

MATERIAL TEST CERTIFICATE

EN10204:2004 3.1

YONGJIA TONG BALL VALVE Co., Ltd.

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

Purchaser: JC VALVULAS INDIA PVT LTD
 Order No.: JCCMP-2425001581
 Material Specification: ASTM A182 Gr F60-Edition 2024A
 NO: R24120224
 Date: 2025-01-05

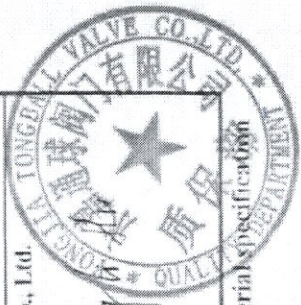
Heat No.	Chemical Composition (%)										Forging Ratio
	C	Mn	Si	S	P	Cr	Mo	Ni	N		
Specification	≤0.03	≤2.00	≤1.00	≤0.020	≤0.030	22.0-23.0	3.00-3.50	4.5-6.5	0.14-0.20		≥3:1
Actual	0.027	0.96	0.410	0.001	0.024	22.77	3.02	5.03	0.167		4.22:1

Mechanical Property Test

Test Temp.	Tensile Test				Elongation (%)			Reduction of Area (%)		Impact Test			Hardness (HB(max))
	σb (Mpa)	σs 0.2 (Mpa)	Yield	Min	Min25	Min45	Temp. (°C)	Specimen	Akv	Average of Three Specimens100(J)	Minimum of Single Specimen75(J)	Size	
STD	Min655	Min450	Min450	Min25	Min45	20	10*10*55	241	250	237			
Ambient Temp.	Actual	508	731	47	59	-30	10*10*55	Avg 242.67				21,23	

Heat No.	Other Test		VISUAL INSPECTION		Heat Treatment		Remarks
	PT	UT	ASME BPVC SECTION VIII, DIVISION I UF-45 & UF-46	Accepted	solution treat 1040°C, 2h, Quenching below 260 °C, water cold		
LK9005	Accepted	Accepted	Accepted	Accepted			

PO,SR.No.	Drawing No.	Item Description	Qty	Heat No.	YONGJIA TONG BALL VALVE Co., Ltd.
14	XZB-100-2515 REV.2	BALL DN100 CL150-300ASTM A182 GR.F60 (UNS S32205) SP-561 MDS No.JC-MDS-353 Rev.6	2	LK9005	Q.A. Head: Zhongli Hu



Q.A. Head: Zhongli Hu

JC Valvulas India Pvt. Ltd.
 Chennai, Tamil Nadu, India
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We hereby certify that the parts listed above are manufactured and inspected, tested in accordance with the requirements of material specification ASTM A182 Gr F60-Edition 2024A & JC-MDS-353 REV.6 & SP-561 the material conforms to MR0175 for hardness.

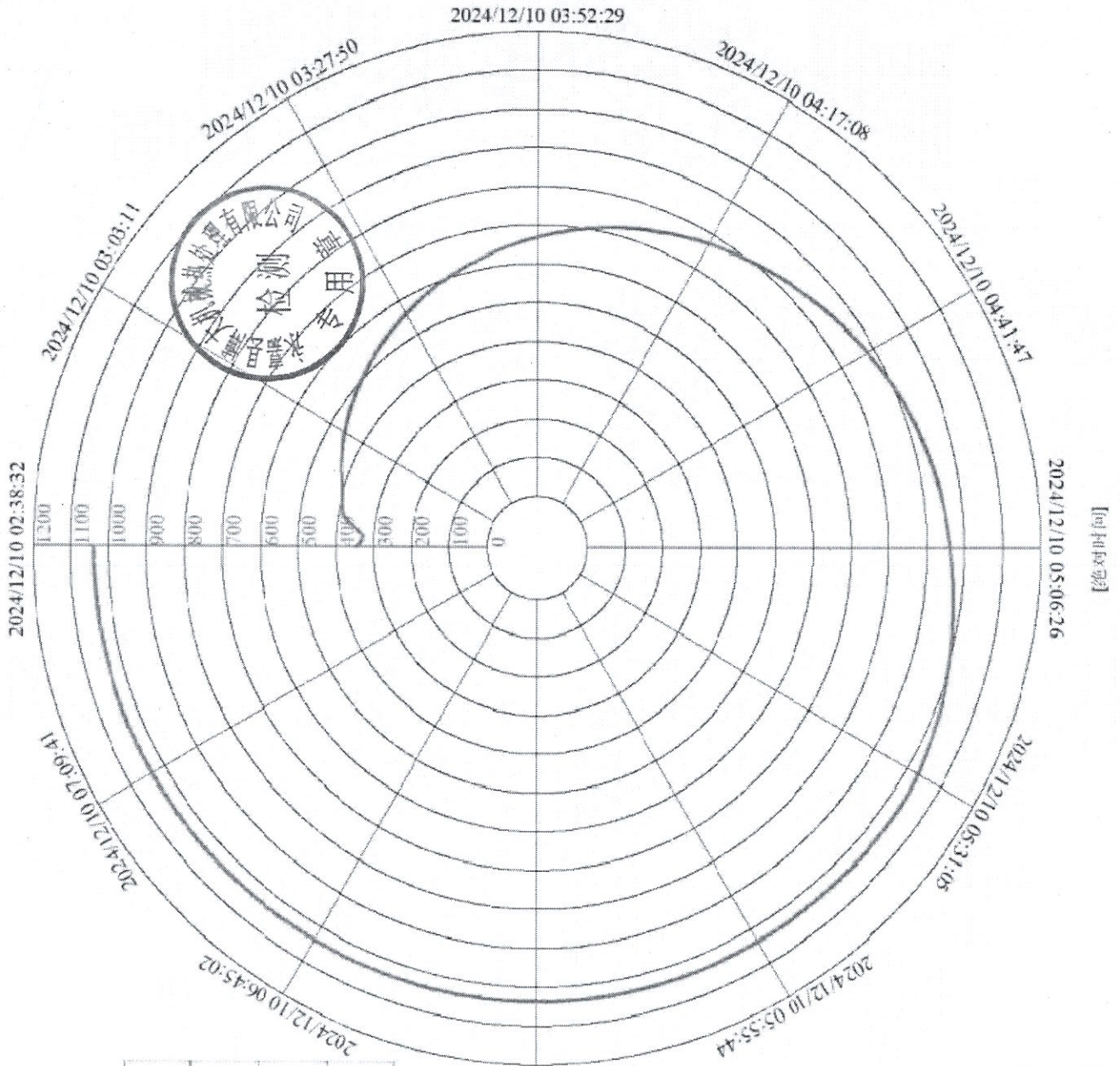
C.A. D. Dinak

圆图曲线打印

设备名称: 总貌
 打印通道: 通道04卡1
 记录间隔: 2 秒
 开始时间: 2024/12/10 02:38:32
 结束时间: 2024/12/10 07:34:20
 数据数量: 8875

生产批次 Production runno	可用编号 available itemno	型号规格 Description	产品名称 product name	料号 Item No.	批号 Order Number	数量 Quantity	单位 Unit
1104-201	A312 750	160*180*124.3	耳罩	L160255	30322412100	18	只
1104-202	A312 750	160*180	耳罩	L160255	30322412100	1	只
1104-203	A312 750	160*180*124.3	耳罩	L160255	30322412100	2	只

O.S. Head - zhongyi hu



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P. Diksh
 O.A.



Test Report

TC1472825000022982F

Customer: M/s. JC Valvulas India Private Limited No: 143, 1st Main Road, Industrial Estate, Perungudi ,City:Chennai ,600096	Report No.:	TR/24-25/7363-1
	Report Date:	25-03-2025
	Customer Ref. No.:	DC2425002014
	Ref. Date	07-03-2025
	Sample Received Date:	10-03-2025
	Date Of Completion:	24-03-2025

Samples drawn by Customer

Sample Description: Test Bar, Heat No: LK9005, Material: F60, SP-Code: SP-561, PO No: SC-2425002574

Discipline : Chemical, Group : CORROSION TESTING

PITTING CORROSION TEST (A923-METHOD-C)

Test Method : ASTM A923:2023- Method C

Verified By: N THINESH KANNAN

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

Test Parameters	Result
Sample preparation	All the machined surfaces of the specimen were ground finished using 120 grit paper
Test Solution	Dissolve 100 g of reagent grade ferric chloride FeCl ₃ 6H ₂ O in 900 ml of Distilled water
pH of test solution	1.30
Size (mm)	L:55.45 x W:25.15 x Thk:7.95
Total surface area of the specimen (dm ²)	0.4071
Initial Weight of the specimen (g)	86.1327
Start of Test	12.03.2025 (05.00 pm)
End of Test	13.03.2025 (05.00 pm)
Duration of Test (Hours)	24 Hours
Test Temperature (Degree Celcius)	24°C
Final weight of the specimen (g)	86.1322
Weight Loss (mg)	0.5000
Corrosion rate (mdd)	1.2283
Observation	Pitting not Observed at 20x magnification
Photographs	The Macro photograph is enclosed

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Chennai, Tamil Nadu, India
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C. Dattaraj

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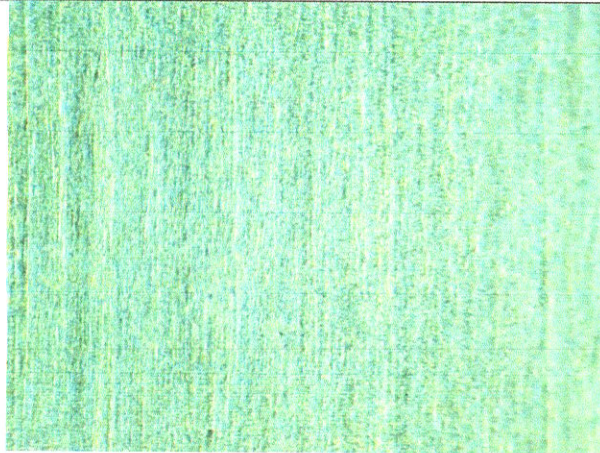




TC-14728

TC1472825000022982F

TR/24-25/7363-1 Dt- 25-03-2025



20X

Discipline : Mechanical, Group : METALLOGRAPHY TEST

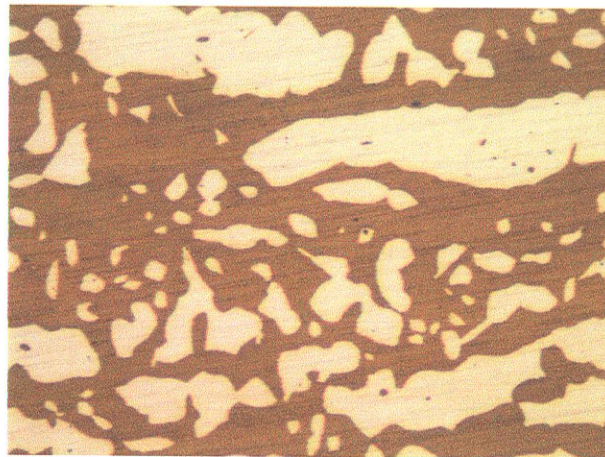
MICROSTRUCTURE EXAMINATION

Test Method : ASTM A923:2022- Method A

Verified By: KARTHIK

Tested on : 11-03-2025

Test Parameters	Result
Mag/Etchant	500x/40% NaOH Electro Etched
Observation	Micro examination of the specimen revealed uniform ferrite and austenite phase distribution and no continuous precipitates at the grain boundaries. The structure is free from intermetallic phases (like sigma, chi, laves) & other precipitates (Nitrides) and carbides. No deleterious secondary phases. This microstructure is classified as "Unaffected structure" as per section 6.3.1 of ASTM A923 Method A & is an Acceptable microstructure.



Mag-500x

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C. Karthik

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 TR/24-25/7363-1 Dt- 25-03-2025

FERRITE CONTENT TEST (30 FIELDS)


Test Method : ASTM E562:2019e1

Verified By: **KARTHIK**

Tested on : **11-03-2025**

Test Parameters	Result
Mag/Etchant	100x/20% NaOH Electro Etched
Field 1%	54.0
Field 2%	54.5
Field 3%	54.0
Field 4%	54.5
Field 5%	54.0
Field 6%	53.5
Field 7%	54.0
Field 8%	54.5
Field 9%	54.0
Field 10%	54.5
Field 11%	53.5
Field 12%	54.0
Field 13%	53.0
Field 14%	53.5
Field 15%	53.0
Field 16%	54.0
Field 17%	53.0
Field 18%	53.5
Field 19%	54.0
Field 20%	53.0
Field 21%	53.5
Field 22%	54.0
Field 23%	54.5
Field 24%	54.0
Field 25%	53.5
Field 26%	54.5
Field 27%	53.5
Field 28%	54.5
Field 29%	54.0



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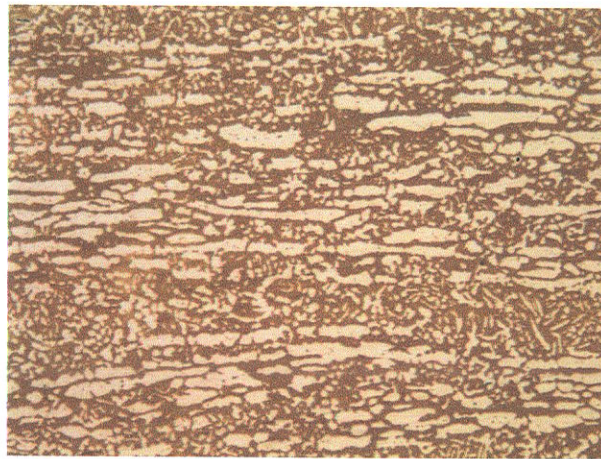
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Field 30%	54.5
Average %	53.88
RA %	0.34
Volume Estimate (VV+)%	54.07
Volume Estimate (VV-)%	53.69



Mag-100x

For MICROLAB

K. Mathan Kumar
K. Mathan Kumar
Head, Corrosion & Polymer Department

A. Karthik
A. Karthik
Head, Metallurgy Department

Authorized Signatory

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



JC Valvulas India Pvt. Ltd.
Chennai, Tamil Nadu, India
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C. Karthik

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Test Report

Customer: M/s. JC Valvulas India Private Limited No: 143, 1st Main Road, Industrial Estate, Perungudi ,City:Chennai ,600096	Report No.:	TR/24-25/7363-1-2
	Report Date:	25-03-2025
	Customer Ref. No.:	DC2425002014
	Ref. Date	07-03-2025
	Sample Received Date:	10-03-2025
	Date Of Completion:	24-03-2025

Samples drawn by Customer

Sample Description: Test Bar, Heat No: LK9005, Material: F60, SP-Code: SP-561, PO No: SC-2425002574

Discipline : Chemical, Group : CORROSION TESTING

INTERGRANULAR CORROSION TEST (PRACTICE-C)

Test Method : ASTM A262:2015 (2021)

Verified By: N THINESH KANNAN

Tested on : 12-03-2025 to 24-03-2025

Test Parameters	Result	Requirement
Test Solution	Nitric Acid Test Solution	
Volume of test solution (ml/cm ²)	1000	
Size (mm) and total surface area (cm ²)	L:25.17 x W:21.89 x Thk:7.97 & 18.5208	
Test start date & time	12.03.2025 (05.00 pm)	
Test end date & time	24.03.2025 (09.30 am)	
Duration of Test (Hours)	240	
Period	1st 48 hours	
Initial wt.of speciman in g	34.0087	
Final wt.of speciman in g	33.9917	
Weight Loss in g	0.0170	
Corrosion rate (mils/month)	0.6868	
Period	2nd 48 hours	
Initial wt.of speciman in g	33.9917	
Final wt.of speciman in g	33.9766	
Weight Loss in g	0.0151	
Corrosion rate (mils/month)	0.6101	
Period	3rd 48 hours	
Initial wt.of speciman in g	33.9766	
Final wt.of speciman in g	33.9545	
Weight Loss in g	0.0221	
Corrosion rate (mils/month)	0.8929	

JC Valvulas India Pvt. Ltd.
Chennai, Tamil Nadu, India
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C. Dathini

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TR/24-25/7363-1-2 Dt- 25-03-2025

Period	4th 48 hours
Initial wt.of speciman in g	33.9545
Final wt.of speciman in g	33.9289
Weight Loss in g	0.0256
Corrosion rate (mils/month)	1.0343
Period	5th 48 hours
Initial wt.of speciman in g	33.9289
Final wt.of speciman in g	33.8955
Weight Loss in g	0.0334
Corrosion rate (mils/month)	1.3494
Average Corrosion Rate (mils/month)	0.9147

4.0 max.

For MICROLAB




K. Mathan Kumar
Head, Corrosion & Polymer Department

Authorized Signatory

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



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