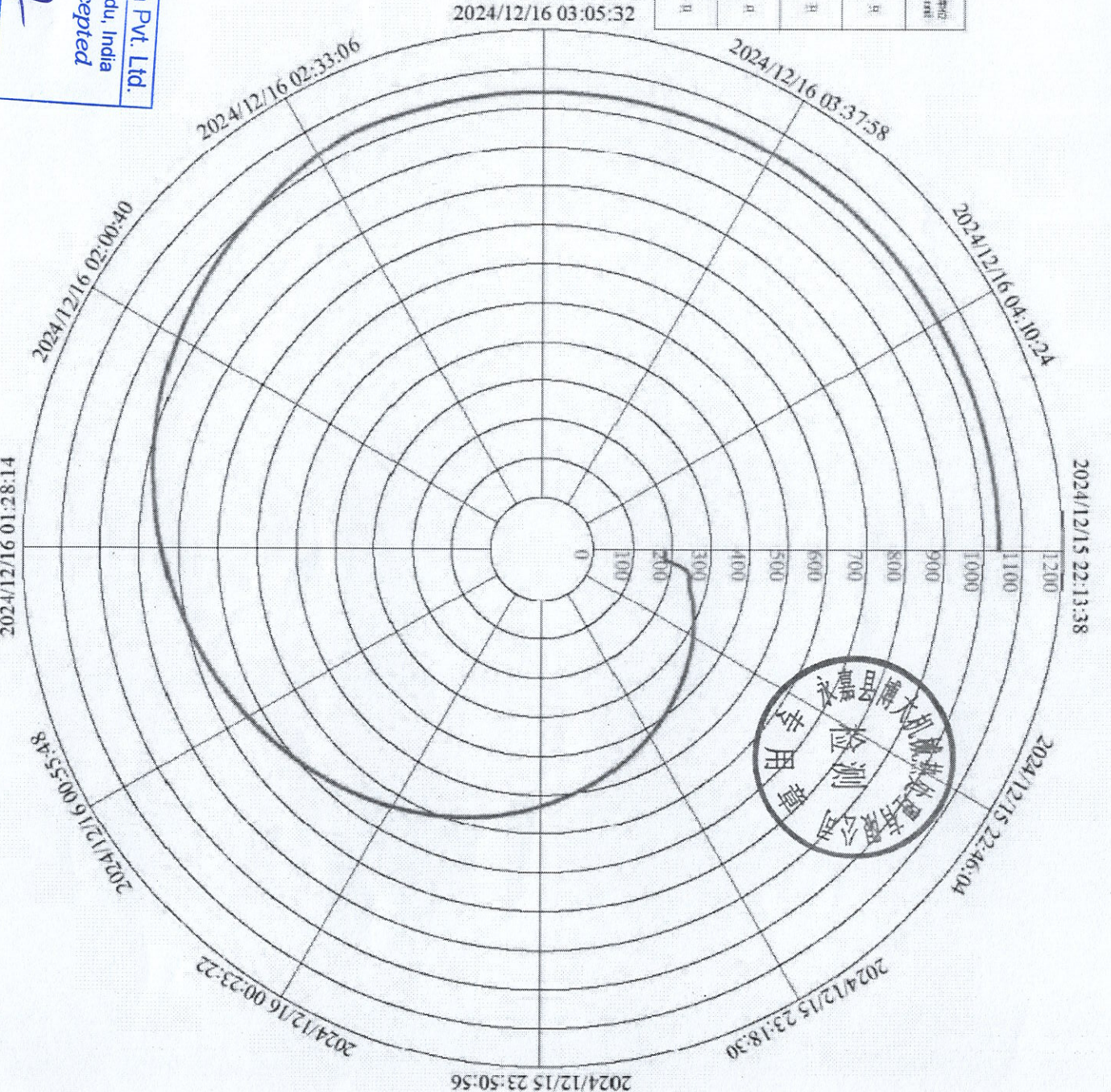
圆图曲线打印

设备名称: 总额
 打印通道: 通道02(1) ■
 记录间隔: 2 秒
 开始时间: 2024/12/15 22:13:38
 结束时间: 2024/12/16 04:42:50
 数据数量: 11677

生产组别 Production range	材料编号 material's id/merk	设备名称 Description	产品名称 product name	炉号 Heat No.	批号 Charge number	数量 Quantity	单位 unit
HYD41205-1	A102 F317	100T100-12-5	不锈钢	SF0004P	BD032412167	2	只
HYD41205-2	A102 F317	120 F 100-12.4	锻钢	SF0004P	BD032412167	2	只
HYD41205-3	A102 F317	240 T100-1	锻钢	SF0004P	BD032412167	2	只
HYD41205-4	A102 F317	30 T30	锻钢	SF0004P	BD032412167	1	只

A.S. Head: Shengyi Hu

2024/12/16 03:05:32



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 O.A. *R.S.K.J*

【绝对时间】

温州汇远科技有限公司
WenZhou Huiyuan Technology Co.Ltd
喷涂检测报告
HVOF INSPECTION REPORT

MATERIAL CERTIFICATE According to EN 10204 Type:3.1

客户名称 customer			版本号 version number	
永嘉通球阀门有限公司			2020-Q1.1	
生产编号: Production No.		1YD2412025-2	图号/数量 Drawing No./quantity	
零件名称/规格: Part name/specification		SEAT 124.8*100*12.8	涂层材料: Coating material	
涂层材料批号: Coating material batch number		24-3-203-41-1060-0 80	基材材料/炉号: Seat material/heat number	
项目编号	检测项目	参考标准	检验记录	参考值
Item number	Test item	Reference standard	Inspection record	Reference value
1	喷涂材料检测 Painting material inspection	成份 Material Composition	GB19356/ISO14232	C: 0.90-1.40, Cr:27.00-32.00,Fe:<3.00,Mn: 0.17-0.65,Mo:0.10-0.95,Ni:< 3.00,Si:1.12-1.25,W:4.00-6.0 0,Co:无,
2	涂层金相检测 Coating metallographic examination	显微硬度 Microhardness	ISO4516	670HV
3		涂层厚度 coating thickness	ISO2064	250 μm
4		孔隙率 porosity	E2109	1.50%
5		结合强度 adhesive strength	ASTM C633	10600PSI 断在胶中(glue broken)
6	PT	外观检测 appearance inspection	目测, 检验指导书 visual testing, inspection instruction	色泽一致, 无凹坑、裂纹、光瘤、孔隙、剥落及其他 Consistent color, smooth, without pits, cracks, pores, spalling, etc.
本批次产品经检验合格准予出厂. This batch products are qualified according to the delivery inspection.				
检验 inspector: 陈东生		审核 auditor: 朱坤仓		日期 date: 2025. 1. 3

JC Valvulas India Pvt. Ltd.
Chennai, Tamil Nadu, India
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QA. *R. S. [Signature]*

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喷涂检测报告
HVOF INSPECTION REPORT

MATERIAL CERTIFICATE According to EN 10204 Type:3.1

客户名称 customer			版本号 version number	
永嘉通球阀门有限公司			2020-Q1.1	
生产编号: Production No.		1YD2412025-1	图号/数量 Drawing No./quantity	
零件名称/规格: Part name/specification		BALL 160*100*121.5	涂层材料: Coating material	
涂层材料批次号: Coating material batch number		24-3-203-41-1060-0 80	基体材料/炉号: Ball material/heat number	
项目编号	检测项目	参考标准	检验记录	参考值
Item number	Test item	Reference standard	Inspection record	Reference value
1	喷涂材料检测 Painting material Inspection	成份 Material Composition	GB19356/ISO14232	C:1.06,Cr:29.11,Fe:2.36,Mn:0.18 Mo:0.39,Ni:2.54,Si:1.23,W:4.18, Co:余.
2	涂层金相检测 Coating metallographic examination	显微硬度 Microhardness	ISO4515	670HV
3		涂层厚度 coating thickness	ISO2064	250 μm
4		孔隙率 porosity	E2109	1.50%
5		结合强度 adhesive strength	ASTM C633	10500PSI 断在胶中(glue broken)
6	PT	外观检测 appearance inspection	目视, 检验指导书 visual testing,inspection instruction	色泽一致, 无凹坑、裂纹、光滑、孔隙、剥落及其他 Consistent color,smooth,withoutpits,cracks,pores,spalling,etc.
本批次产品经检验合格准予出厂. This batch products are qualified according to the delivery inspection.				
检验 inspector: 陈永生		审核 auditor: 朱坤全		日期 date: 2025. 1. 3

JC Valvulas India Pvt. Ltd.
Chennai, Tamil Nadu, India
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Q.A. *P. D. K. J.*

温州汇远科技有限公司
WenZhou Huiyuan Technology Co.Ltd
喷涂检测报告
HVOF INSPECTION REPORT

MATERIAL CERTIFICATE According to EN 10204 Type:3.1

客户名称 customer			版本号 version number		
永嘉通球阀门有限公司			2020-Q1.1		
生产编号: Production No.		1YD2412025-3	图号/数量 Drawing No./quantity		
零件名称/规格: Part name/specification		SEAT 124.8*100*11	涂层材料: Coating material		
涂层材料批次号: Coating material batch number		24-3-203-41-1060-0 80	基材材料/炉号: Seat material/heat number		
A182 F317/SF6004P					
项目编号	检测项目	参考标准	检验记录	参考值	
Item number	Test item	Reference standard	Inspection record	Reference value	
1	喷涂材料检测 Painting material inspection	成份 Material Composition	GB19356/ISO14232	C: 0.90-1.40, Cr:27.00-32.00,Fe:<3.00,Mn: 0.17-0.65,Mo:0.10-0.95,Ni:< 3.00,Si:1.12-1.25,W:4.00-6.0 0,Ca:余	
2	涂层金相检测 Coating metallographic examination	显微硬度 Microhardness	ISO4516	670HV	> 500HV
3		涂层厚度 coating thickness	ISO2064	250 μm	300-350 μm
4		孔隙率 porosity	E2109	1.50%	2.0%
5		结合强度 adhesive strength	ASTM C633	10600PSI 断在胶中(glue broken)	> 10000PSI
6	PT	外观检测 appearance inspection	目测, 检验指导书 visual testing, inspection instruction	色泽一致, 无凹坑、裂纹、光滑、孔隙、剥落及其他 Consistent color, smooth, without pits, cracks, pores, spalling, etc.	
本批次产品经检验合格准予出厂. This batch products are qualified according to the delivery inspection.					
检验 inspector: 陈东生		审核 auditor: 朱坤仑		日期 date: 2025. 1. 3	

JC Valvulas India Pvt. Ltd.

Chennai, Tamil Nadu, India
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Q.A. R. D. K. J.



Test Report

TC1472825000018414F

Customer: M/s. JC Valvulas India Private Limited No: 143, 1st Main Road, Industrial Estate, Perungudi ,City:Chennai ,600096	Report No.:	TR/24-25/7367-1
	Report Date:	14-03-2025
	Customer Ref. No.:	DC2425002013
	Ref. Date	07-03-2025
	Sample Received Date:	10-03-2025
	Date Of Completion:	13-03-2025

Samples drawn by Customer

Sample Description: Test Bar, Heat No: SF6004P, Material: F317, SP-Code: SP-314, PO No: SC-2425002567

Discipline : Chemical, **Group :** CORROSION TESTING

INTERGRANULAR CORROSION TEST (PRACTICE-E)

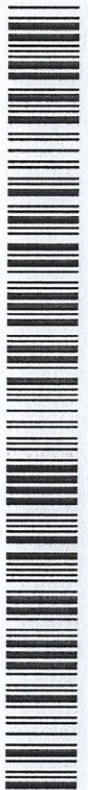
Test Method : ASTM A262:2015 (2021)

Verified By: N THINESH KANNAN

Tested on : 12-03-2025 to 13-03-2025

Test Parameters	Result
Test Solution	Copper – Copper Sulfate – 16% Sulfuric Acid
Test Specimen Size (mm)	L:109.50 x W:19.98 x Thk:8.04
Total Surface Area of the specimen (cm ²)	64.5766
Start of Boiling	12.03.2025 (05.00 pm)
End of Boiling	13.03.2025 (09.00 am)
Duration of Test	16 Hours
Bend Test	1T / 180 Degree
Evaluation	Cracks and Fissures not Observed at 20x Magnification. Intergranular attack not Observed at 250x Magnification
Photographs	The Macro and Micro photographs are enclosed

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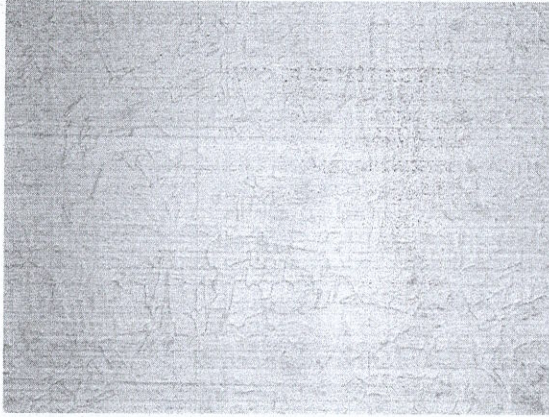


NOTE : This report relates only to the particular sample submitted for test * Any correction is not attested shall invalidate this certificate * Sample will be destroyed after 15 days from the date of testing unless instructed otherwise * Any complaints about this report should be communicated in writing within 7 days of this report * This report not to be produced wholly or in parts and cannot be used as an evidence in a court of law and shall not be used in advertising Media without prior permission in writing * Sample description is not verified in all cases and is given as described by the customers * Sample are not drawn by us unless otherwise stated * Laboratory reports the statements of Conformity to material specification as per Decision Rule 1, Non Conformity as per Decision Rule 4 & For Rule 2 & 3 Customer provides feedback.

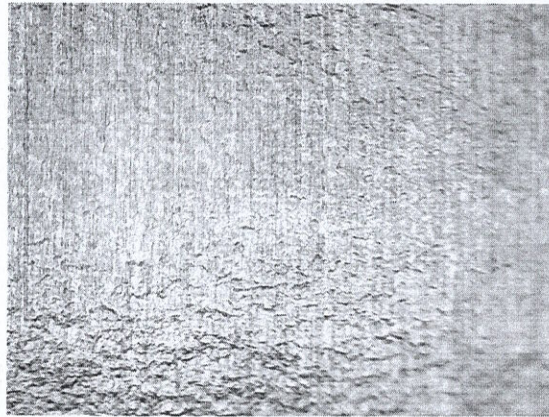




TC1472825000018414F
TR/24-25/7367-1 Dt- 14-03-2025



250X



20X

For MICROLAB

K. Mathan Kumar
Head, Corrosion & Polymer Department

Authorized Signatory

----- End of Test Report -----

JC Valvulas India Pvt. Ltd.
Chennai, Tamil Nadu, India
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A. *R. D. K. S.*



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