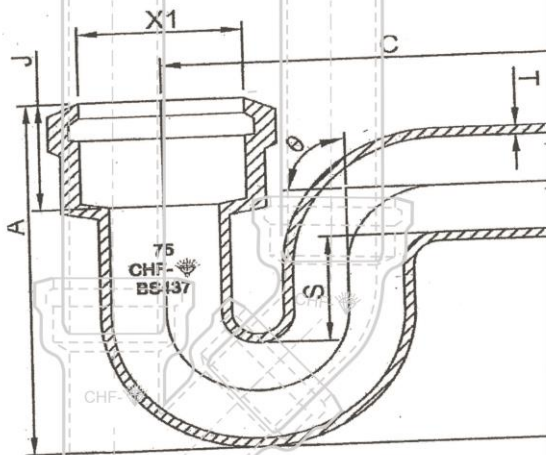


Test Report
Dimension and Mass of Cast Iron Drain Pipes, Fitting and Their Joints
[BS 437 : 2008 Annex A2 to A9 (Clause 4.3 & 4.4)]

Page 2 of 2 page(s)

Castco LRN : 201130

Appendix

香港粉嶺安居街33號 33, On Kui Street, Fanling, Hong Kong. Tel: 2597 8333
香港粉嶺安全街29A號 29A, On Chuen Street, Fanling, Hong Kong. Fax: 2597 8399
E-mail: info@castco.com.hk Website: www.castco.com.hkTest Report
Dimension and Mass of Cast Iron Drain Pipes, Fitting and Their Joints
[BS 437 : 2008 Annex A2 to A9 (Clause 4.3 & 4.4)]Date of issue : 17 December 2020
Page 1 of 2 page(s)

Castco LRN : 201130-2283 DIM

Details as supplied by customer

Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong
Job title : --
Sample description : DN75 High Invert P-Trap with Flexible Joint
Manufacturer : Cheung Hing Foundry (HK) Limited
Brand name : CHF
Nominal bore : 75 mm
Nominal Length : --
Nominal Mass : 12 kg
Type of joint : Flexible joint

Customer's ref. no. : --

Contract no. : --

Laboratory test result

Date sample received : 30 November 2020

Date of test : 01 December 2020

Dimensions Check

Specimen no. : 201130-2283

Dimensions	BS requirements from figure --	Product requirement from code no. --	Measured mean value
A	--	275 mm	279 mm
B	--	204 mm	202 mm
C	--	280 mm	278 mm
D	--	80 mm	89 mm
E	--	83 mm	82 mm
F	--	7 mm	8.1 mm
G	--	90 mm	91 mm
H	--	75 mm	77 mm
I	--	111 mm	113 mm
Mass	--	12 kg	12.0 kg

Remarks : 1. Test result relates only to the specimen tested.
2. Compliance check against BS 437 : 2008, Annex A2 to A9, Clause 4.3 & 4.4 was not possible as this fitting could not be found in the standard (effect of measurement uncertainty has not been taken into account).
3. Samples Submitted by : Asia Development (HK) Limited
4. Country of Origin : China

Form No. PIPE DIM437_2008 T1 dd 31/07/2019

香港粉嶺安居街33號得利中心6樓
香港粉嶺安居街30號新寧中心1樓
香港粉嶺安全街29A號
Tel: 2597 8333 Fax: 2597 8399

Test Certificate

Hydrostatic Test on Cast Iron Pipe

(In-house method in-house on BS 437 : 2008 Clause 1)

Signature :

WONG KA MAN
Senior ManagerFirms as listed in the HOKAS directory of accredited laboratories.
Original copy or the laboratory's certified true copy is valid.

Date of issue : 18 December 2020

Page 1 of 1 page

Castco LRN : 201130-2283 HYD

Details as supplied by client

Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong
Job title : --
Sample description : DN75 High Invert P-Trap with Flexible Joint
Brand name : CHF
Manufacturer : Cheung Hing Foundry (HK) Limited

Customer's ref. no. : --

Contract no. : --

Laboratory Test Result

Date received : 30 November 2020

Date of test : 01 December 2020

Specimen no.	201130-2283
Actual internal hydrostatic pressure applied (Bar)	3.5
Sustain period (sec)	30
Test result	Passed

Remarks : 1. Test results relate only to the specimen tested (effect of measurement uncertainty has not been taken into account).
2. Samples Submitted by : Asia Development (HK) Limited
3. Country of Origin : China

Checked by :

SIT KWAN NING
Senior Supervisor

Form No. PIPE HYD In-house_T1 dd 03/06/2020

Certified by :
End of ReportWONG KA MAN
Senior Manager

HKAS has accredited this laboratory (Reg. No. HOKLAS 032) under HOKLAS for specific laboratory activities as listed in the HOKLAS directory of accredited laboratories. This report shall not be reproduced except in full, without written approval from this laboratory. Only the original copy at the laboratory's notified true copy is valid.

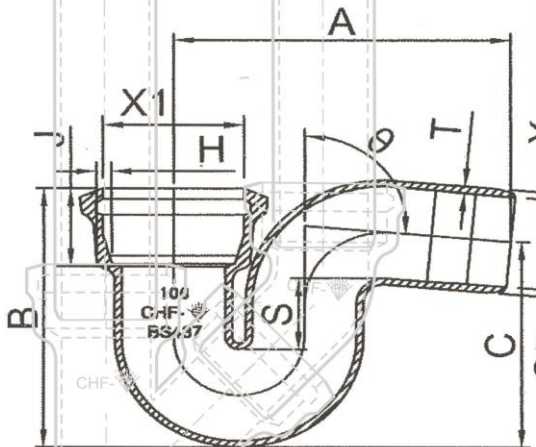
TEN

Test Report
Dimension and Mass of Cast Iron Drain Pipes, Fitting and Their Joints
BS 437 : 2008 Annex A2 to A9 (Clause 4.3 & 4.4)

Page 2 of 2 page(s)

Castco LRN : DP020

Appendix

香港粉嶺安樂街33號
香港粉嶺安樂街29A號
E-mail: info@castco.com.hk33, On Kui Street, Fanling, Hong Kong.
29A, On Chuen Street, Fanling, Hong Kong.
Website: www.castco.com.hkTest Report
Dimension and Mass of Cast Iron Drain Pipes, Fitting and Their Joints
BS 437 : 2008 Annex A2 to A9 (Clause 4.3 & 4.4)

Date of issue : 09 November 2020

Page 1A of 2 page(s)

Castco LRN : DP0200713-077 DIM

Details as supplied by customer

Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong
Job title : --
Sample description : DN100 High Invert P-Trap with Flexible Joint
Manufacturer : Cheung Hing Foundry (HK) Limited
Brand name : CHF
Nominal bore : 100 mm
Nominal Length : --
Nominal Mass : 14kg
Type of joint : Flexible joint

Customer's ref. no. : --

Contract no. : --

Laboratory test result

Date sample received : 13 July 2020

Date of test : 22 July 2020

Dimensions Check

Specimen no. : DP0200713-077

Dimensions	BS Requirement from figure --	Product requirement from code no. --	Measured mean value
A	--	335 mm	340 mm
B	--	291 mm	296 mm
C	--	231 mm	235 mm
H	--	14 mm	14.37 mm
J	--	75 mm	80 mm
OD	117 (-2/-1)mm	117 mm	111 mm
e	≥ 50mm	80 mm	85 mm
f	≥ 6.7mm	6.7 mm	8.21 mm
z	--	100 mm	101 mm
X1	--	140 mm	140 mm
Mass	14.0 (-2.1)kg	14.0 kg	14.2kg

Remarks : 1. Test result relates only to the specimen tested.

2. Test results of the sample comply with the requirement of BS 437 : 2008 Annex A2 to A9 Clause 4.3 & 4.4 (effect of measurement uncertainty has not been taken into account).

3. Sample supplied by : Asia Development (HK) Limited

Form No. PIPE DIM437_2008 T1 44 31/07/2019

香港粉嶺安樂街33號得利中心6樓
香港粉嶺安樂街30號新寧中心1樓
香港粉嶺安樂街29A號
Tel: 2597 8333 Fax: 2597 8399

Test Certificate

Hydrostatic Test on Cast Iron Pipe

(In-house method based on BS 437 : 2008 Clause 1)

Date of issue : 09 November 2020

Page 1A of 1 page

Castco LRN : DP0200713-077 HYD

Details as supplied by client

Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, N.T.
Job title : --
Sample description : DN100 High Invert P-Trap with Flexible joint
Brand name : CHF
Manufacturer : Cheung Hing Foundry (HK) Limited

Customer's ref. no. : --

Contract no. : --

Laboratory Test Result

Date received : 13 July 2020

Date of test : 22 July 2020

Specimen no.	DP0200713-077	
Actual internal hydrostatic pressure applied	(Bar)	3.5
Sustain period	(sec)	30
Test result	Passed	

Remark : 1. Test results relate only to the specimen tested (effect of measurement uncertainty has not been taken into account).
2. Sample supplied by : Asia Development (HK) Limited.
3. Country of Origin : China
4. This page no. 1A of test report supersedes page no. 1 of the previous test report of Castco LRN : DP0200713-077 HYD issued on 20 August 2020.
5. Test report for (In-house method based on BS 437 : 2008 Clause 1) is changed due to typographical error.

Checked by:

SIT KWAN NING
Senior Supervisor

Certified by:
End of Report

WONG KA MAN
Senior Manager

Form No. PIPE HYD In-house_T 44 03/06/2020

DIM

DIM

HYD

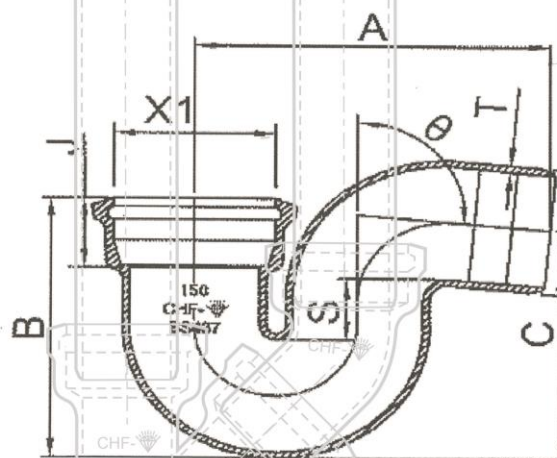
TEN

Test Report
Dimension and Mass of Cast Iron Drain Pipes, Fitting and Their Joints
[BS 437 : 2008 Annex A2 to A9 (Clause 4.3 & 4.4)]

Page 2 of 2 page(s)

Castco LRN : DP02

Appendix



Date of issue : 05 May 2021

Page 1A of 2 page(s)

Castco LRN : DP0200910-059 DIM

Details as supplied by customer

Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong
Job title : --
Sample description : DN150 High Invert P-Trap with Flexible Joint
Manufacturer : Cheung Hing Foundry (HK) Limited
Brand name : CHF
Nominal bore : 150 mm
Nominal Length : --
Nominal Mass : 26.5 kg
Type of joint : Flexible joint

Customer's ref. no. : --

Contract no. : --

Laboratory test result

Date sample received : 10 September 2020

Date of test : 21 September 2020

Dimensions Check

Specimen no. : DP0200910-059

Dimensions	BS requirement from figure --	Product requirement from code no. --	Measured mean value
A	--	420 mm	422 mm
B	--	350 mm	353 mm
C	--	308 mm	310 mm
J	--	90 mm	90 mm
OD	171 (+2/-1) mm	171 (±1) mm	173 mm
S	≥ 5 mm	80.0 mm	83 mm
T	≥ 7.7 mm	7.7 mm	7.94 mm
X	--	150 (±1) mm	150 mm
X1	--	191 (±1) mm	192 mm
Mass	26.5 (-3.98) kg	26.5 kg	26.7 kg

Remarks : 1. Test result relates only to the specimen tested.

2. Test results of the sample comply with the requirement of BS 437 : 2008, Annex A2 to A9, Clause 4.3 & 4.4 (effect of measurement uncertainty has not been taken into account).

3. Sample Submitted by : Asia Development (HK) Limited

Your test report : LRN DP0200910-059 DIM

Signature :

WONG KA MAN
Senior ManagerFees as listed in the HOKAS directory of accredited laboratories.
Original copy or the laboratory's certified true copy is valid.

Form No. PIPE DIM437_2008 T1 d4 31/07/2019

香港粉嶺安居街33號得利中心
香港粉嶺安居街30號新寧中心
香港粉嶺安全街29A號
Tel: 2597 8333 Fax: 2597 8399

Test Certificate

Hydrostatic Test on Cast Iron Pipe

(In-house method based on BS 437 : 2008 Clause 1)

Date of issue : 09 November 2020

Page 1A of 1 page

Castco LRN : DP0200910-059 HYD

Details as supplied by client

Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong
Job title : --
Sample description : DN150 High Invert P-Trap with Flexible Joint
Brand name : CHF
Manufacturer : Cheung Hing Foundry (HK) Limited

Customer's ref. no. : --

Contract no. : --

Laboratory Test Result

Date received : 10 September 2020

Date of test : 21 September 2020

Specimen no.	DP0200910-059	
Actual internal hydrostatic pressure apply	(Bar)	3.5
Sustain period	(sec)	30
Test result	Passed	

Remark : 1. Test results relate only to the specimen tested (effect of measurement uncertainty has not been taken into account).
2. Samples Submitted by : Asia Development (HK) Limited
3. Country of Origin : China
4. This page no. 1A of test report supersedes page no. 1 of the previous test report of Castco LRN DP0200910-059 HYD issued on 21 October 2020.
5. Test report for (In-house method Base on BS 437 : 2008 Clause 1) is changed due to typographical error.

Checked by :

SIT KWAN NING
Senior Supervisor

Certified by :

End of Report

WONG KA MAN
Senior Manager

Form No. PIPE HYD In-house_T d4 03/06/2020

DIM

DIM

HYD

Test Report

Metallic Materials (Steel - Structural) - Brinell Hardness Test
(BS EN ISO 6506: Part 1: 1999)

Date of issue: 21 October 2020

Page 1 of 2 pages

Castco LRN: DP0200910-059 BH

Details as supplied by customer:

Customer: Cheung Hing Foundry (HK) Limited

Customer's ref. no.:

Address: 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong

Contract no.:

Job title: --

Test piece description: DN150 High Invert P-Trap with Flexible Joint

Acceptance standard: BS 437: 2008 Clause 4.5 Table 4

Test piece no.: 1

Test results:

Date received: 10 September 2020

Date of test: 26 September 2020

Test specimen thickness: 6.36 mm

Test temperature: 28 °C

Sketch of Test locations



Test Report

Metallic Materials (Steel - Structural) - Brinell Hardness Test
(BS EN ISO 6506: Part 1: 1999)

Date of issue: 21 October 2020

Page 2 of 2 pages

Castco LRN: DP0200910-059 BH

Test results:

Indentation no.	Indentation diameter (2 directions) (mm)	Indentation diameter (mm)	Corresponding hardness value (HB)	Results
1	4.16	4.10	214	Passed
2	4.13	4.16	211	Passed
3	4.17	4.18	209	Passed

Testing Technique: Brinell hardness

- Hardness scale: HBW10/3000
- Force/diameter ratio: 30
- Load symbol: Newton
- Hold time: 12S
- Calibration with reference block prior to testing
- Surface finish: clean, smooth

B. Remarks: 1. Test results relate only to the specimen tested (Effect of measurement uncertainty has not been taken into account).

Form No. NDT(ST) BH_MTL_T1 31/06/17/0318

Test Report

Metallic Materials - Tensile Test of Metallic Materials
(BS EN 10002-1: 2001)

Date of issue: 21 October 2020

Page 1 of 1 page

Castco LRN: DP0200910-059 TEN

Details as supplied by customer:

Customer: Cheung Hing Foundry (HK) Limited

Customer's Ref. No.:

Address: 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong

Contract No.:

Job Title: --

Origin of copper tube: --

Supplier: --

Grade & Form of copper tube product: --

Location in work:

No. & Type of specimen applied: 1 no. DN150 High Invert P-Trap with Flexible joint

Acceptance standard: BS 437: 2008 Clause 4.5 Table 4

Nominal thickness: 8.41 mm

Laboratory Test Results

Date Received: 10 September 2020

Date Tested: 26 September 2020

Tensile Test

Specimen Identity	Grade	Type & Preparation	Width (mm)	Thickness (mm)	Org. X-sect Area (mm ²)	Org. Gauge Length (mm)	Test Length (mm)	Tensile Strength (MPa)	Elongation (%)	Position of Fracture	Remark
DP0200910-059	--	--	8.06	8.41	67.78	--	--	20	--	Valid	--

Remarks:

- Legends: A - Proportional; B - Non-proportional; M - Machined; N - Unmachined; + This measurement is 'invalid' which relates to the position of fracture only.
- Test results relate only to the specimen tested.
- Test results comply with BS 437: 2008 Clause 4.5 Table 4 (Effect of measurement uncertainty has not been taken into account).
- Specimens Submitted by: Asia Development (HK) Limited.
- Country of Origin: China
- Manufacturer: Cheung Hing Foundry (HK) Ltd.

Checked by:

SIT KWAN NING
Senior Supervisor

Approved Signatory:

End of Report

LEE WAI KWOK
B.Sc., C. Eng., MICE, MHKIE
Registered Professional Engineer
Executive Director

Form No. ST BSEN 10002-1:2001 T2 64 12/05/2017

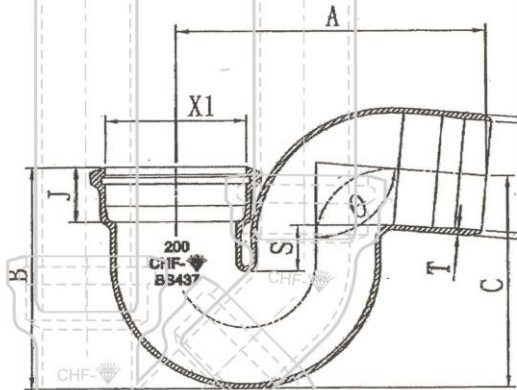
/06

Test Report
Dimension and Mass of Cast Iron Drain Pipes, Fitting and Their Joints
[BS 437 : 2008 Annex A2 to A9 (Clause 4.3 & 4.4)]

Page 2 of 2 page(s)

Castco LRN : 201130

Appendix



香港粉嶺安樂街33號 33, On Kui Street, Fanling, Hong Kong. Tel: 2597 8333
香港粉嶺安樂街29A號 29A, On Chuen Street, Fanling, Hong Kong. Fax: 2597 8399
E-mail: info@castco.com.hk Website: www.castco.com.hk

Test Report
Dimension and Mass of Cast Iron Drain Pipes, Fitting and Their Joints
[BS 437 : 2008 Annex A2 to A9 (Clause 4.3 & 4.4)]

Date of issue : 17 December 2020

Page 1 of 2 page(s)

Castco LRN : 201130-2284 DIM

Details as supplied by customer

Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong
Job title :
Sample description : DN200 High Invert P-Trap with Flexible Joint
Manufacturer : Cheung Hing Foundry (HK) Limited
Brand name : CHF
Nominal bore : 200 mm
Nominal Length : --
Nominal Mass : 57 kg
Type of joint : Flexible joint

Customer's ref. no. : --

Contract no. : --

Laboratory test result

Date sample received : 30 November 2020

Date of test : 01 December 2020

Dimensions Check

Specimen no. : 201130-2284

Dimensions	Dimension requirement from source --	Product requirement from code no. --	Measured mean value
A	--	530 mm	537 mm
B	--	404 mm	408 mm
C	--	386 mm	379 mm
J	--	95 mm	100 mm
OD	--	222 mm	221 mm
S	--	80 mm	80 mm
T	--	10 mm	11.84 mm
X	--	200 mm	204 mm
X1	--	200 mm	244 mm
Mass	--	57 kg	56.5 kg

Remarks : 1. Test results relate only to the specimen tested.
2. Compliance check against BS 437 : 2008, Annex A2 to A9, Clause 4.3 & 4.4 was not possible as this fitting could not be found in the standard (effect of measurement uncertainty has not been taken into account).
3. Samples Submitted by : Asia Development (HK) Limited
4. Country of Origin : China

Form No. PIPE DIM437_2008 T1 64 31/07/2019

香港粉嶺安樂街33號得利中心6樓
香港粉嶺安樂街30號新寧中心1樓
香港粉嶺安樂街29A號
Tel: 2597 8333 Fax: 2597 8399

Test Certificate

Hydrostatic Test on Cast Iron Pipe

(In-house method in-house on BS 437 : 2008 Clause 1)

Signature :

WONG KA MAN
Senior Manager

Details as listed in the HKAS directory of accredited laboratories.
Original copy or the laboratory's certified true copy is valid.

Date of issue : 18 December 2020

Page 1 of 1 page

Castco LRN : 201130-2284 HYD

Details as supplied by client

Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong
Job title : --
Sample description : DN200 High Invert P-Trap with Flexible Joint
Brand name : CHF
Manufacturer : Cheung Hing Foundry (HK) Limited

Customer's ref. no. : --

Contract no. : --

Laboratory Test Result

Date received : 30 November 2020

Date of test : 01 December 2020

Specimen no.	201130-2284
Actual internal hydrostatic pressure applied (Bar)	3.5
Sustain period (sec)	30
Test result	Passed

Remarks : 1. Test results relate only to the specimen tested (effect of measurement uncertainty has not been taken into account).
2. Samples Submitted by : Asia Development (HK) Limited
3. Country of Origin : China

Checked by :

SIT KWAN NING
Senior Supervisor

Form No. PIPE HYD In-house_T1 64 03/06/2020

Certified by :
End of ReportWONG KA MAN
Senior Manager

香港粉嶺安樂街33號得利中心6樓 • 6/F, Techno Centre, 33, On Kui Street, Fanling, Hong Kong.
香港粉嶺安樂街30號新寧中心1樓 • 1/F, Sun Ling Plaza, 30, On Kui Street, Fanling, Hong Kong.
香港粉嶺安樂街29A號 • 29A, On Chuen Street, Fanling, Hong Kong.
Tel: 2597 8333 Fax: 2597 8399 E-mail: info@castco.com.hk Website: www.castco.com.hk

DIM

DIM

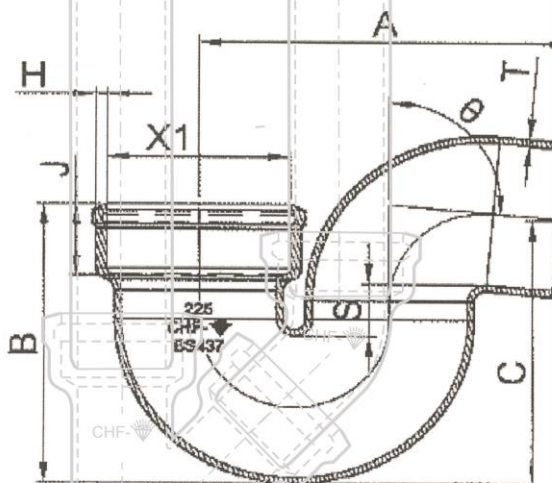
HYD

Test Report
Dimension and Mass of Cast Iron Drain Pipes, Fitting and Their Joints
[BS 437 : 2008 Annex A2 to A9 (Clause 4.3 & 4.4)]

Page 2 of 2 page(s)

Castco LRN : DP02

Appendix

香港粉嶺安居街33號
香港粉嶺安居街29A號
E-mail: info@castco.com.hk33, On Kui Street, Fanling, Hong Kong. Tel: 2597 8333
29A, On Chuen Street, Fanling, Hong Kong. Fax: 2597 8399
Website: www.castco.com.hkTest Report
Dimension and Mass of Cast Iron Drain Pipes, Fitting and Their Joints
[BS 437 : 2008 Annex A2 to A9 (Clause 4.3 & 4.4)]Date of issue : 21 October 2020
Page 1 of 2 page(s)

Castco LRN : DP0200910-060 DIM

Details as supplied by customer

Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong
Job title : --
Sample description : DN225 High Invert P-Trap with Flexible Joint
Manufacturer : Cheung Hing Foundry (HK) Limited
Brand name : CHF
Nominal bore : 225 mm
Nominal Length : --
Nominal Mass : 73.5 kg
Type of joint : Flexible joint

Customer's ref. no. : --

Contract no. : --

Laboratory test result

Date sample received : 10 September 2020

Date of test : 23 September 2020

Dimensions Check

Specimen no. : DP0200910-060

Dimensions	BS Requirement from figure --	Product requirement from code no. --	Measured mean value
A	--	571 mm	570 mm
B	--	475 mm	475 mm
C	--	442 mm	445 mm
H	--	17 mm	18.25 mm
J	--	115 mm	120 mm
OD	254(+2) mm	254 mm	253 mm
S	≤ 50 mm	80.0 mm	105 mm
	≥ 10.2 mm	10.2 mm	12.1 mm
X	--	227 mm	228 mm
X1	--	276 mm	277 mm
Mass	73.5(-11.03) kg	73.5 mm	73.9 kg

Remarks : 1. Test result relates only to the specimen tested.

2. Test results of the sample comply with the requirement of BS 437 : 2008, Annex A2 to A9, Clause 4.3 & 4.4 (effect of measurement uncertainty has not been taken into account).

3. Samples Submitted by : Asia Development (HK) Limited

Test Certificate

Hydrostatic Test on Cast Iron Pipe

(In-house method based on BS 437 : 2008 Clause 1)

Date of issue : 09 November 2020

Page 1A of 1 page

Castco LRN : DP0200910-060 HYD

Details as supplied by client

Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong
Job title : --
Sample description : DN225 High Invert P-Trap with Flexible Joint
Brand name : CHF
Manufacturer : Cheung Hing Foundry (HK) Limited

Customer's ref. no. : --

Contract no. : --

Laboratory Test Result

Date received : 10 September 2020

Date of test : 23 September 2020

Specimen no.	DP0200910-060	
Actual internal hydrostatic pressure applied	(Bar)	3.5
Sustain period	(sec)	30
Test result	Passed	

- Remark : 1. Test results relate only to the specimen tested (effect of measurement uncertainty has not been taken into account).
2. Samples Submitted by : Asia Development (HK) Limited
3. Country of Origin : China
4. This page no. 1A of test report supersedes page 1 of the previous test report of Castco LRN DP0200910-060 HYD issued on 21 October 2020.
5. Test report for (In-house method Base on BS 437 : 2008 Clause 1) is changed due to typographical error.

Checked by :

SIT KWAN NING
Senior Supervisor

Certified by :

End of Report

WONG KA MAN
Senior Manager

Form No. PIPE HYD In-house_T 01/06/2020 /06

香港粉嶺安居街33號得利中心6樓 • 6/F, Techno Centre, 33, On Kui Street, Fanling, Hong Kong.
香港粉嶺安居街30號新寧中心1樓 • 1/F, Sun Ling Plaza, 30, On Kui Street, Fanling, Hong Kong.
香港粉嶺安居街29A號 • 29A, On Chuen Street, Fanling, Hong Kong.
Tel: 2597 8333 Fax: 2597 8399 E-mail: info@castco.com.hk Website: www.castco.com.hk

DIM

DIM

HYD

Test Report

Metallic Materials (Steel - Structural) - Brinell Hardness Test
(BS EN ISO 6506: Part 1: 1999)

Date of issue: 21 October 2020

Page 1 of 2 pages

Castco LRN: DP0200910-060 BH

Details as supplied by customer:

Customer: Cheung Hing Foundry (HK) Limited

Customer's ref. no.:

Address: 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong

Contract no.:

Job title: --

Test piece description: DN225 High Invert P-Trap with Flexible Joint

Acceptance standard: BS 437: 2008 Clause 4.5 Table 4

Test piece no.: 1

Test results:

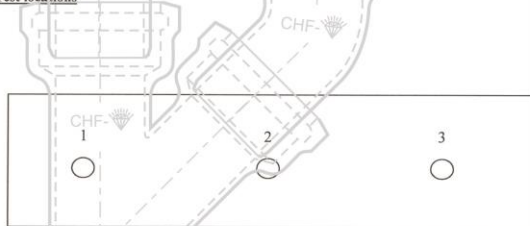
Date received: 10 September 2020

Date of test: 26 September 2020

Test specimen thickness: 6.66 mm

Test temperature: 28 °C

Sketch of Test locations



Test Report

Metallic Materials (Steel - Structural) - Brinell Hardness Test
(BS EN ISO 6506: Part 1: 1999)

Date of issue: 21 October 2020

Page 2 of 2 pages

Castco LRN: DP0200910-060 BH

Test results:

Indentation no.	Indentation diameter (2 directions) (mm)	Indentation diameter (mm)	Corresponding hardness value (HB)	Results
1	4.22	4.26	202	Passed
2	4.35	4.16	200	Passed
3	4.16	4.08	215	Passed

Test Technique: Brinell hardness

- Hardness scale: HBW10/3000
- Force/diameter ratio: 30
- Load symbol: Newton
- Hold time: 12S
- Calibration with reference block prior to testing
- Surface finish: clean, smooth

Remarks: 1. Test results relate only to the specimen tested (i.e. measurement uncertainty has not been taken into account).

Form No. NDT(ST) BH_MTL_T1.01.06/11/2019

Test Report

Metallic Materials - Tensile Test of Metallic Materials
(BS EN 10002-1: 2001)

Date of issue: 21 October 2020

Page 1 of 1 page

Castco LRN: DP0200910-060 TEN

Details as supplied by customer:

Customer: Cheung Hing Foundry (HK) Limited

Customer's Ref. No.:

Address: 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong

Contract No.:

Job Title: --

Origin of copper tube: --

Supplier: --

Grade & Form of copper tube product: --

Location in:

No. & Type of specimen supplied: 1 x DN225 High Invert P-Trap with Flexible joint

Acceptance standard: BS 437: 2008 Clause 4.5 Table 4

Nominal thickness: 7.1 mm

Laboratory Test Results

Date Received: 10 September 2020

Date Tested: 26 September 2020

Tensile Test

Specimen Identity	Grade & Preparation	Width (mm)	Thickness (mm)	Org. X-sect Area (mm²)	Org. Gauge Length (mm)	Final Gauge Length (mm)	Tensile Strength (MPa)	Elongation (%)	Position of Fracture	Remark
DP0200910-060	--	8.04	7.71	61.95	--	--	17	--	Valid	--

Remarks:

- Legend: A - Proportional; B - Non-proportional; M - Machined; N - Unmachined; + This measurement is "invalid" which relates to the position of fracture only.
- Test results relate only to the specimen tested.
- Test results comply with BS 437: 2008 Clause 4.5 Table 4. Effect of measurement uncertainty has not been taken into account.
- Samples Submitted by: Asia Development (HK) Limited.
- Country of Origin: China
- Manufacturer: Cheung Hing Foundry (HK) Ltd.

Checked by:

LEE WAI KWOK
Senior Supervisor

Approved Signatory:

LEE WAI KWOK
B.Sc., C.Eng., MICE, MHKIE
Registered Professional Engineer
Executive Director

End of Report

Form No. ST BS EN 10002-1:2001 T2.01.04/12/05/2017

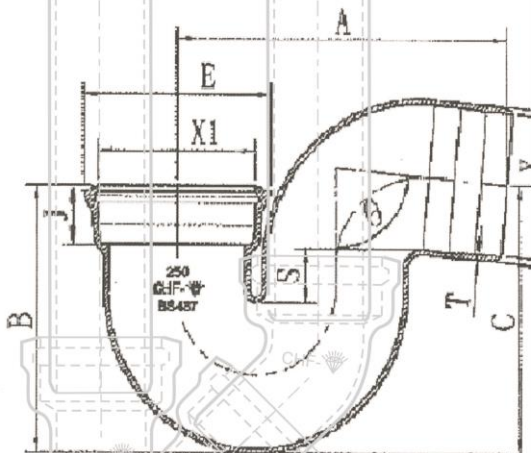
Test Report

Dimension and Mass of Cast Iron Drain Pipes, Fitting and Their Joints
(BS 437 : 2008 Annex A2 to A9 (Clause 4.3 & 4.4))

Page 2 of 2 page(s)

Castco LRN : DP02

Appendix

香港粉嶺安居街33號
香港粉嶺安全街29A號
E-mail: info@castco.com.hk33, On Kui Street, Fanling, Hong Kong
29A, On Chuen Street, Fanling, Hong Kong
Website: www.castco.com.hk

Test Report

Dimension and Mass of Cast Iron Drain Pipes, Fitting and Their Joints
(BS 437 : 2008 Annex A2 to A9 (Clause 4.3 & 4.4))

Date of issue : 21 October 2020

Page 1 of 2 page(s)

Castco LRN : DP0200910-061 DIM

Details as supplied by customer

Customer : Cheung Hing Foundry (HK) Limited

Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong

Job title : --

Sample description : DN250 High Invert P-Trap with Flexible Joint

Manufacturer : Cheung Hing Foundry (HK) Limited

Brand name : CHF

Nominal bore : 250 mm

Nominal Length : --

Nominal Mass : 80.5 kg

Type of joint : Flexible joint

Customer's ref. no. : --

Contract no. : --

Laboratory test result

Date sample received : 10 September 2020

Date of test : 23 September 2020

Dimensions Check

Specimen no. : DP0200910-061

Dimensions	BS Requirement from figure --	Product requirement from code no. --	Measured mean value
A	--	620 mm	624 mm
B	--	475 mm	478 mm
C	--	473 mm	469 mm
E	--	352 mm	357 mm
J	--	115 mm	120 mm
OD	--	274 mm	271 mm
F	--	90 mm	90 mm
G	--	12 mm	11.7 mm
X	--	250 mm	251 mm
X1	--	294 mm	295 mm
Mass	--	80.5 kg	80.3 kg

Remarks : 1. Test result relates only to the specimen tested.

2. Compliance check against BS 437 : 2008, Annex A2 to A9, Clause 4.3 & 4.4 was not possible as this fitting could not be found in the standard (effect of measurement uncertainty has not been taken into account).

3. Samples Submitted by : Asia Development (HK) Limited

Form No. PIPE DIM437_2008 T1 6d 03/07/2019

香港粉嶺安居街33號得利中心
香港粉嶺安居街30號新寧中心
香港粉嶺安全街29A號
Tel: 2597 8333 Fax: 2597 8399

Test Certificate

Hydrostatic Test on Cast Iron Pipe

(In-house method based on BS 437 : 2008 Clause 1)

Date of issue : 09 November 2020

Page 1A of 1 page

Castco LRN : DP0200910-061 HYD

Details as supplied by client

Customer : Cheung Hing Foundry (HK) Limited

Customer's ref. no. : --

Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong

Job title : --

Contract no. : --

Sample description : DN250 High Invert P-Trap with Flexible Joint

Brand name : CHF

Manufacturer : Cheung Hing Foundry (HK) Limited

Laboratory Test Result

Date received : 10 September 2020

Date of test : 23 September 2020

Specimen no.	DP0200910-061	
Actual internal hydrostatic pressure applied	(Bar)	3.5
Sustain period	(sec)	30
Test result	Passed	

- Remark : 1. Test results relate only to the specimen tested (effect of measurement uncertainty has not been taken into account).
2. Samples Submitted by : Asia Development (HK) Limited
3. Country of Origin : China
4. This page no. 1A of test report supersedes page 1 of the previous test report of Castco LRN DP0200910-061 HYD issued on 21 October 2020.
5. Test report for (In-house method Base on BS 437 : 2008 Clause 1) is changed due to typographical error.

Checked by:

SIT KWAN NING

Senior Supervisor

Form No. PIPE HYD In-house_T1 6d 03/06/2020

Certified by:

End of Report

WONG KA MAN

Senior Manager

DIM

HYD

Test Report

Metallic Materials (Steel - Structural) - Brinell Hardness Test
(BS EN ISO 6506: Part 1: 1999)

Date of issue: 21 October 2020

Page 1 of 2 pages

Castco LRN: DP0200910-061 BH

Details as supplied by customer:

Customer: Cheung Hing Foundry (HK) Limited

Customer's ref. no.

Address: 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong

Contract no.: --

Job title: --

Test piece description: DN250 High Invert P-Trap with Flexible Joint

Acceptance standard: BS 437: 2008 Clause 4.5 Table 4

Test piece no.: 1

Test results:

Date received: 10 September 2020

Date of test: 26 September 2020

Test specimen thickness: 6.56 mm

Test temperature: 28 °C

Sketch of Test locations



Test Report

Metallic Materials (Steel - Structural) - Brinell Hardness Test
(BS EN ISO 6506: Part 1: 1999)

Date of issue: 21 October 2020

Page 2 of 2 pages

Castco LRN: DP0200910-061 BH

Test results:

Indentation no.	Indentation diameter (Z-direction) (mm)	Indentation diameter (mm)	Indentation diameter (mm)	Corresponding hardness value (HB)	Results
1	4.15	4.11	4.13	214	Passed
2	4.13	4.11	4.13	214	Passed
3	4.14	4.20	4.17	210	Passed

Testing Technique: Brinell hardness

- Hardness scale: HBW10/3000
- Force/diameter ratio: 30
- Load symbol: Newton
- Hold time: 12S
- Calibration with reference block prior to testing
- Surface finish: clean, smooth

Remarks: 1. Test results relate only to the specimen tested (Effect of measurement uncertainty has not been taken into account).

Form No. NDT(ST) BH_MTL_T1 41 06/11/2018 06

Test Report

Metallic Materials - Tensile Test of Metallic Materials
(BS EN 10002-1: 2001)

Date of issue: 21 October 2020

Page 1 of 1 page

Castco LRN: DP0200910-061 TEN

Details as supplied by customer:

Customer: Cheung Hing Foundry (HK) Limited

Customer's Ref. No.: --

Address: 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong

Contract No.:

Job Title: --

Origin of copper tube: --

Supplier: --

Grade & Form of copper tube product: --

Location in work:

No. & Type of specimen supplied: 1 no. DN250 High Invert P-Trap with Flexible joint

Acceptance standard: BS 437: 2008 Clause 4.5 Table 4

Nominal thickness: 7.30 mm

Laboratory Test Results

Date Received: 10 September 2020

Date Tested: 26 September 2020

Tensile Test

Specimen Identity	Grade	Type & Preparation	Width (mm)	Thickness (mm)	Org. X-sect Area (mm ²)	Org. Gauge Length (mm)	Org. Gauge Length (mm)	Tensile Strength (MPa)	Elongation (%)	Position of Fracture	Remark
DP0200910-061	--	--	7.97	7.80	62.09	--	--	110	--	Valid	--

Remarks:

- Legends: A - Proportional; B - Non-proportional; M - Machined; N - Unmachined
- This measurement is 'valid' which relates to the position of fracture only.
- Test results relate only to the specimen tested.
- Test results comply with BS 437: 2008 Clause 5 Table 4. Effect of measurement uncertainty has not been taken into account.
- Samples Submitted by: Asia Development (HK) Limited.
- Country of Origin: China
- Manufacturer: Cheung Hing Foundry (HK) Ltd.

Checked by:

SIT KWAN NING
Senior Supervisor

Approved Signatory:

LEE WAI KWOK
B.Sc., C. Eng., MICE, MHKIE
Registered Professional Engineer
Executive Director

End of Report

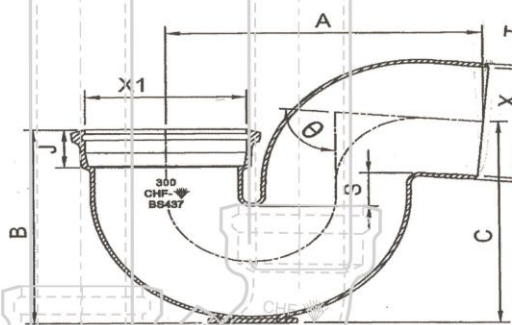
Form No. ST/BS EN 10002-1:2001 T2 44 12/05/2017 06

Test Report
Dimension and Mass of Cast Iron Drain Pipes, Fitting and Their Joints
(BS 437 : 2008 Annex A2 to A9 (Clause 4.3 & 4.4))

Page 2 of 2 page(s)

Castco LRN : 21020

Appendix



香港粉嶺安居街33號 33, On Kui Street, Fanling, Hong Kong. Tel: 2597 8333
 香港粉嶺安全街29A號 29A, On Chuen Street, Fanling, Hong Kong. Fax: 2597 8399
 E-mail: info@castco.com.hk Website: www.castco.com.hk

Test Report
Dimension and Mass of Cast Iron Drain Pipes, Fitting and Their Joints
(BS 437 : 2008 Annex A2 to A9 (Clause 4.3 & 4.4))

Date of issue : 29 April 2021

Page 1 of 2 page(s)

Castco LRN : 210209-2851-009 DIM

Details as supplied by customer

Customer : Cheung Hing Foundry (HK) Limited
 Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong
 Job title : --
 Sample description : DN300 High Invert P-Trap with Flexible Joint
 Manufacturer : Cheung Hing Foundry (HK) Limited
 Brand name : CHF
 Nominal bore : 300 mm
 Nominal Length : --
 Nominal Mass : 120 kg
 Type of joint : Flexible joint

Customer's ref. no. : --

Contract no. : --

Laboratory test result

Date sample received : 09 February 2021

Date of test : 22 April 2021

Dimensions Check

Specimen no. : 210209-2851-009

Dimensions	BS requirement from figure --	Product requirement from code no. CBD300	Measured mean value
A	--	675 mm	672 mm
B	--	540 mm	544 mm
C	--	555 mm	560 mm
J	--	105 mm	106 mm
OD	--	322 mm	318 mm
S	min 30mm	90 mm	96 mm
T	--	9 mm	9.61 mm
K	--	300 mm	302 mm
X	--	343 mm	349 mm
Mass	120(-18) kg	120 kg	121.0 kg

Remarks : 1. Test result relates only to the specimen tested.

2. Compliance check against BS 437 : 2008, Annex A2 to A9 (Clause 4.3 & 4.4) was not possible as this fitting could not be found in the standard (effect of measurement uncertainty has not been taken into account).

3. Sample Submitted by : Asia Development (HK) Limited

Form No. PIPE DIM437_2008 T1 6d 31/07/2019 /HF-004

Test Certificate

Hydrostatic Test on Cast Iron Pipe

(In-house method based on BS 437 : 2008 Clause 1)

Date of issue : 29 April 2021

Page 1 of 1 page

Castco LRN : 210209-2851-009 HYD

Details as supplied by client

Customer : Cheung Hing Foundry (HK) Limited
 Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong
 Job title : --
 Sample description : DN300 High Invert P-Trap with Flexible Joint
 Brand name : CHF
 Manufacturer : Cheung Hing Foundry (HK) Limited

Customer's ref. no. : --

Contract no. : --

Laboratory Test Result

Date received : 09 February 2021

Date of test : 22 April 2021

Specimen no.	210209-2851-009
Actual internal hydrostatic pressure applied (Bar)	3.5
Sustain period (sec)	30
Test result	Passed

Remarks : 1. Test results relate only to the specimen tested (effect of measurement uncertainty has not been taken into account).
 2. Sample Submitted by : Asia Development (HK) Limited.
 3. Country of Origin : China

Checked by:

SIT KWAN NING
Senior Supervisor

Form No. PIPE HYD In-house_T1 6d 03/06/2020 /04

Certified by:
End of ReportWONG KA MAN
Senior Manager

DIM

DIM

HYD

