

INSPECTION CERTIFICATE BS EN 10204 TYPE 3.1

ABNAHMEPRÜFZEUGNIS 3.1, CERTIFICAT DE RÉCEPTION 3.1

Customer

Cryolor Asia Pacific Pvt Ltd

No 1 GST Rd, Chennai-Madurai NH45
Kadamalaiputhur Village
Perumberkandigai Post
Maduranthagam Taluk

Bestobell Valves

(A division of President Engineering Group Limited)

N.H. N° 8, Opp Krishna Temple
Nr. Bhammaria Kuva
Lambha, Ahmedabad 382405

Customer Order No

171221 16/08/2017

Date

20/12/2017

Bestobell Order No

SO-000344/04

Qty	Size	Description	Bestobell Part No.	Customer Part No.
10	DN40	Globe Valve DN40 SS/BRZ IN SE BB 230mm	CNT70SNED3C ✓	N/A
<	<			

Body: RJ015, RJ001, RJ332, RJ007,
Cover: DBJ,
Ext Tube: DBC,
Stem: DAN
Disc Sep Seal: DBM,
Coupling Adaptor: H1309

MAX WP 725 PSI

Test Pressures (tested using clean, filtered air)

Shell strength test: 1100 psi (75 Bar)
Shell tightness test: 798 psi (55 Bar)
Seat test*: 798 psi (55 Bar)

*Seat test does not apply to strainers

Certified that product is cleaned and degreased to Bestobell BVI_002, which is equal to or exceeds:
EN 12300-O2, APL 4WPI-SW70003, BOC Spec 50000810 and Messer MG06401

Certified that the whole of the supplies detailed hereon have been inspected, tested and unless
otherwise stated above, conform in all respects with the requirements of the contract or order.

Swaroop Dey



Technical & Quality dept.

TEST CERTIFICATE

LEISTUNG ENGINEERING PVT. LTD.

3/103, NIDC Nr. Bhamariya Kuva,
Lambha, Ahmedabad-382 405,
Gujarat-India
Ph: 91 79 2573 3411, 2573 3412
Fax: +91 79 2573 3412
E-Mail: info@leistung.in
URL: www.leistung.in

RAW MATERIAL	LOT NO	MILL / LABORATORY	CHEMICAL TC #	DATE	MECHANICAL TC#	DATE
DIA 22.22 MM SS ROUND BAR	DAN	PANCHMAHAL STEEL LTD.	D88254 (Heat # 05131)	15.11.2017	D88254 (Heat # 05131)	15.11.2017

CHEMICAL ANALYSIS

	C	P	Si	S	Cr	Mn	Ni	Mo	N	OTHER	
OBSERVED	%	0.024	0.038	0.270	0.027	16.70	1.820	10.270	2.190	0.079	-

MECHANICAL PROPERTIES

	Sec. Dim. (mm)	Guage Length (mm)	Yield/ Load (KN)	Ultimate Load (KN)	Final Guage Length (mm)	YS(0.2%) N/mm ²	YS (1.0%) N/mm ²	U.T.S. N/mm ²	Elongation %	HARDNESS (BHN)	Impact Energy at -196° C (Avg. Joule)
OBSERVED	-	-	-	-	-	490.30	536.80	621.80	48.10	215	183.33

NOTE: This Material Confirms to BSEN 10088-3 1.4401 in respect of above results

Narendra Chauhan

NARENDRA CHAUHAN
LEISTUNG ENGINEERING PVT. LTD.

HARD ORIGINAL, DULY SIGNED IS AVAILABLE WITH LEISTUNG ENGINEERING PVT. LTD.



TEST CERTIFICATE

LEISTUNG ENGINEERING PVT. LTD.

3/103, NIDC Nr. Bhamariya Kuva,
Lambha, Ahmedabad-382 405,
Gujarat-India

Ph: 91 79 2573 3411, 2573 3412

Fax: +91 79 2573 3412

E-Mail: info@leistung.in

URL: www.leistung.in

RAW MATERIAL	LOT NO	MILL / LABORATORY	CHEMICAL TC #	DATE	MECHANICAL TC#	DATE
DIA 63.00 MM SS ROUND BAR	DBJ	LAXCON STEELS LTD.	76404 (Heat # FF-5182)	23.11.2017	76404 (Heat # FF-5182)	23.11.2017

CHEMICAL ANALYSIS

	C	P	Si	S	Cr	Mn	Ni	Mo	N	OTHER
OBSERVED	%	0.022	0.039	0.40	0.014	18.24	1.70	8.06	0.0757	-

MECHANICAL PROPERTIES

	Sec. Dim. (mm)	Gauge Length (mm)	Yield/ Load (KN)	Ultimate Load (KN)	Final Gauge Length (mm)	YS(0.2%) N/mm ²	YS (1.0%) N/mm ²	U.T.S. N/mm ²	Elongation %	HARDNESS (BHN)	Impact Energy at -196° C (Avg. Joule)
OBSERVED	-	-	-	-	-	264.00	298.00	572.00	64.06	170	225.33

NOTE: This Material Confirms to BSEN 10088-3 1.4301 in respect of above results

Narendra Chauhan
NARENDRA CHAUHAN

LEISTUNG ENGINEERING PVT. LTD.

HARD ORIGINAL, DULY SIGNED IS AVAILABLE WITH LEISTUNG ENGINEERING PVT. LTD.



TEST CERTIFICATE

LEISTUNG ENGINEERING PVT. LTD.

3/103, NIDC Nr. Bhamariya Kuva,
Lambha, Ahmedabad-382 405,
Gujarat-India

Ph: 91 79 2573 3411, 2573 3412

Fax: +91 79 2573 3412

E-Mail: info@leistung.in

URL: www.leistung.in

RAW MATERIAL	LOT NO#	MILL / LABORATORY	CHEMICAL TC #	DATE	MECHANICAL TC#	DATE
3/4" SCH 40 SEAMLESS PIPE	DBC	MAXIM TUBES COMPANY PVT. LTD.	MTCPL/2017-2018/0732-B (Heat # FK1571-02)	15.11.2017	MTCPL/2017-2018/0732-B (Heat # FK1571-02)	15.11.2017

CHEMICAL ANALYSIS

	C	P	Si	S	Cr	Mn	Ni	OTHER
OBSERVED	0.018	0.024	0.380	0.003	18.210	1.200	8.220	-

MECHANICAL PROPERTIES

	Sec. Dim. (mm)	Gauge Length (mm)	Yield/ Load (KN)	Ultimate Load (KN)	Final Gauge Length (mm)	Area mm ²	Yield Stress N/mm ²	U.T.S. N/mm ²	Elongation %	Location Fracture	HARDNESS (BHN)
OBSERVED	-	-	-	-	-	-	302.00	609.00	58.00	-	-

NOTE: This Material Confirms to ASTM A-312 TP 304L in respect of above results

Narendra Chauhan
NARENDRA CHAUHAN

LEISTUNG ENGINEERING PVT. LTD.

HARD ORIGINAL, DULY SIGNED IS AVAILABLE WITH LEISTUNG ENGINEERING PVT. LTD.



Certificate No. : 1109/17-18 Date : 19-12-17

Bestobell Valves (India) Private Limited

N.H.#8 Opp Krishna Temple,
Near Bhammaria Klva Lambha
Ahmedabad 380405

Invoice No. : GST-467/17-18

Material : ASTM A 351 GR CF8M

PO No./Li. No.	Drawing No.	Description	HEAT No.		Specified Req.		C	Min		S	\$		P	Cr	N	Mo
			Min	Max	QTY	Min										
P001032	M0518VG27030A	BACK FLANGE VERTICAL DRA IN/CANDY CANE			10											
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z			16											
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z			3											
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z			8											
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z			12											
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z			6											
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z			9											
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z			4											
P001046	L2011018	15 MM GLV BODY S10 BW L0 201F018Z			4											
P001046	L0201FC18	15 MM GLV BODY S10 BW L0 201F018Z			30											

HEAT No.	Specified Req		YS(1%) Mpe	YS(0.2%) Mpe	EL %	RA %	Hardness BHN	Impact Test - Charpy (Joules)				Statement of Inspection			
	Min	Max						Temp:-196°C	Min	Avg	V1	V2	V3	Avg	
G203	485.00	0.00			30.00	0.00	0.00	Temp:-196°C	143.00	131.50	130.00	134.83			1 Castings are free from radioactive contamination
RJ273	593.91				60.40				143.00	120.00	126.00	121.33			2 Casting Surface Condition - Picking and Passivation condition
RJ332	555.06				58.26		159.00		118.00	120.00	128.00	123.33			3
RJ001	570.40				51.80		158.00		120.00	122.00	128.00	123.33			4
RJ007	551.83				50.16		159.00		108.00	100.00	88.00	98.66			5
RJ015	565.73				57.76		157.00		128.00	132.00	120.00	126.67			6
RJ018	532.37				58.16		156.00		130.00	118.00	134.00	127.33			7
RJ021	530.31				49.40		157.00		108.00	98.00	118.00	108.00			8
N406	539.37				48.16		157.00		128.00	110.00	98.00	112.00			9
OF251	545.50				48.60		160.00		112.00	118.00	110.00	113.33			10
	610.85				54.08		159.00		102.00	96.00	100.00	99.33			

Heat Treatment : Heated to 1080°C Soaked for 1 Hr/Inch thickness then water quench

Marking on Material : Heat No., Pressure Test "p"

1. All Body Has Been Pressure Tested in Air Under Water at 55BAR for 1 Minute

2. All Body Are Seat tested & Punched "S"

3. Material Confirm to NACE MR 0175/ISO 15156-2015 for Hardness

4 Visual Inspection : As per MSS-SP-55

10

Authorized Work Inspector

Stamp

Inspection Certificate

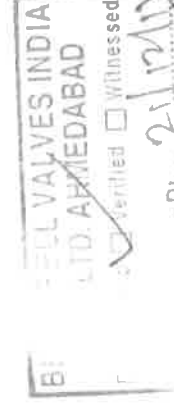
According To EN 10204 : 3.1 Certificates With PED

PED (2014/68/EU) Cert No: 07-202-1409-WZ-1092/17

NOVA

TECHNOCAST PVT. LTD

F-QC-04-R2



Certified that the material described has been inspected, tested and conforms to the requirements of the purchase order.

Certificate No. : 1109/17-18 Date: 19-12-17

Bestobell Valves (India) Private Limited

N.H.#8 Opp Krishna Temple,
Near Bhammaria Kuva, Lambha
Ahmedabad 380405

Invoice No. GST-457/17-18

Material : ASTM A 351 GR. CF8M

Inspection Certificate

According To EN 10204 : 3.1 Certificates With PED

PED (2014/68/EU) Cert No: 07-202-1409-WZ-1092/17



TECHNOCAST PVT. LTD.

F-QC-04-R2

PO No./U. No.	Drawing No.	Description	HEAT No.	Specific Req.		C	Min	S	S	P	Cr	N	Mo
				QTY	Min Max								
P001032	M0818VGZ7030A	BACK FLANGE VERTICAL DRA IN/CANDY CANE	G203	10			00.000	00.000	00.000	00.000	18.000	09.000	02.000
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ273	16			00.080	01.500	00.040	00.040	21.000	12.000	03.000
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ332	3			00.056	00.788	00.064	00.023	18.582	09.196	02.064
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ001	8			00.031	01.000	00.870	00.008	18.520	09.760	02.140
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ007	12			00.030	01.000	00.800	00.005	18.710	09.360	02.270
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ001	8			00.040	00.880	00.810	00.011	18.400	09.500	02.150
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ007	12			00.039	01.000	00.930	00.011	19.230	09.890	02.120
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ015	6			00.037	01.000	00.870	00.009	18.730	09.790	02.130
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ018	9			00.044	01.000	00.983	00.008	18.760	09.680	02.190
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ021	1			00.045	01.060	01.120	00.009	18.980	09.690	02.150
P001046	L0201F018	15 MM GLV BODY S10 BW L0 201F018Z	N406	2			00.039	01.010	00.813	00.011	18.450	09.220	02.170
P001048	L0201F018	15 MM GLV BODY S10 BW L0 201F018Z	OF251	20			00.055	01.109	00.692	00.012	16.392	06.410	02.206

Impact Test - Charpy (Joules)

HEAT No.	Min	Max	YS(1%) Mpa	YS(0.2%) Mpa	El %	RA %	Hardness BHN	Temp.: 195°C Min Avg Value ±1J						
								V1	V2	V3	Avg.	V1	V2	V3
G203			205.00	205.00	30.00		0.00	143.00	131.50	130.00	134.83			
RJ273			308.92	308.92	60.40		159.00	118.00	120.00	126.00	121.33			
RJ332			295.22	295.22	58.26		158.00	120.00	122.00	123.00	123.33			
RJ001			302.51	302.51	51.80		159.00	108.00	100.00	88.00	98.66			
RJ007			290.16	290.16	50.16		157.00	128.00	132.00	120.00	126.67			
RJ015			303.22	303.22	57.76		156.00	130.00	118.00	134.00	127.33			
RJ018			289.19	289.19	56.16		157.00	108.00	98.00	118.00	108.00			
RJ021			269.88	269.88	49.40		157.00	128.00	110.00	98.00	112.00			
N406			302.35	302.35	48.16		160.00	112.00	118.00	110.00	113.33			
OF251			317.91	317.91	48.60		159.00	102.00	96.00	100.00	99.33			

Heat Treatment : Heated to 1080°C Soaked for 1 Hr/Inch thickness then water quench

Marking on Material : Heat No, Pressure Test "rp"

1. All Body Has Been Pressure Tested in air Under Water at 55BAR for 1 Minute.

2. All Body Are Seat tested & Punched "S"

3. Material Conform to NACE MR 0175/ISO 15156-2015 for Hardness

4. Visual Inspection : As per MSS-SP-55

10

Statement of Inspection

1. Castings are free from radioactive contamination.
2. Casting Surface Condition : Pickling and Passivation condition.



Certified that the material described has been inspected, tested and conforms to the requirements of the purchase order.

Authorised Work Inspector

Certificate No. : 1109/17-18 Date : 19-12-17

Bestobell Valves (India) Private Limited

N-148 Opp Krishna Temple

Near Bhammarla Kuva, Lambha

Ahmedabad 380405

Invoice No. : GST-467/17-18

Material : ASTM A 351 GR. CF8M

Inspection Certificate

According To EN 10204 : 3.1 Certificates With PED

PED (2014/68/EU) Cert No: 07-202-1409-WZ-1092/17

NOVA

TECHNOCAST PVT. LTD.

F-QC-04-R2

PO No./Li. No.	Drawing No.	Description	HEAT No.	Spec'ed Reg.		C	Min	Si	S	P	Cr	N	Mo
				QTY	Min. Max								
P001032	M0318V627030A	BACK FLANGE VERTICAL DRA IN/CANDY CANE	G203	10			00.000	00.000	00.000	00.000	18.000	05.000	02.000
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ273	15			00.080	01.500	00.040	00.040	21.000	12.000	03.000
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ332	3			00.056	00.788	00.005	00.023	18.582	09.195	02.864
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ001	8			00.031	01.000	00.008	00.031	18.520	05.760	02.140
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ007	12			00.030	01.000	00.005	00.028	18.710	09.360	02.270
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ015	6			00.040	00.880	00.011	00.039	18.400	09.500	02.150
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ021	1			00.039	01.000	00.011	00.033	19.230	09.890	02.120
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ018	9			00.037	01.000	00.009	00.029	18.730	09.790	02.130
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ021	1			00.044	01.000	00.008	00.027	18.750	09.680	02.190
P001048	L0201F018	15 MM GLV BODY S10 BW L0 201F018Z	N406	2			00.045	01.060	00.120	00.009	18.980	09.690	02.150
P001048	L0201F018	15 MM GLV BODY S10 BW L0 201F018Z	OF251	30			00.039	01.010	00.011	00.032	18.450	09.220	02.170
							00.055	01.109	00.092	00.032	18.392	09.410	02.206

Impact Test - Charpy (Joules)

HEAT No.	YS(1%) Mpa	UTS Mpa	YS(0.2%) Mpa	El %	RA %	Hardness BHN	Temp : -195°C Min Avg Value: 41J						
							V1	V2	V3	Avg.	V1	V2	V3
G203		485.00	205.00	30.00		0.00	143.00	131.50	130.00	134.83			
RJ273		598.91	308.92	60.40		159.00	118.00	120.00	126.00	121.33			
RJ332		555.06	295.22	58.28		158.00	120.00	122.00	128.00	123.33			
RJ001		570.40	302.51	51.80		159.00	108.00	100.00	88.00	98.66			
RJ007		551.83	290.16	50.16		157.00	128.00	132.00	120.00	126.67			
RJ015		532.37	289.19	58.16		156.00	130.00	118.00	134.00	127.33			
RJ018		530.31	269.88	49.40		157.00	108.00	98.00	118.00	108.00			
RJ021		539.37	302.35	48.16		157.00	128.00	110.00	98.00	112.00			
N406		545.50	317.91	48.60		160.00	112.00	118.00	110.00	113.33			
OF251		610.85	303.54	54.08		159.00	102.00	96.00	100.00	99.33			

Heat Treatment : Heated to 1080°C Soaked for 1 Hr/inch thickness then water quench

Marking on Material : Heat No, Pressure Test-"P"

1. All Body Has Been Pressure Tested in air Under Water at 55BAR for 1 Minute.

2. All Body Are Seat tested & Punched 'S'.

3. Material Confirm to NACE MR 0175/ISO 15156-2015 for Hardness

4. Visual Inspection : As per MSS-SP-55

5. 10.

Statement of Inspection

1. Castings are free from radioactive contamination.

2. Casting Surface Condition : Pickling and Passivation condition.



Certified that the material described has been inspected, tested and confirms to the requirements of the purchase order.

Authorized Work Inspector

Certificate No.: 1109/17-18 Date: 19-12-17

Bestobell Valves (India) Private Limited

N-48 Opp Krishna Temple,
Near Bhammarla Kuva, Lambha
Ahmedabad 380405.

Invoice No.: GST-467/17-18

Material: ASTM A 351 GR. CF8M

Inspection Certificate
According To EN 10204 : 3.1 Certificates With PED

PED (2014/68/EU): Cert No. 07-202-1409-W2-1092/17

PO No./Li. No.	Drawing No.	Description	HEAT No.	Specified Req.		C	Min	SI	S	P	Cr	N	Mo
				QTY	Min Max								
P001032	M0818VG7703GA	BACK FLANGE VERTICAL DRA IN/CANDY CANE	G203	10		00.056	00.788	00.664	00.005	00.023	18.582	09.196	02.864
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ273	15		00.031	01.000	00.870	00.008	00.031	18.520	09.760	02.140
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ332	3		00.030	01.000	00.800	00.005	00.028	18.710	09.360	02.270
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ001	8		00.040	00.880	00.810	00.011	00.039	18.400	09.500	02.150
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ007	12		00.039	01.000	00.930	00.011	00.033	19.230	09.890	02.120
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ015	5		00.037	01.000	00.870	00.009	00.029	18.730	09.790	02.130
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ018	9		00.044	01.000	00.983	00.008	00.027	18.760	09.680	02.190
P001032	L0104F029	DN40 GLV BODY SE L0104FC 29Z	RJ021	1		00.045	01.060	01.120	00.009	00.025	18.980	09.690	02.150
P001043	L0201F018	15 MM GLV BODY SIC BW 10 201F018Z	N406	2		00.039	01.010	00.813	00.011	00.032	18.450	09.220	02.170
P001043	L0201F018	15 MM GLV BODY SIC BW 10 201F018Z	QF251	20		00.055	01.109	00.692	00.012	00.034	18.392	09.410	02.206

Impact Test - Charpy (Joules)

HEAT No.	Min	Max	YS(0.2%) Mpa	UTS Mpa	EL %	RA %	Hardness BHN	Temp.: 196°C Min Avg Value: 41J						
								V1	V2	V3	Avg.	V1	V2	Avg.
G203			205.00	485.00	30.00		0.00	143.00	131.50	130.00	134.83			
RJ273			308.92	593.91	60.40		159.00	118.00	120.00	126.00	121.33			
RJ332			295.22	556.06	58.28		158.00	120.00	122.00	128.00	123.33			
RJ001			302.51	570.40	51.80		159.00	106.00	100.00	88.00	98.66			
RJ007			290.16	551.83	50.16		157.00	128.00	132.00	120.00	126.67			
RJ015			289.19	532.37	56.16		156.00	130.00	118.00	134.00	127.33			
RJ018			269.88	530.31	49.40		157.00	108.00	98.00	118.00	108.00			
RJ021			302.35	539.37	48.16		157.00	128.00	110.00	98.00	112.00			
N406			317.91	545.50	48.60		160.00	112.00	118.00	110.00	113.33			
QF251			303.54	610.85	54.08		159.00	102.00	96.00	100.00	99.33			

Heat Treatment: Heated to 1080°C Soaked for 1 Hour then water quench

Marking on Material: Heat No., Pressure Test "p"

1. All Body Has Been Pressure Tested in air Under Water at 55BAR for 1 Minute

2. All Body Are Seat tested & Punched "S"

3. Material Conform to NACE MR 0175/ISO 15156-2013 for Hardness

4. Visual Inspection As per MSS-SP-55

5

Statement of Inspection

1. Castings are free from radioactive contamination.

2. Casting Surface Condition: Picking and Passivation condition

3

4

5

6

7

8

9

10



Certified that the material described has been inspected, tested and conforms to the requirements of the purchase order.

Stamp

Authorised Work Inspector