

Summary of Test Results

Reference no. : BC-SUMMARY-2021-149

Customer : Gate Way Valve & Fitting Ltd.
Address : Flat A1, 4/F., Galaxy Factory Building, 25-27 Luk Hop Street, San Po Kong, Kowloon, H. K.
Sample description : Stainless Steel Flexible Joints
Nominal pressure (PN) : 16
Manufacturer : YAN SHUOH CO., LTD.
Brand name : YS
Body marking : YS (DN) PN16 (Production Code)
Model no. : YS-600RF
Origin : Taiwan
Sample submitted by : Gate Way Valve & Fitting Ltd.
Test standard : BS EN 12266-1 : 2012 / BS EN 10088-1 : 2014
Test period : 02 to 10 September 2021

A) Sample List

DN (mm)	Specimen no.
32	210817-2667-001
40	210817-2667-002
50	210817-2667-003
65	210817-2667-004
80	210817-2667-005
100	210817-2667-006
150	210817-2667-007

B) Test Item

1) Dimensions Check (In-house method)

DN (mm)	Test results	Castco LRN
32	Passed	210817-2667
40	Passed	
50	Passed	
65	Passed	
80	Passed	
100	Passed	
150	Passed	

2) Shell Tightness to Internal Pressure (BS EN 12266-1 : 2012 Clause 4)

DN (mm)	Test results	Castco LRN
32	Passed	210817-2667
40	Passed	
50	Passed	
65	Passed	
80	Passed	
100	Passed	
150	Passed	



Summary of Test Results

Reference no. : BC-SUMMARY-2021-149

B) Test Item (con't)

3) Chemical Composition (BS EN 10088-1 : 2014 Table 2 Grade 1.4301 (304))

DN (mm)	Test results	Castco LRN
32	Passed	210902-2124
50	Passed	210902-2125
65	Passed	210902-2126
80	Passed	210902-2127
150	Passed	210902-2128

Prepare by : _____
Date : 21 September 2021


FU HO MAN
Assistant Technical Manager

Review by : _____
Date : 21 September 2021


WONG KA MAN
Senior Manager

Test Report
Flexible Joints - Dimensions
(In-house method VAL-STRAINER-DIM)

Date of issue : 21 September 2021

Page 1 of 4 page(s)

Castco LRN : 210817-2667

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, Kowloon, H. K.

Contract no. : - -

Job title : WSD GA renew of "YS" Model : YS-600RF

Sample description : Stainless Steel Flexible Joints

Nominal pressure (PN) : 16

Manufacturer : YAN SHUOH CO., LTD.

Brand name : YS

Body marking : YS (DN) PN16 (Production Code)

Model no. : YS-600RF

Origin : Taiwan

Sample submitted by : Gate Way Valve & Fitting Ltd.

Laboratory test results

Date of sample received : 17 August 2021

Date of test : 02 to 03 September 2021

Specimen no.	210817-2667-001	210817-2667-002	210817-2667-003	210817-2667-004	210817-2667-005	210817-2667-006	210817-2667-007	
DN (mm)	32	40	50	65	80	100	150	
Ambient temperature (°C)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	
Outside diameter of flange (mm)	Measured mean value	140	150	165	185	199	221	285
	Requirement	138 to 142	148 to 152	163 to 167	183 to 187	198 to 202	218 to 222	283 to 287
Diameter of bolt circle (mm)	Measured mean value	100	110	125	145	161	180	239
	Requirement	99 to 101	109 to 111	124 to 126	144 to 146	159 to 161	179 to 181	239 to 241
Diameter of bolt hole & Bolts number (mm & no.)	Measured mean value	18.05 & 4	18.04 & 4	18.02 & 4	18.04 & 4	18.92 & 8	18.11 & 8	22.60 & 8
	Requirement	18 to 19 & 4	18 to 19 & 4	18 to 19 & 4	18 to 19 & 8	18 to 19 & 8	18 to 19 & 8	22 to 23 & 8
Flange thickness (mm)	Measured mean value	17.67	17.20	18.13	17.94	20.20	20.49	22.28
	Requirement	16.7 to 19	16.7 to 19	16.7 to 19	16.7 to 19	18.5 to 21.5	18.5 to 21.5	20.5 to 23.5

Remark(s) :

1. Test results relate only to the specimen tested.
2. Test results of sample comply with the requirement of BS EN 1092-1 : 2007 + A1 : 2013 Table 13 (this specification is not covered by the laboratory's HOKLAS accreditation).
3. 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.

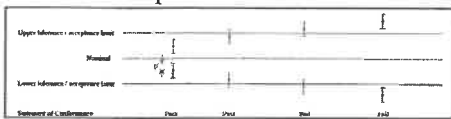


Figure A - Graphical representation of a binary statement - Simple acceptance

Checked by :

FU HO MAN
Assistant Technical Manager

Approved Signatory :

WONG KA MAN
Senior Manager

Form no. : BC_FLEXIBLE JOINTS_DIM_IN-HOUSE_T_dd_29/06/2021



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Website: www.castco.com.hk

Test Report
Metallic Valves - Shell and Seat Tightness
(BS EN 12266-1 : 2012 Annex A3 and A4)

Date of issue : 21 September 2021

Page 2 of 4 page(s)

Castco LRN : 210817-2667

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, Kowloon, H. K.

Contract no. : - -

Job title : WSD GA renew of "YS" Model : YS-600RF

Sample description : Stainless Steel Flexible Joints

Nominal pressure (PN) : 16

Manufacturer : YAN SHUOH CO., LTD.

Brand name : YS

Body marking : YS (DN) PN16 (Production Code)

Model no. : YS-600RF

Origin : Taiwan

Sample submitted by : Gate Way Valve & Fitting Ltd.

Laboratory test results

Date of sample received : 17 August 2021

Date of test : 04 September 2021

A) Shell Tightness

Specimen no.	210817-2667-001	210817-2667-002	210817-2667-003	210817-2667-004	210817-2667-005	210817-2667-006	210817-2667-007
DN (mm)	32	40	50	65	80	100	150
Water temperature (°C)	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Apply pressure (bar)	24	24	24	24	24	24	24
Test duration (s)	60	60	60	60	60	60	60
Visually detectable leakage	No	No	No	No	No	No	No
Requirement	Visually detectable leakage is not permitted						

Remark(s) :

1. Test results relate only to the specimen tested.
2. Test results of sample comply with the requirement of BS EN 12266-1 : 2012 Clause 4 (this specification is not covered by the laboratory's HOKLAS accreditation).
3. For test with qualitative test results, effect of measurement uncertainty has not been taken into account.

Checked by :  **FU HO MAN**
Assistant Technical Manager

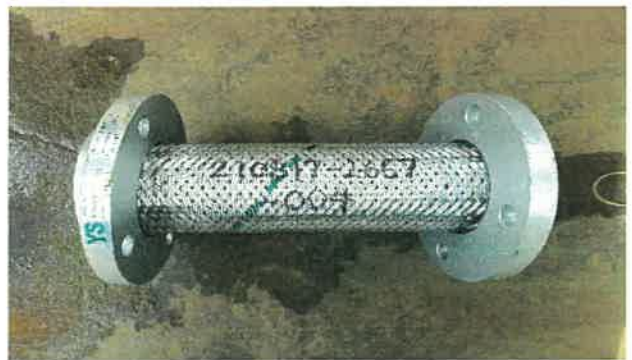
Approved Signatory :  **WONG KA MAN**
Senior Manager

Test Report
Flexible Joints - Dimensions
(In-house method VAL-STRAINER-DIM)

Date of issue : 21 September 2021

Page 3 of 4 page(s)

Castco LRN : 210817-2667

Appendix A210817-2667-001210817-2667-002210817-2667-003210817-2667-004210817-2667-005210817-2667-006

Test Report
Flexible Joints - Dimensions
(In-house method VAL-STRAINER-DIM)

Date of issue : 21 September 2021

Page 4 of 4 page(s)

Castco LRN : 210817-2667

Appendix B



210817-2667-007

End of Report

**Test Report
Chemical Analysis of Steel**

Date of issue: 16-09-2021

Specimen No.: CHEM-210902-2124-001

Page 1 of 2

Castco LRN: 210902-2124

Details as supplied by customer

Name of Customer : Gate Way Valve & Fitting Limited
Address : Flat A1, 4/F, Galaxy Fty Bldg, 25-27 Luk Hop Street, San Po Kong, Kowloon, Hong Kong
Job Title : WSD GA renew of "YS" Model: YS-600RF
Contract No. : --
Customer's Ref. No. : --

Sample details as supplied by customer

Date Sampled : --
Sample Description : DN32 Stainless Steel Flexible Joint
Specification : BS EN 10088-1:2014, Table 2, Grade 1.4301 (304)
Specimen No. : 210817-2667-001
Sample Identification No. : -- / Model no. : YS-600RF / Origin : Taiwan
Location of Works : --
Manufacturer : YAN SHUOH CO., LTD. / Brand name: YS

Test Method(s):-

- 1) BS EN ISO 15350 : 2010
- 2) ST-Multi-1(ICP-OES)
- 3) BS EN ISO 15351: 2010

Remark(s):

- I. Test results only relate to the specimen tested.

Checked by :

**Lau Hiu Yat**
Assistant Technical Manager

Approved Signatory :

**Cheng Chi Fai**
Senior Manager

Test Report
Chemical Analysis of Steel

Date of issue: 16-09-2021

Specimen No.: CHEM-210902-2124-001

Page 2 of 2

Castco LRN: 210902-2124

Laboratory test details

Date of Request Confirmed: 02-09-2021

Date of Received by Lab.: 02-09-2021

Testing Period: 08-09-2021 to 10-09-2021

Chemical Analysis		Result
¹⁾ Total Carbon Content	C %	0.040
¹⁾ Total Sulfur Content	S %	0.0040
²⁾ Chromium	Cr %	19.17
²⁾ Manganese	Mn %	1.10
²⁾ Nickel	Ni %	8.47
²⁾ Phosphorus	P %	0.020
²⁾ Silicon	Si %	0.405
³⁾ Nitrogen	N %	0.084

End of Report

Form No.: CHM Steel-1 T dd 16/12/2015

Appendix A

Summary of Chemical Analysis of Steel

Date of issue: 16-09-2021

Specimen No.: CHEM-210902-2124-001

Page 1 of 1

Castco LRN: 210902-2124

Name of Customer: Gate Way Valve & Fitting Limited
 Job Title: WSD GA renew of "YS" Model: YS-600RF
 Contract No.: --
 Customer's Ref. No.: --
 Date of Received by Lab.: 02-09-2021

Testing Period: 08-09-2021 to 10-09-2021

Castco LRN:	210902-2124				
Sample Description :	DN32 Stainless Steel Flexible Joint				
Specimen No. :	210817-2667-001				
Sample Identification No.:	-- / Model no. : YS-600RF / Origin : Taiwan				
Manufacturer :	YAN SHUOH CO., LTD. / Brand name: YS				
Specification: BS EN 10088-1:2014, Table 2, Grade 1.4301 (304)			Test Results	Within / Exceed limit	
Carbon	C	0.07 max.	%	0.040	Within limit
Sulfur	S	0.015 max.	%	0.0040	Within limit
Chromium	Cr	17.5 to 19.5	%	19.17	Within limit
Manganese	Mn	2.00 max.	%	1.10	Within limit
Nickel	Ni	8.0 to 10.5	%	8.47	Within limit
Phosphorus	P	0.045 max.	%	0.020	Within limit
Silicon	Si	1.00 max.	%	0.405	Within limit
Nitrogen	N	0.10 max.	%	0.084	Within limit

Remark(s):

- I. Test results only relate to the specimen tested.
- II. Test results of the specimen are in compliance with the chemical requirements of BS EN 10088-1:2014, Table 2, Grade 1.4301 (304).

Test Report**Chemical Analysis of Steel**

Date of issue: 16-09-2021

Specimen No.: CHEM-210902-2125-001

Page 1 of 2

Castco LRN: 210902-2125

Details as supplied by customer

Name of Customer : Gate Way Valve & Fitting Limited

Address : Flat A1, 4/F, Galaxy Fty Bldg, 25-27 Luk Hop Street, San Po Kong, Kowloon, Hong Kong

Job Title : WSD GA renew of "YS" Model: YS-600RF

Contract No. : --

Customer's Ref. No. : --

Sample details as supplied by customer

Date Sampled : --

Sample Description : DN50 Stainless Steel Flexible Joint

Specification : BS EN 10088-1:2014, Table 2, Grade 1.4301 (304)

Specimen No. : 210817-2667-003

Sample Identification No. : -- / Model no. : YS-600RF / Origin : Taiwan

Location of Works : --

Manufacturer : YAN SHUOH CO., LTD. / Brand name: YS

Test Method(s):-

- 1) BS EN ISO 15350 : 2010
- 2) ST-Multi-1(ICP-OES)
- 3) BS EN ISO 15351: 2010

Remark(s):

- I. Test results only relate to the specimen tested.

Checked by :



Lau Hiu Yat

Assistant Technical Manager

Approved Signatory :



Cheng Chi Fai

Senior Manager

Test Report
Chemical Analysis of SteelDate of issue: 16-09-2021
Page 2 of 2Specimen No.: CHEM-210902-2125-001
Castco LRN: 210902-2125**Laboratory test details**

Date of Request Confirmed: 02-09-2021

Date of Received by Lab.: 02-09-2021

Testing Period: 08-09-2021 to 10-09-2021

Chemical Analysis		Result
¹⁾ Total Carbon Content	C %	0.040
¹⁾ Total Sulfur Content	S %	0.0043
²⁾ Chromium	Cr %	18.76
²⁾ Manganese	Mn %	1.09
²⁾ Nickel	Ni %	8.32
²⁾ Phosphorus	P %	0.020
²⁾ Silicon	Si %	0.403
³⁾ Nitrogen	N %	0.084

End of Report

Form No.: CHM Steel-1 T dd 16/12/2015

Appendix A**Summary of Chemical Analysis of Steel**

Date of issue: 16-09-2021

Specimen No.: CHEM-210902-2125-001

Page 1 of 1

Castco LRN: 210902-2125

Name of Customer: Gate Way Valve & Fitting Limited
Job Title: WSD GA renew of "YS" Model: YS-600RF
Contract No.: --
Customer's Ref. No.: --
Date of Received by Lab.: 02-09-2021

Testing Period: 08-09-2021 to 10-09-2021

Castco LRN:	210902-2125			
Sample Description :	DN50 Stainless Steel Flexible Joint			
Specimen No. :	210817-2667-003			
Sample Identification No.:	-- / Model no. : YS-600RF / Origin : Taiwan			
Manufacturer :	YAN SHUOH CO., LTD. / Brand name: YS			
Specification: BS EN 10088-1:2014, Table 2, Grade 1.4301 (304)	Test Results		Within / Exceed limit	
Carbon C	0.07 max.	%	0.040	Within limit
Sulfur S	0.015 max.	%	0.0043	Within limit
Chromium Cr	17.5 to 19.5	%	18.76	Within limit
Manganese Mn	2.00 max.	%	1.09	Within limit
Nickel Ni	8.0 to 10.5	%	8.32	Within limit
Phosphorus P	0.045 max.	%	0.020	Within limit
Silicon Si	1.00 max.	%	0.403	Within limit
Nitrogen N	0.10 max.	%	0.084	Within limit

Remark(s):

- I. Test results only relate to the specimen tested.
- II. Test results of the specimen are in compliance with the chemical requirements of BS EN 10088-1:2014, Table 2, Grade 1.4301 (304).

Test Report
Chemical Analysis of SteelDate of issue: 16-09-2021
Page 1 of 2Specimen No.: CHEM-210902-2126-001
Castco LRN: 210902-2126**Details as supplied by customer**

Name of Customer : Gate Way Valve & Fitting Limited

Address : Flat A1, 4/F, Galaxy Fty Bldg, 25-27 Luk Hop Street, San Po Kong, Kowloon, Hong Kong

Job Title : WSD GA renew of "YS" Model: YS-600RF

Contract No. : --

Customer's Ref. No. : --

Sample details as supplied by customer

Date Sampled : --

Sample Description : DN65 Stainless Steel Flexible Joint

Specification : BS EN 10088-1:2014, Table 2, Grade 1.4301 (304)

Specimen No. : 210817-2667-004

Sample Identification No. : -- / Model no. : YS-600RF / Origin : Taiwan

Location of Works : --

Manufacturer : YAN SHUOH CO., LTD. / Brand name: YS

Test Method(s):-

- 1) BS EN ISO 15350 : 2010
- 2) ST-Multi-1(ICP-OES)
- 3) BS EN ISO 15351: 2010

Remark(s):

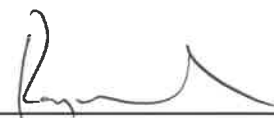
- I. Test results only relate to the specimen tested.

Checked by : _____

**Lau Hiu Yat**

Assistant Technical Manager

Approved Signatory : _____

**Cheng Chi Fai**

Senior Manager

Test Report**Chemical Analysis of Steel**

Date of issue: 16-09-2021

Page 2 of 2

Specimen No.: CHEM-210902-2126-001

Castco LRN: 210902-2126

Laboratory test details

Date of Request Confirmed: 02-09-2021

Date of Received by Lab.: 02-09-2021

Testing Period: 08-09-2021 to 10-09-2021

Chemical Analysis		Result
¹⁾ Total Carbon Content	C %	0.040
¹⁾ Total Sulfur Content	S %	0.0037
²⁾ Chromium	Cr %	18.50
²⁾ Manganese	Mn %	1.07
²⁾ Nickel	Ni %	8.24
²⁾ Phosphorus	P %	0.020
²⁾ Silicon	Si %	0.408
³⁾ Nitrogen	N %	0.075

End of Report

Form No.: CHM Steel-1 T dd 16/12/2015

Appendix A

Summary of Chemical Analysis of Steel

Date of issue: 16-09-2021

Specimen No.: CHEM-210902-2126-001

Page 1 of 1

Castco LRN: 210902-2126

Name of Customer: Gate Way Valve & Fitting Limited
 Job Title: WSD GA renew of "YS" Model: YS-600RF
 Contract No.: --
 Customer's Ref. No.: --
 Date of Received by Lab.: 02-09-2021

Testing Period: 08-09-2021 to 10-09-2021

Castco LRN:	210902-2126				
Sample Description :	DN65 Stainless Steel Flexible Joint				
Specimen No. :	210817-2667-004				
Sample Identification No.:	-- / Model no. : YS-600RF / Origin : Taiwan				
Manufacturer :	YAN SHUOH CO., LTD. / Brand name: YS				
Specification: BS EN 10088-1:2014, Table 2, Grade 1.4301 (304)			Test Results	Within / Exceed limit	
Carbon	C	0.07 max.	%	0.040	Within limit
Sulfur	S	0.015 max.	%	0.0037	Within limit
Chromium	Cr	17.5 to 19.5	%	18.50	Within limit
Manganese	Mn	2.00 max.	%	1.07	Within limit
Nickel	Ni	8.0 to 10.5	%	8.24	Within limit
Phosphorus	P	0.045 max.	%	0.020	Within limit
Silicon	Si	1.00 max.	%	0.408	Within limit
Nitrogen	N	0.10 max.	%	0.075	Within limit

Remark(s):

- I. Test results only relate to the specimen tested.
- II. Test results of the specimen are in compliance with the chemical requirements of BS EN 10088-1:2014, Table 2, Grade 1.4301 (304).

Test Report
Chemical Analysis of Steel

Date of issue: 16-09-2021

Specimen No.: CHEM-210902-2127-001

Page 1 of 2

Castco LRN: 210902-2127

Details as supplied by customer

Name of Customer : Gate Way Valve & Fitting Limited

Address : Flat A1, 4/F, Galaxy Fty Bldg, 25-27 Luk Hop Street, San Po Kong, Kowloon, Hong Kong

Job Title : WSD GA renew of "YS" Model: YS-600RF

Contract No. : --

Customer's Ref. No. : --

Sample details as supplied by customer

Date Sampled : --

Sample Description : DN80 Stainless Steel Flexible Joint

Specification : BS EN 10088-1:2014, Table 2, Grade 1.4301 (304)

Specimen No. : 210817-2667-005

Sample Identification No. : -- / Model no. : YS-600RF / Origin : Taiwan

Location of Works : --

Manufacturer : YAN SHUOH CO., LTD. / Brand name: YS

Test Method(s):-

- 1) BS EN ISO 15350 : 2010
- 2) ST-Multi-1(ICP-OES)
- 3) BS EN ISO 15351: 2010

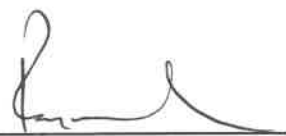
Remark(s):

I. Test results only relate to the specimen tested.

Checked by : 

Lau Hiu Yat

Assistant Technical Manager

Approved Signatory : 

Cheng Chi Fai

Senior Manager

**Test Report
Chemical Analysis of Steel**Date of issue: 16-09-2021
Page 2 of 2Specimen No.: CHEM-210902-2127-001
Castco LRN: 210902-2127**Laboratory test details**

Date of Request Confirmed: 02-09-2021

Date of Received by Lab.: 02-09-2021

Testing Period: 08-09-2021 to 10-09-2021

Chemical Analysis		Result
¹⁾ Total Carbon Content	C %	0.040
¹⁾ Total Sulfur Content	S %	0.0036
²⁾ Chromium	Cr %	18.21
²⁾ Manganese	Mn %	1.05
²⁾ Nickel	Ni %	8.08
²⁾ Phosphorus	P %	0.020
²⁾ Silicon	Si %	0.408
³⁾ Nitrogen	N %	0.075

End of Report

Form No.: CHM Steel-1 T dd 16/12/2015

Appendix A

Summary of Chemical Analysis of Steel

Date of issue: 16-09-2021

Specimen No.: CHEM-210902-2127-001

Page 1 of 1

Castco LRN: 210902-2127

Name of Customer: Gate Way Valve & Fitting Limited
 Job Title: WSD GA renew of "YS" Model: YS-600RF
 Contract No.: --
 Customer's Ref. No.: --
 Date of Received by Lab.: 02-09-2021

Testing Period: 08-09-2021 to 10-09-2021

Castco LRN:	210902-2127				
Sample Description :	DN80 Stainless Steel Flexible Joint				
Specimen No. :	210817-2667-005				
Sample Identification No.:	-- / Model no. : YS-600RF / Origin : Taiwan				
Manufacturer :	YAN SHUOH CO., LTD. / Brand name: YS				
Specification: BS EN 10088-1:2014, Table 2, Grade 1.4301 (304)			Test Results	Within / Exceed limit	
Carbon	C	0.07 max.	%	0.040	Within limit
Sulfur	S	0.015 max.	%	0.0036	Within limit
Chromium	Cr	17.5 to 19.5	%	18.21	Within limit
Manganese	Mn	2.00 max.	%	1.05	Within limit
Nickel	Ni	8.0 to 10.5	%	8.08	Within limit
Phosphorus	P	0.045 max.	%	0.020	Within limit
Silicon	Si	1.00 max.	%	0.408	Within limit
Nitrogen	N	0.10 max.	%	0.075	Within limit

Remark(s):

- I. Test results only relate to the specimen tested.
- II. Test results of the specimen are in compliance with the chemical requirements of BS EN 10088-1:2014, Table 2, Grade 1.4301 (304).

Test Report
Chemical Analysis of Steel

Date of issue: 16-09-2021

Specimen No.: CHEM-210902-2128-001

Page 1 of 2

Castco LRN: 210902-2128

Details as supplied by customer

Name of Customer : Gate Way Valve & Fitting Limited

Address : Flat A1, 4/F, Galaxy Fty Bldg, 25-27 Luk Hop Street, San Po Kong, Kowloon, Hong Kong

Job Title : WSD GA renew of "YS" Model: YS-600RF

Contract No. : --

Customer's Ref. No. : --

Sample details as supplied by customer

Date Sampled : --

Sample Description : DN150 Stainless Steel Flexible Joint

Specification : BS EN 10088-1:2014, Table 2, Grade 1.4301 (304)

Specimen No. : 210817-2667-007

Sample Identification No. : -- / Model no. : YS-600RF / Origin : Taiwan

Location of Works : --

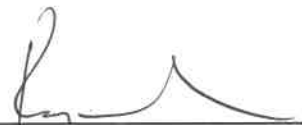
Manufacturer : YAN SHUOH CO., LTD. / Brand name: YS

Test Method(s):-

- 1) BS EN ISO 15350 : 2010
- 2) ST-Multi-1(ICP-OES)
- 3) BS EN ISO 15351: 2010

Remark(s):

I. Test results only relate to the specimen tested.

Checked by : **Lau Hiu Yat**
Assistant Technical ManagerApproved Signatory : **Cheng Chi Fai**
Senior Manager

Test Report
Chemical Analysis of SteelDate of issue: 16-09-2021
Page 2 of 2Specimen No.: CHEM-210902-2128-001
Castco LRN: 210902-2128**Laboratory test details**

Date of Request Confirmed: 02-09-2021

Date of Received by Lab.: 02-09-2021

Testing Period: 08-09-2021 to 10-09-2021

Chemical Analysis		Result
1) Total Carbon Content	C %	0.041
1) Total Sulfur Content	S %	0.0039
2) Chromium	Cr %	18.76
2) Manganese	Mn %	1.07
2) Nickel	Ni %	8.28
2) Phosphorus	P %	0.020
2) Silicon	Si %	0.405
3) Nitrogen	N %	0.076

End of Report

Form No.: CHM Steel-1 T dd 16/12/2015

Appendix A

Summary of Chemical Analysis of Steel

Date of issue: 16-09-2021

Specimen No.: CHEM-210902-2128-001

Page 1 of 1

Castco LRN: 210902-2128

Name of Customer: Gate Way Valve & Fitting Limited
 Job Title: WSD GA renew of "YS" Model: YS-600RF
 Contract No.: --
 Customer's Ref. No.: --
 Date of Received by Lab.: 02-09-2021

Testing Period: 08-09-2021 to 10-09-2021

Castco LRN:	210902-2128				
Sample Description :	DN150 Stainless Steel Flexible Joint				
Specimen No. :	210817-2667-007				
Sample Identification No.:	-- / Model no. : YS-600RF / Origin : Taiwan				
Manufacturer :	YAN SHUOH CO., LTD. / Brand name: YS				
Specification: BS EN 10088-1:2014, Table 2, Grade 1.4301 (304)			Test Results	Within / Exceed limit	
Carbon	C	0.07 max.	%	0.041	Within limit
Sulfur	S	0.015 max.	%	0.0039	Within limit
Chromium	Cr	17.5 to 19.5	%	18.76	Within limit
Manganese	Mn	2.00 max.	%	1.07	Within limit
Nickel	Ni	8.0 to 10.5	%	8.28	Within limit
Phosphorus	P	0.045 max.	%	0.020	Within limit
Silicon	Si	1.00 max.	%	0.405	Within limit
Nitrogen	N	0.10 max.	%	0.076	Within limit

Remark(s):

- I. Test results only relate to the specimen tested.
- II. Test results of the specimen are in compliance with the chemical requirements of BS EN 10088-1:2014, Table 2, Grade 1.4301 (304).