

Summary of Test Results

Reference no. : BC-SUMMARY-2021-207

Customer : Gate Way Valve & Fitting Ltd.

Address : Flat A1, 4/F., Galaxy Factory Building, 25-27 Luk Hop Street, San Po Kong, H. K.

Sample description : Ductile Iron Modulating Ball Float Valve

Nominal pressure (PN) : 16

Manufacturer : Cla-Val Pacific Ltd.

Brand name : CLA-VAL

Body marking : CLA-VAL (Inch) / (DN) (PN)

Model no. : 629-01

Origin : Canada

Sample submitted by : Gate Way Valve & Fitting Ltd.

Test standard : BS 1212-1 : 1990 / WIS 4-52-01 Dec. 1992 : Issue 1 / BS EN 1563 : 2011 / BS EN 10283 : 2010 / BS EN 10088-3 : 2014

Test period : 09 August to 16 December 2021

A) Sample List

| DN (mm) | Inch | Specimen no. |
|---------|------|--------------|
| 250 | 10" | 210802-2068 |

B) Test Item**1) Dimensions Check (BS 1212-1 : 1990 Section 3)**

| DN (mm) | Inch | Test results | Castco LRN |
|---------|------|--------------|-------------|
| 250 | 10" | Passed | 210802-2068 |

2) Coating Thickness Test (WIS 4-52-01 Dec. 1992 : Issue 1 Appendix B)

| DN (mm) | Inch | Test results | Castco LRN |
|---------|------|--------------|-------------|
| 250 | 10" | Passed | 210802-2068 |

3) Hydraulic Pressure and Shut-off Test (BS 1212-1 : 1990 Clause 24)

| DN (mm) | Inch | Test results | Castco LRN |
|---------|------|--------------|-------------|
| 250 | 10" | Passed | 210802-2068 |

4) Tensile Test (BS EN 1563 : 2011 Clause 7.2.1.1 Table 1 (Grade EN-GJS-450-10) and Clause 9.1)

| DN (mm) | Inch | Test results | Castco LRN |
|---------|------|--------------|-------------|
| 250 | 10" | Passed | 210802-2068 |

5) Chemical Composition (Disc) (BS EN 10283 : 2010 Table 1 Grade 1.4408)

| DN (mm) | Inch | Test results | Castco LRN |
|---------|------|--------------|-------------|
| 250 | 10" | Passed | 210802-2122 |

Summary of Test Results

Reference no. : BC-SUMMARY-2021-207

B) Test Item (con't)

6) Chemical Composition (Seat) (BS EN 10283 : 2010 Table 1 Grade 1.4408)

| DN (mm) | Inch | Test results | Castco LRN |
|---------|------|--------------|-------------|
| 250 | 10" | Passed | 210802-2123 |

7) Chemical Composition (Stem) (BS EN 10088-3 : 2014 Table 2 Grade 1.4401)

| DN (mm) | Inch | Test results | Castco LRN |
|---------|------|--------------|-------------|
| 250 | 10" | Passed | 210802-2124 |

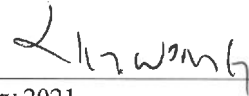
Prepare by : _____

Date : 18 January 2021


FU HO MAN
Assistant Technical Manager

Review by : _____

Date : 18 January 2021


WONG KA MAN
Senior Manager

**Test Report
Float Operated Valves - Dimensions Check
(BS 1212 : Part 1 : 1990 Section 3)**

Date of issue : 13 January 2022

Page 1 of 5 page(s)

Castco LRN : 210802-2068

Details as supplied by customer

Customer : Gate Way Valve & Fitting Ltd.

Customer's ref. no. : - -

Address : Flat A1, 4/F., Galaxy Factory Building, 25-27 Luk Hop Street, San Po Kong, H. K.

Contract no. : - -

Job title : - -

Sample description : Ductile Iron Modulating Ball Float Valve

Nominal pressure (PN) : 16

Manufacturer : Cla-Val Pacific Ltd.

Brand name : CLA-VAL

Body marking : CLA-VAL (Inch) / (DN) (PN)

Model no. : 629-01

Origin : Canada

Sample submitted by : Gate Way Valve & Fitting Ltd.

Laboratory test results

Date of sample received : 14 December 2021

Date of test : 15 December 2021

| | | |
|--|---------------------|-----------------|
| Specimen no. | 210802-2068 | |
| DN (mm) | 250 | |
| Inch | 10" | |
| Outside diameter of flange (mm) | Measured mean value | 407 |
| | Requirement | 405 |
| Diameter of bolt circle (mm) | Measured mean value | 356 |
| | Requirement | 355 |
| Diameter of bolt hole & Bolts number (mm & no.) | Measured mean value | 28.99 & 12 |
| | Requirement | 28 to 29.5 & 12 |
| Flange thickness (mm) | Measured mean value | 31.80 |
| | Requirement | 29 to 36 |

Remark(s) :

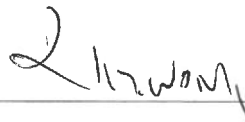
1. Test results relate only to the specimen tested.
2. Test results of sample comply with the requirement of BS 1212 : Part 1 : 1990 Section 3 (effect of measurement uncertainty has not been taken into account).

Checked by : _____



FU HO MAN
Assistant Technical Manager

Certified by : _____



WONG KA MAN
Senior Manager

Test Report**Valves - Coating Thickness Measurement**

(WIS 4-52-01 Dec. 1992 : Issue 1 Appendix B in conjunction with the following specification(s) : WIS 4-52-01 Dec. 1992 : Issue 1 Cl. 12.7.1)

Date of issue : 13 January 2022

Page 2 of 5 page(s)

Castco LRN : 210802-2068

Details as supplied by customer

Customer : Gate Way Valve & Fitting Ltd.

Customer's ref. no. : - -

Address : Flat A1, 4/F., Galaxy Factory Building, 25-27 Luk Hop Street, San Po Kong, H. K.

Contract no. : - -

Job title : - -

Sample description : Ductile Iron Modulating Ball Float Valve

Nominal pressure (PN) : 16

Manufacturer : Cla-Val Pacific Ltd.

Brand name : CLA-VAL

Body marking : CLA-VAL (Inch) / (DN) (PN)

Model no. : 629-01

Origin : Canada

Sample submitted by : Gate Way Valve & Fitting Ltd.

Laboratory test results

Date of sample received : 14 December 2021

Date of test : 15 December 2021

| | | |
|--|---------------------------|-------------|
| Specimen no. | | 210802-2068 |
| DN (mm) | | 250 |
| Inch | | 10" |
| Ambient temperature (°C) | | 21.5 |
| Measured value of coating thickness at external surface (µm) | 1 | 246 |
| | 2 | 224 |
| | 3 | 244 |
| | 4 | 227 |
| | 5 | 194 |
| Measured value of coating thickness at internal surface (µm) | 6 | 265 |
| | 7 | 227 |
| | 8 | 264 |
| | 9 | 222 |
| | 10 | 247 |
| | 11 | 219 |
| | 12 | 211 |
| | 13 | 260 |
| | 14 | 249 |
| | 15 | 217 |
| Mean | | 234.4 |
| Minimum coating thickness (µm) | | 194 |
| Maximum coating thickness (µm) | | 265 |
| Standard deviation (µm) | | 21.0 |
| Manufacturer requirement (µm) | Minimum coating thickness | min. 100 |
| | Maximum coating thickness | max. 500 |

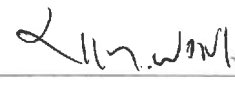
Remark(s) :

1. Test results relate only to the specimen tested.

Checked by : _____


FU HO MAN
Assistant Technical Manager

Approved Signatory : _____


WONG KA MAN
Senior Manager

Form no. : BC_VALVES_CT_WIS 4-52-01_T_dd_01/06/2021

Test Report

Float Operated Valves - Hydraulic Pressure and Shut-off Pressure Test
(BS 1212 : Part 1 : 1990 Clause 24 and Appendix A)

Date of issue : 13 January 2022

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Castco LRN : 210802-2068

Details as supplied by customer

Customer : Gate Way Valve & Fitting Ltd.

Customer's ref. no. : - -

Address : Flat A1, 4/F., Galaxy Factory Building, 25-27 Luk Hop Street, San Po Kong, H. K.

Contract no. : - -

Job title : - -

Sample description : Ductile Iron Modulating Ball Float Valve

Nominal pressure (PN) : 16

Manufacturer : Cla-Val Pacific Ltd.

Brand name : CLA-VAL

Body marking : CLA-VAL (Inch) / (DN) (PN)

Model no. : 629-01

Origin : Canada

Sample submitted by : Gate Way Valve & Fitting Ltd.

Laboratory test results

Date of sample received : 14 December 2021

Date of test : 15 December 2021

| | |
|--------------|-------------|
| Specimen no. | 210802-2068 |
| DN (mm) | 250 |
| Inch | 10" |

A. Hydraulic Pressure Test (BS 1212 : Part 1 : 1990 Clause 24.1)

| | |
|-----------------------|-----------------------------|
| Apply pressure (bar) | 20 |
| Maintain period (min) | 15 |
| Observation | No leakage was observed |
| Requirement | Without leaking or sweating |

B. Shut-off Pressure Test (BS 1212 : Part 1 : 1990 Clause 24.2)

| | |
|----------------------|-------------------------|
| Apply pressure (bar) | 14 |
| Observation | No leakage was observed |
| Requirement | Shall not leak |

Remark(s) :

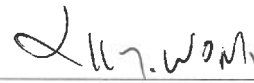
1. Test results relate only to the specimen tested.
2. Test results of sample comply with the requirement of BS 1212 : Part 1 : 1990 Clause 24 (effect of measurement uncertainty has not been taken into account).

Checked by : _____



FU HO MAN
Assistant Technical Manager

Certified by : _____



WONG KA MAN
Senior Manager

Test Report
Metallic Materials - Tensile Test of Metallic Materials
(BS EN ISO 6892-1 : 2009)

Date of issue : 13 January 2022

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Castco LRN : 210802-2068

Details as supplied by customer

Customer : Gate Way Valve & Fitting Ltd.

Customer's ref. no. : - -

Address : Flat A1, 4/F., Galaxy Factory Building, 25-27 Luk Hop Street, San Po Kong, H. K.

Contract no. : - -

Job title : - -

Sample description : Ductile Iron Modulating Ball Float Valve

Nominal pressure (PN) : 16

Manufacturer : Cla-Val Pacific Ltd.

Brand name : CLA-VAL

Body marking : CLA-VAL (Inch) / (DN) (PN)

Model no. : 629-01

Origin : Canada

Sample submitted by : Gate Way Valve & Fitting Ltd.

Acceptance standard : BS EN 1563 : 2011 Clause 7.2.1.1 Table 1 (Grade EN-GJS-450-10) and Clause 9.1

Laboratory test results

Date of sample received : 17 August 2021

Date of test : 16 December 2021

Tensile Test

| Specimen no. | DN (mm) | Type & Prepar'n | Specimen length (mm) | Area (mm ²) | Yield strength (MPa) | Tensile strength (MPa) | Elongation (%) | Position of fracture | Remark |
|--------------|---------|-----------------|----------------------|-------------------------|----------------------|------------------------|----------------|----------------------|--------|
| 210802-2068 | 250 | A, M | 182 | 155.9 | 331 | 498 | 12.8 | -- | -- |

Remark(s) :

- A - Proportional; B - Non - proportional; M - Machined; N - Unmachined;
+ - This measurement is 'invalid' which relates to the position of fracture only.
- The yield strength is determined at 0.2% proof strength.
- Test results relate only to the specimen tested.
- Test results of sample comply with the requirement of BS EN 1563 : 2011 Table 1 (this specification is not covered by the laboratory's HOKLAS accreditation).
- The requirement of BS EN 1563 : 2011 Table 1 : 0.2% proof strength = min. 310MPa; Tensile strength = min. 450MPa; Elongation = min. 10%.
- The acceptance limit is the same as the tolerance limit (simple acceptance, see Figure A). Only test results out of the tolerance/acceptance limit will be concluded as out-of-tolerance.

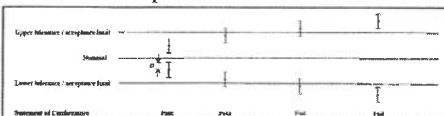


Figure A - Graphical representation of a binary statement - Simple acceptance

Checked by : _____

FU HO MAN
Assistant Technical Manager

Approved Signatory : _____

WONG KA MAN
Senior Manager

Test Report
Float Operated Valves - Dimensions Check
(BS 1212 : Part 1 : 1990 Section 3)

Date of issue : 13 January 2022

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Castco LRN : 210802-2068

Appendix A210802-2068

End of Report