

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 Huajiang Industrial Co., Ltd)

Purchase: JC VALVULAS INDIA PVT LTD	Material Specification: ASTM A182 Gr F316L-Edition 2024A	NO: R24120179
Order No.: JCCMP-2425001581	Date: 2025-01-06	

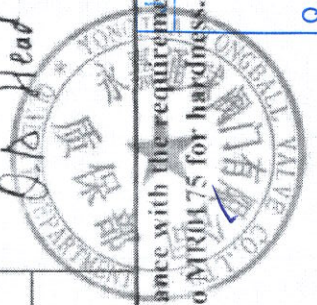
Chemical Composition (%)										
Heat No.	C	Mn	Si	S	P	Cr	Mo	Ni	N	Forging Ratio
	≤0.03	≤2.00	≤1.00	≤0.030	≤0.045	16.0-18.0	2.00-3.00	10.0-15.0	≤0.10	≥3: 1
SF6643L	Actual 0.018	0.965	0.375	0.0024	0.0387	16.4	2.044	10.05	0.0549	4.23:1

Mechanical Property Test										
H.T Batch No.	Tensile Test					Impact Test			Hardness	
	Test Temp.	Tensile σ_b (Mpa)	Yield σ_s 0.2 (Mpa)	Elongation (%)	Reduction of Area (%)	Temp. (°C)	Specimen	Akv		(J)(minimum)
BD032412160	Ambient Temp.	Min 515	Min 205	Min 30	Min 50					≤237
		Actual 565	258	56	72				(1) (2) (3)	151,156
									Avg	

Heat No.	Other Test		VISUAL INSPECTION		Heat Treatment		Remarks
	PT	UT	ASME BPVC SECTION VIII, DIVISION I UF-45 & UF-46		solution treat 1040°C, 2.5h, Quenching below 260 °C, water cold		
SF6643L	Accepted	Accepted	Accepted				

PO.SR.No.	Drawing No.	Item Description	Qty	Heat No.	Manufacturer
21	X2B-200-2560N-01 REV. 4	BALL DN200 CL.600 A182 GR.F316L+ENP(25MICRON) SP-314 MDS No..JC-MDS-342 Rev.7	4	SF6643L	YONGJIA TONG BALL VALVE Co., Ltd. Q.A. Head: Zhongli Hu

Q.A. Head: Zhongli Hu




We hereby certify that the parts listed above are manufactured and inspected, tested in accordance with the requirements of material specification ASTM A182 Gr F316L-Edition 2024A&JC-MDS-342 REV.7&SP-314 the material conforms to MR0475 for hardness. Chennai, Tamil Nadu, India
Verified & Accepted

Q.A. *R. Dinku*

Heat treatment record report 热处理记录报告

委托单位 (Entrust Company): 永嘉通球阀有限公司

NO: TQ02412161

material trademark 材料牌号		F316L		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	BD032412160
Procedure content 工序内容	Holding temperature 保温温度	Soaking time 保温时间 h	2.5	Cooling medium 冷却介质	Pre-quenching temperature (介质) 淬前温度℃	Quenching temperature (介质) 淬后温度℃	39
固溶		1040		30		39	
product name 产品名称		Production number 生产编号	Description 型号规格	Quantity 数量	Heat NO. 炉号	Mechanical property 机械性能	
固定球	1YD2412018	311*201*233.4	4	SF6643L	EMR	σ _b MPa	δ%
试棒	1YD2412018-1	30*360	1	SF6643L			ψ%
						AK/J/cm ²	
						硬度值	
<p><i>Q.P. Heat: Zhonghua Hu</i></p>							
<p>Yongjia Boda machinery heat treatment co., Ltd 永嘉县博大机械热处理有限公司</p>							
							
				填表人: 叶建玲 审核人: 方建东 日期: 2024-12-16			

JC Vaivulas India Pvt. Ltd. Chennai, Tamil Nadu, India Verified & Accepted Q.A. <i>R.S.A.J</i>



Test Report

TC1472825000018549F

Customer: M/s. JC Valvulas India Private Limited No: 143, 1st Main Road, Industrial Estate, Perungudi ,City:Chennai ,600096	Report No.:	TR/24-25/7368-1
	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: SF6643L, Material: F316L, SP-Code: SP-314, PO No: SC-2425002568

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
Sensitization Temp	Specimen was sensitized at 675°C for 1 hour
Test Solution	Copper – Copper Sulfate – 16% Sulfuric Acid
Test Specimen Size (mm)	L:104.64 x W:19.96 x Thk:7.97
Total Surface Area of the specimen (cm ²)	61.6335
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

JC Valvulas India Pvt. Ltd.
Chennai, Tamil Nadu, India
Inspected / Verified & Accepted
N. Muthukrishnan
Q.A/Q.C - N. MUTHUKRISHNAN

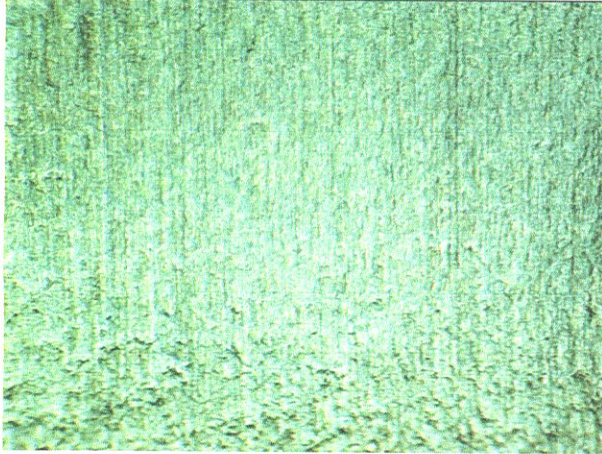
NOTE : This report relates only to the particular sample submitted for test * Any correction is not attested shall invalidate this certificate * Sample will be destroyed after 15 days from the date of testing unless instructed otherwise * Any complaints about this report should be communicated in writing 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.



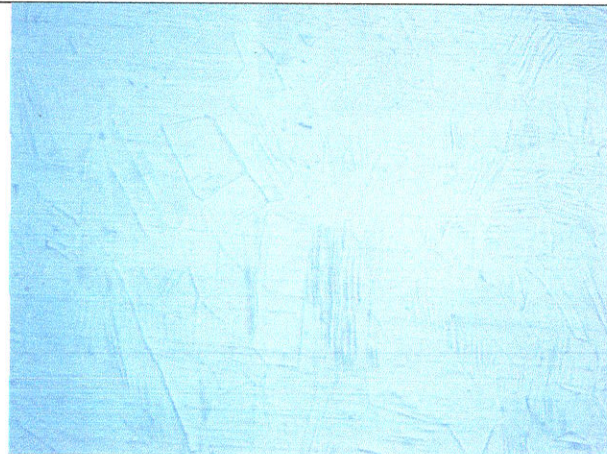


TC1472825000018549F

TR/24-25/7368-1 Dt- 14-03-2025



20X



250X

JC Valvulas India Pvt. Ltd.
Chennai, Tamil Nadu, India
Inspected / Verified & Accepted
N. Muthukrishnan
Q.A/Q.C - N. MUTHUKRISHNAN

For MICROLAB



K. Mathan Kumar
Head, Corrosion & Polymer Department

Authorized Signatory

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

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