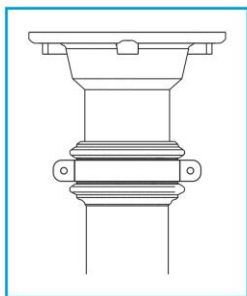


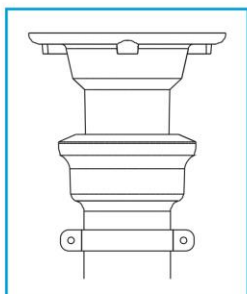
CHF



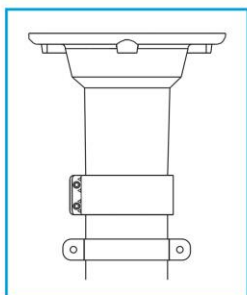
Rainwater Outlet / Floor Drain - CHAMELEON Series with Stainless Steel / Cast Iron Dome Strainer or Stainless Steel / Cast Iron Flat Strainer Grating for Aboveground Surface, Rooftop and Other Areas



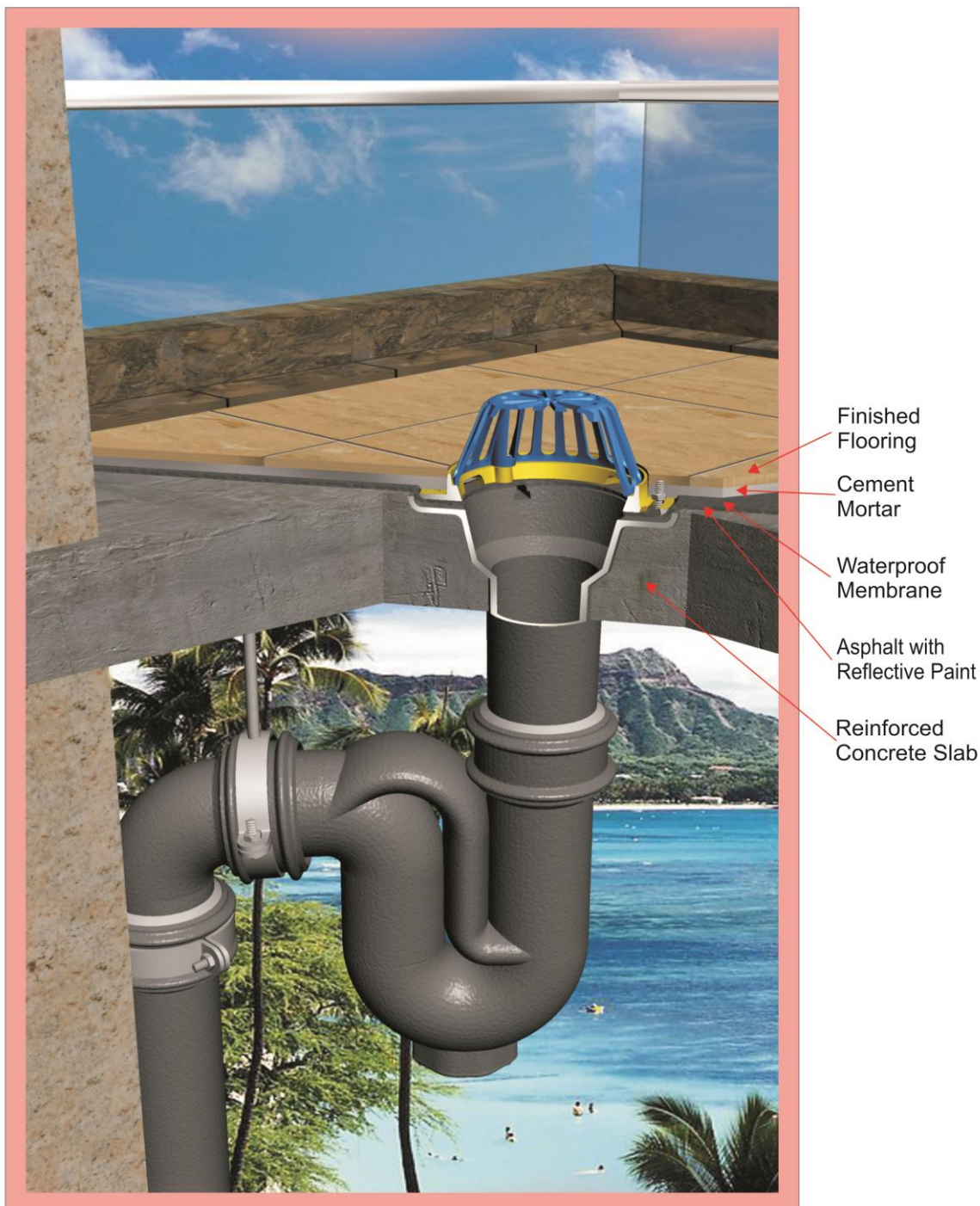
Connect to BS416 Pipework



Connect to BS437 Pipework



Connect to BSEN877 Pipework



祥興鑄鐵有限公司
CHEUNG HING FOUNDRY (HK) LIMITED

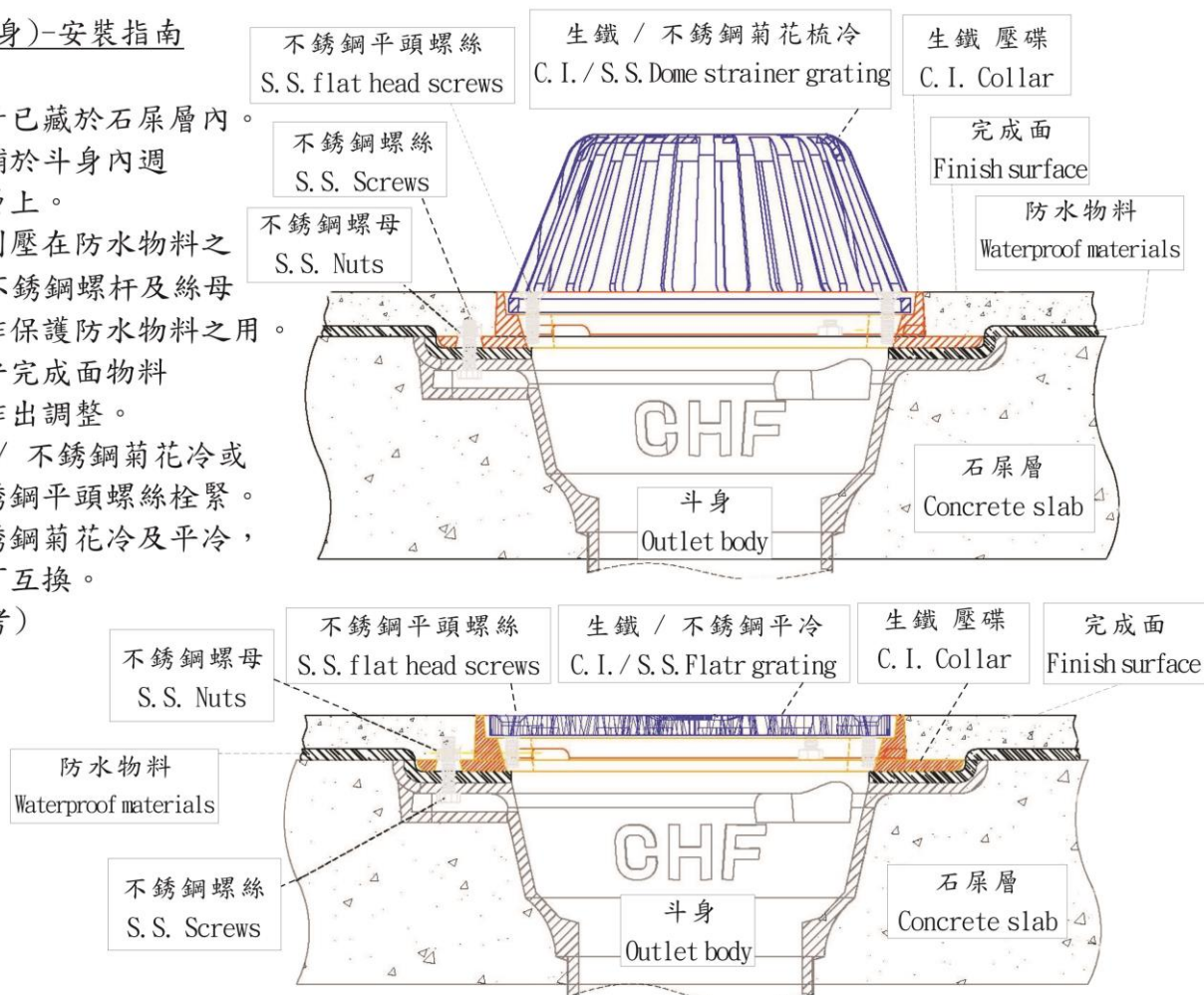
安裝指南 Installation Guide

多功能斗(斗身)-安裝指南

程序：

- 1) 斗身依設計已藏於石屎層內。
- 2) 防水物料鋪於斗身內週邊與地板層上。
- 3) 生鐵壓碟則壓在防水物料之上，及用不銹鋼螺絲及螺母栓緊壓碟作保護防水物料之用。
- 4) 壓碟可視乎完成面物料厚薄而可作出調整。
- 5) 蓋上生鐵 / 不銹鋼菊花冷或平冷用不銹鋼平頭螺絲栓緊。
- 6) 生鐵或不銹鋼菊花冷及平冷，應要求時可互換。

(只供參考)



Chameleon - Rainwater Outlet/Floor Drain Installation Guide

Procedures:

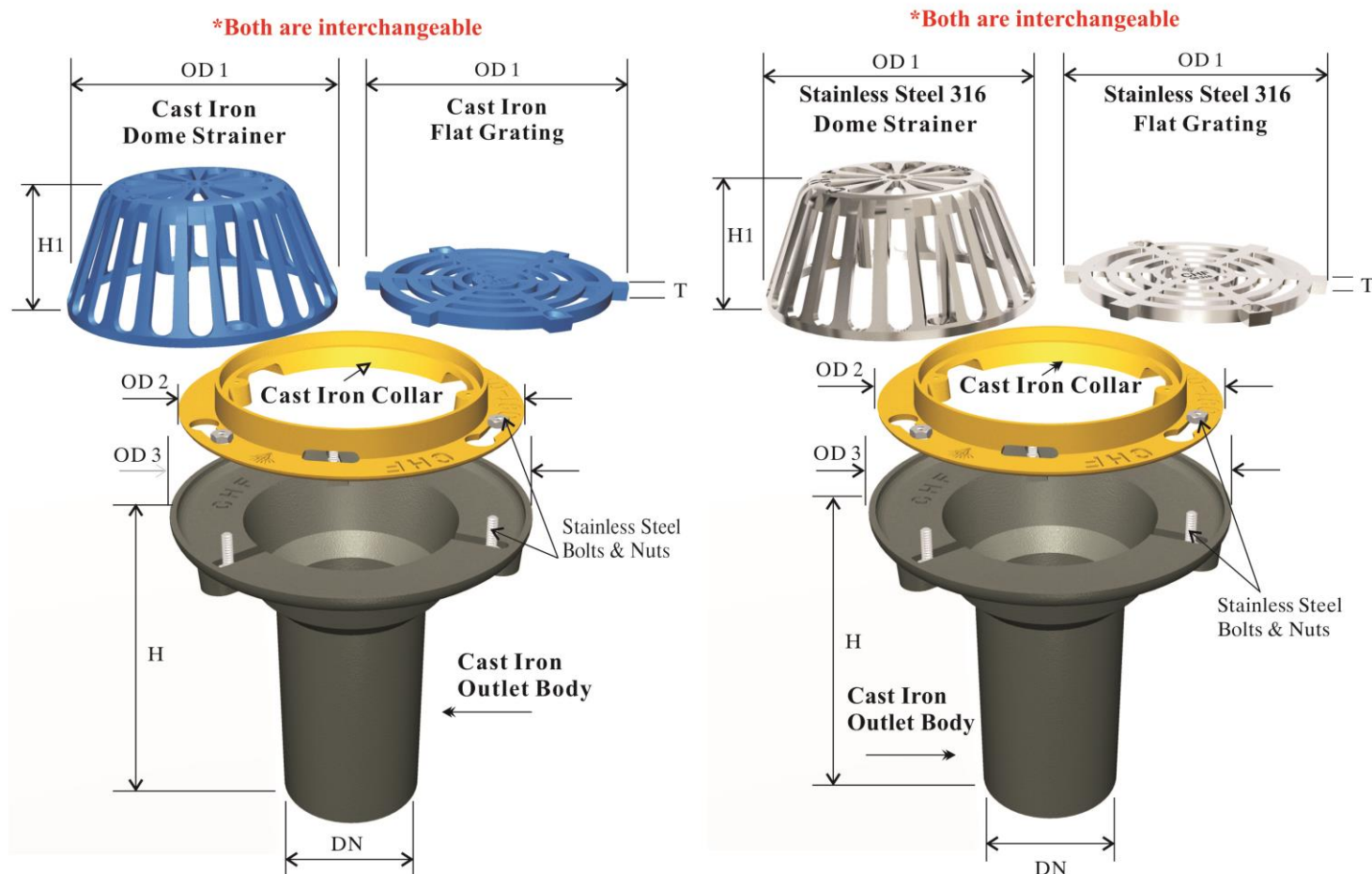
- 1) Embed the outlet body into the concrete slab.
 - 2) Apply waterproofing materials around the circumference of the outlet body and the surrounding concrete.
 - 3) Place the collar on top of the waterproofing materials and to tighten the set of S.S. screws and nuts to join with the outlet body.
 - 4) The clearance between the collar and concrete level can be adjusted by means of the set of S.S. screws and nuts to accommodate different choice of floor finishing materials such as tiles, etc.
 - 5) Place the C.I. or S.S. Dome/Flat Grating in position with the collar and fasten the S.S. flat-head screws to complete the installation.
 - 6) The C.I. or S.S. Dome and Flat Grating are interchangeable to suit on site drainage requirement.
- (For reference)



祥興鑄鐵有限公司
CHEUNG HING FOUNDRY (HK) LIMITED

Rainwater Outlet / Floor Drain - CHAMELEON Series

with Stainless Steel / Cast Iron Dome Strainer or
Stainless Steel / Cast Iron Flat Strainer Grating
for Aboveground Surface, Rooftop and Other Areas



*** All drawings are for reference only.
Users must install under the installation guide.**

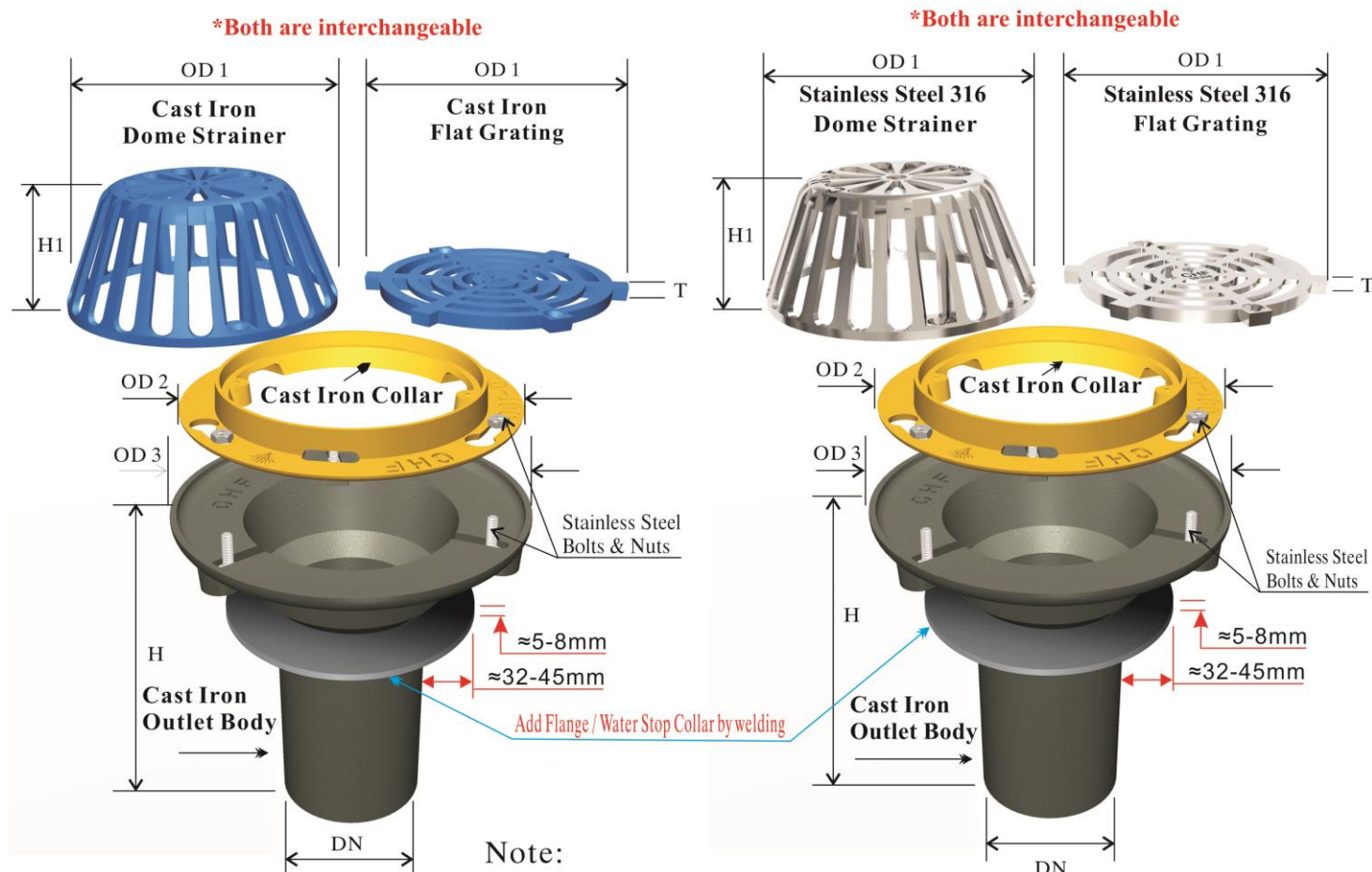
MATERIAL : Cast Iron Grade 150 of BS1452 : 1990 & Symbol EN GJL-150 of BS EN 1561 : 1997

DIMENSIONS			DN 75 (mm)	DN 100 (mm)	DN 150 (mm)	DN 75 (mm)	DN 100 (mm)	DN 150 (mm)
1. i. Dome Strainer (Removable)			Cast Iron			Stainless steel		
	Outer Diameter	OD 1	180	180	225	180	180	225
	Height	H1	80	80	105	80	80	105
ii. Flat Grating (Removable)			Cast Iron			Stainless steel		
	Outer Diameter	OD 1	180	180	225	180	180	225
	Thickness	T	9	9	12	9	9	12
* Dome Strainer and Flat Grating are interchangeable.								
2. Collar								
	Outer Diameter	OD 2	240	240	295	240	240	295
3. Outlet Body								
	Outer Diameter	OD 3	265	265	320	265	265	320
	Height	H	300	300	300	300	300	300
	Nominal Diameter	DN	75	100	150	75	100	150

** All dimension are for reference only.

Rainwater Outlet / Floor Drain - CHAMELEON Series

with Stainless Steel / Cast Iron Dome Strainer or
Stainless Steel / Cast Iron Flat Strainer Grating
for Aboveground Surface, Rooftop and Other Areas



Note:
Flange / Water stop collar are
attached by welding method .

MATERIAL : Cast Iron Symbol EN GJL-150 of BS EN 1561 : 2011

DIMENSIONS			DN 75 (mm)	DN 100 (mm)	DN 150 (mm)	DN 75 (mm)	DN 100 (mm)	DN 150 (mm)
1. i. Dome Strainer (Removable)			Cast Iron			Stainless steel		
	Outer Diameter	OD 1	180	180	225	180	180	225
	Height	H1	80	80	105	80	80	105
ii. Flat Grating (Removable)			Cast Iron			Stainless steel		
	Outer Diameter	OD 1	180	180	225	180	180	225
	Thickness	T	9	9	12	9	9	12
* Dome Strainer and Flat Grating are interchangeable.								
2. Collar								
	Outer Diameter	OD 2	240	240	295	240	240	295
3. Outlet Body								
	Outer Diameter	OD 3	265	265	320	265	265	320
	Height	H	300	300	300	300	300	300
	Nominal Diameter	DN	75	100	150	75	100	150

***All drawings are for reference only.**
Users must install under the installation guide.



Rainwater Outlet / Floor Drain - CHAMELEON Series with Stainless Steel / Cast Iron Dome Strainer or Stainless Steel / Cast Iron Flat Strainer Grating for Aboveground Surface, Rooftop and Other Areas



HOKLAS Endorsed Test Certificates

DN 150X300 Rainwater Outlet (Chameleon)

CASTCO

佳力高試驗中心有限公司
CASTCO TESTING CENTRE LIMITED

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 check on discharge and ventilating pipes and fittings, sand-cast or spun in cast iron (Based on BS416: Part 1: 1990, Clause 4)

Date of issue: 12 December 2017
Page 1 of 1 page(s)

Castco LRN: DP0171010-039 DIM

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, N.T. Hong Kong
Contract no.: -- Job title: --
Sample description: DN150 x 300mm H Rainwater Outlet with (SS316 or C.I.) Dome/Flat Grating "Chameleon"
Manufacturer: Cheung Hing Foundry (HK) Limited Brand: CHF
Remark: Sample Submitted by: Asia Development (HK) Ltd

Laboratory test result

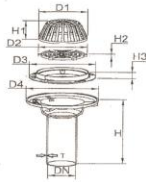
Date sample received: 10 October 2017

Date of test: 27 November 2017

Dimensions Check

Specimen no.: 2

Dimensions	BS requirement from figure --	Product requirement from code no. --	Measured mean value
DN	≥150mm	150mm	151mm
T	5 (+0/-1.5)mm	--	4.97mm
D1	--	225mm	225mm
D2	--	225mm	225mm
D3	--	295mm	295mm
D4	--	320mm	320mm
H	--	300mm	305mm
H1	--	105mm	105mm
H2	--	12mm	12mm
H3	--	27mm	27mm



Remarks: 1. Test result relates only to the specimen tested.
2. Test results of the sample comply with the requirement of BS416: Part 1: 1990, Clause 4.

Checked by: SIT KWAN NING
Laboratory Supervisor

Approved Signatory: WONG KA MAN
Senior Manager

Form No. P/PE DB416, T1 At 2008/2015 (1/80) Item no. DP/0501

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 or the laboratory's certified true copy is valid.

DN 75X300 Rainwater Outlet (Chameleon)

CASTCO

佳力高試驗中心有限公司
CASTCO TESTING CENTRE LTD.

香港粉嶺安樂街33號 33, On Kui Street, Fanling, Hong Kong. Tel: 2677 2138
香港粉嶺安樂街29A號 29A, On Chuen Street, Fanling, Hong Kong. Fax: 2677 0351
E-mail: castco@netvigator.com Website: www.castco.com.hk



Test Report Dimension check on discharge and ventilating pipes and fittings, sand-cast or spun in cast iron (Based on BS416: Part 1: 1990, Clause 4)

Date of issue: 12 November 2015
Page 1 of 1 page(s)

Castco LRN: DP0150923-232 DIM

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, NT, HK
Contract no.: -- Job title: --
Sample description: DN75 x 300 H Rainwater Outlet with (SS316 or C.I.) Dome / Flat Grating "Chameleon"
Manufacturer: Cheung Hing Foundry (HK) Limited Brand: CHF
Remark: --

Laboratory test result

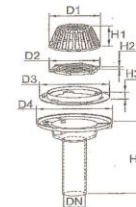
Date sample received: 23 September 2015

Date of test: 07 October 2015

Dimensions Check

Specimen no.: DP0150923-232

Dimensions	BS requirement from figure 20	Product requirement from code no. --	Measured mean value
D1	--	180 mm	180 mm
D2	--	180 mm	181 mm
D3	--	240 mm	245 mm
D4	--	265 mm	267 mm
H	--	300 mm	295 mm
H1	--	80 mm	80 mm
H2	--	9 mm	9.83 mm
H3	--	25 mm	25 mm
DN	≥74 mm	75 mm	75 mm



DN 100X300 Rainwater Outlet (Chameleon)

CASTCO

佳力高試驗中心有限公司
CASTCO TESTING CENTRE LIMITED

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 check on discharge and ventilating pipes and fittings, sand-cast or spun in cast iron (Based on BS416: Part 1: 1990, Clause 4)

Date of issue: 12 December 2017
Page 1 of 1 page(s)

Castco LRN: DP0171010-038 DIM

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, N.T. Hong Kong
Contract no.: -- Job title: --
Sample description: DN100 x 300mm H Rainwater Outlet with (SS316 or C.I.) Dome/Flat Grating "Chameleon"
Manufacturer: Cheung Hing Foundry (HK) Limited Brand: CHF
Remark: Sample Submitted by: Asia Development (HK) Ltd

Laboratory test result

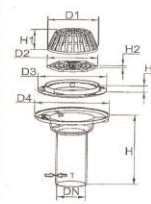
Date sample received: 10 October 2017

Date of test: 06 December 2017

Dimensions Check

Specimen no.: 1

Dimensions	BS requirement from figure --	Product requirement from code no. --	Measured mean value
DN	≥99mm	100mm	100mm
T	5 (+0/-1.5)mm	--	4.99mm
D1	--	180mm	180mm
D2	--	180mm	180mm
D3	--	250mm	245mm
D4	--	265mm	268mm
H	--	300mm	301mm
H1	--	80mm	80mm
H2	--	9mm	9mm
H3	--	25mm	25mm



Remarks: 1. Test result relates only to the specimen tested.
2. Test results of the sample comply with the requirement of BS416: Part 1: 1990, Clause 4.

Checked by: SIT KWAN NING
Laboratory Supervisor

Approved Signatory: WONG KA MAN
Senior Manager

Form No. P/PE DB416, T1 At 2008/2015 (1/80) Item no. DP/0501

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 or the laboratory's certified true copy is valid.

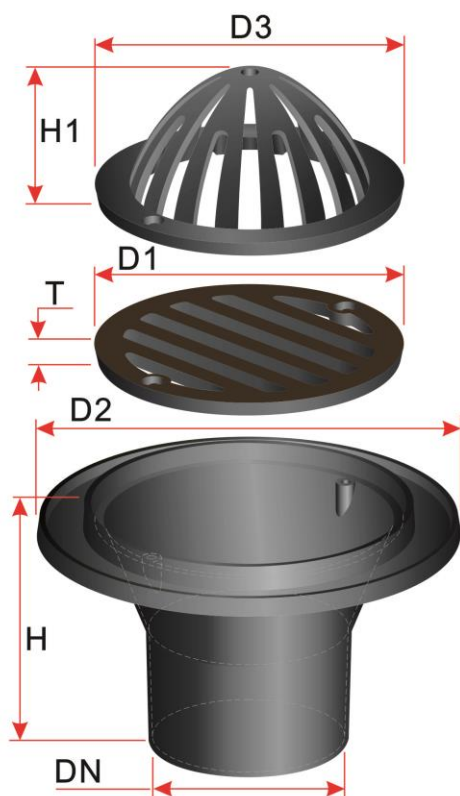


祥興鑄鐵有限公司
CHEUNG HING FOUNDRY (HK) LIMITED



CAST IRON RAINWATER OUTLET/ Floor Drain With Flat / Dome Grating

For Aboveground Surface, Rooftop and Other Areas.



DN 75X300 Double Seal Rainwater Outlet

CASTCO 佳力高試驗中心有限公司
CASTCO TESTING CENTRE LIMITED

香港粉嶺安樂街33號 33, On Kai 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
Pipes - Discharge and Ventilating Pipes and Fittings, Sand-Cast or Spun in Cast Iron
(BS 416: Part 1: 1990 CL 4)

Date of issue: 27 October 2021
Page 1 of 1 page(s)
Castco LRN: 211006-2701-001 DIM

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: --
Sample description: DN75 x 300H Double Seal Rainwater Outlet with (S.S.316 or C.I.) Dome / Flat Grating
Manufacturer: Cheung Hing Foundry (HK) Limited Brand: CHF-Φ
Remark: 1. Sample Submitted by: Asia Development (HK) Limited 2. Country of Origin: China

Laboratory test result
Date sample received: 06 October 2021 Date of test: 25 October 2021
Dimensions Check
Specimen no.: 211006-2701-001

Dimensions	BS requirement from figure 5	Product requirement from code no. --	Measured mean value
DN	≥74mm	75mm	76mm
D1	--	160mm	160mm
D2	--	220mm	221mm
D3	--	160mm	160mm
H	--	310mm	309mm
H1	--	69mm	68mm
T	5(+0/-1.5) mm	5mm	4.51mm
T1	--	9mm	9.79mm

Remarks:
1. Test result relates only to the specimen tested.
2. Test results of the sample comply with the requirement of BS416: Part 1: 1990, Clause 4.
The sample curve shall be within grading zone. The acceptance limits in the same as the tolerance limit (simple acceptance, see Figure A2) Only test results out of the acceptance limit will be concluded as out-of-tolerance.

Checked by: Approved Signatory:
SIT KWAN NING Senior Supervisor End of Report WONG KA MAN Senior Manager

Form No. PDP DDM01, T1 01/06/2021

HKAS has accredited this laboratory (Reg. No. HKAS 052) under HKAS for specific laboratory activities as listed in the HKAS directory of accredited laboratories. This report shall not be reproduced except in full, without written approval from this laboratory. Only the original copy on the laboratory's certified true copy is valid.

Technical Specification

		Outlet Body 斗身			Grating 疏冷			Material 材質
No. 序號	Type 款式	Nominal Diameter 公稱內徑 DN (mm)	Height 高度 H (mm)	Outer Diameter 外徑 D2 (mm)	Thickness 厚度 T (mm)	Height 高度 H1 (mm)	Outer Diameter 外徑 D1&D3 (mm)	
**1	50	50	300	180	8	50	120	Cast Iron Comply with BS EN 1561 EN-GJL-150
**2	75	75	300	220	9	69	160	
**3	100	100	300	220	9	69	160	
4	150	150	300	320	11	125	250	
5	200	200	300	335	12	131	254	
6	225	225	300	375	12	150	300	
7	250	250	300	375	12	150	300	
8	300	300	348	415	14	191	335	

The 50-100mm Flat / Dome Grating can be change for the stainless steel (SS 316)

Note :

1. The physical structure of cast iron may change during and / or after the process of smelting, therefore variance in the dimensions of products is anticipated.
2. All specifications described here are subject to change without notice.
3. All drawings shown in this catalog are for reference only. (Not to scale)
4. Features and specifications are subject to change depending on market requirements.
5. Cheung Hing Foundry (HK) Lined reserves the right to make any changes without notice concerning colors or specifications detailed in this catalog or discontinue individual products.
6. The colors of products may differ from those in this catalog.
7. All rights reserved. It is unlawful to copy or extract the whole or part of the materials from this catalog without written consent of Cheung Hing Foundry (HK) Limited.



祥興鑄鐵有限公司
CHEUNG HING FOUNDRY (HK) LIMITED

CAST IRON RAINWATER OUTLET/ Floor Drain With Flat / Dome Grating/Water Stop Collar For Aboveground Surface, Rooftop and Other Areas.

DN 100X300 Double Seal Rainwater Outlet with Water Stop Collar

CASTCO 佳力高試驗中心有限公司
CASTCO TESTING CENTRE LIMITED
香港粉嶺安樂街33號 33, On Kai 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
Pipes - Discharge and Ventilating Pipes and Fittings, Sand-Cast or Spun in Cast Iron
(BS 416 : Part 1 : 1990 CL 4)

Date of issue : 07 February 2020
Page 1A of 1 page Castco LRN : DP0191211-096 DIM



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, N.T.
Contract no. : -- Job title : --
Sample description: DN100 x 300H Double Seal Rainwater Outlet with S.S.316 or C.I. Dome / Flat Grating (Flange / Water Stop Collar)
Manufacturer: Cheung Hing Foundry (HK) Limited Brand: CHF
Remark: Sample submitted by: Asia Development (HK) Limited

Laboratory test result
Date sample received: 11 December 2019 Date of test: 30 December 2019

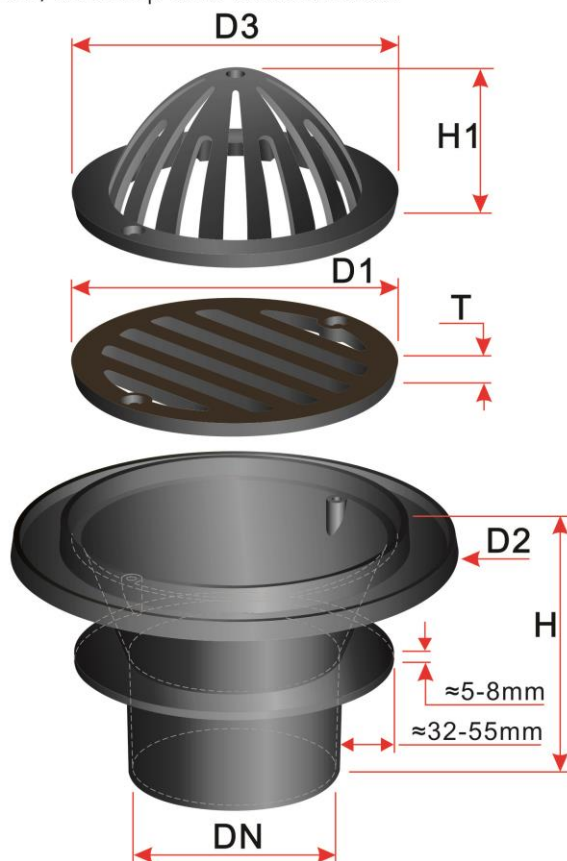
Dimensions Check
Specimen no.: DP0191211-096

Dimensions	BS requirement from figure --	Product requirement from code no. --	Measured mean value
S.S.(D3)	--	160mm	157mm
S.S.(SH1)	--	66mm	67mm
S.S.(D1)	--	160mm	159mm
S.S.(ST)	--	10mm	9.96mm
C.I.(D3)	--	160mm	159mm
C.I.(H1)	--	69mm	69mm
C.I.(D1)	--	160mm	161mm
C.I.(T)	--	9mm	8.54mm
DN	≥100mm	100mm	101mm
D2	--	220mm	219mm
H	--	310mm	310mm
T1	5(+0/-5)mm	--	4.77mm

Remarks: 1. Test result relates only to the specimen tested.
2. Test results of the sample comply with the requirement of BS416 : Part 1 : 1990, Clause 4 (effect of measurement uncertainty has not been taken into account).
3. This page no. 1A of test report supersedes page no. 1 of the previous test report of Castco LRN : DP0191211-096 DIM issued on 02 January 2020.
4. Test report for "the sketch" is changed due to "sketch unclear".

Checked by:  Approved Signatory: 
LEE WAI KWOK
B.Sc. (Eng), M.C.S., M.C.S. (Mech)
Registered Professional Engineer
Examiner's Stamp

Form No. PPH 100010, T1-01 007/2019 (Rev. 01/2019)



Technical Specification

No. 序號	Type 款式	Outlet Body 斗身			Grating 疏冷			Material 材質
		Nominal Diameter 公稱內徑 DN (mm)	Height 高度 H (mm)	Outer Diameter 外徑 D2 (mm)	Thickness 厚度 T (mm)	Height 高度 H1 (mm)	Outer Diameter 外徑 D1&D3 (mm)	
**	1	50	300	180	8	50	120	Cast Iron Comply with BS EN 1561 EN-GJL-150
**	2	75	300	220	9	69	160	
**	3	100	300	220	9	69	160	
	4	150	300	320	11	125	250	
	5	200	300	335	12	131	254	
	6	225	300	375	12	150	300	
	7	250	300	375	12	150	300	
	8	300	348	415	14	191	335	

The 50-100mm Flat / Dome Grating can be change for the stainless steel (SS 316)

Note :

1. The physical structure of cast iron may change during and / or after the process of smelting, therefore variance in the dimensions of products is anticipated.
2. All specifications described here are subject to change without notice.
3. All drawings shown in this catalog are for reference only. (Not to scale)
4. Features and specifications are subject to change depending on market requirements.
5. Cheung Hing Foundry (HK) Limited reserves the right to make any changes without notice concerning colors or specifications detailed in this catalog or discontinue individual products.
6. The colors of products may differ from those in this catalog.
7. All rights reserved. It is unlawful to copy or extract the whole or part of the materials from this catalog without written consent of Cheung Hing Foundry (HK) Limited.



祥興鑄鐵有限公司
CHEUNG HING FOUNDRY (HK) LIMITED



CAST IRON RAINWATER OUTLET/ Floor Drain With Flat / Dome Grating

For Aboveground Surface, Rooftop and Other Areas.



HOKLAS Endorsed Test Certificates

DN 150X300 Double Seal Rainwater Outlet with Water Stop Collar



佳力高試驗中心有限公司
CASTCO TESTING CENTRE LIMITED

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

Pipes - Discharge and Ventilating Pipes and Fittings, Sand-Cast or Spun in Cast Iron
(BS 416: Part 1: 1990 Cl. 4)

Date of issue: 07 February 2020

Page 1A of 1 page

Castco LRN: DP0191211-097 DIM

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, N.T.

Contract no.: -- Job title: --

Sample description: DN150 x 300H Double Seal Rainwater Outlet with Dome / Flat Grating (Flange / Water Stop Collar)

Manufacturer: Cheung Hing Foundry (HK) Limited

Brand: CHF

Remark: Sample submitted by: Asia Development (HK) Limited

Laboratory test result

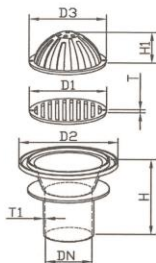
Date sample received: 11 December 2019

Date of test: 19 December 2019

Dimensions Check

Specimen no.: DP0191211-097

Dimensions	BS requirement from figure --	Product requirement from code no. --	Measured mean value
DN	≥150mm	150mm	150mm
D1	--	250mm	251mm
D2	--	320mm	316mm
D3	--	250mm	247mm
H	--	310mm	313mm
H1	--	125mm	125mm
T	--	11mm	12.40mm
T1	5(+0/-1.5)mm	--	4.49mm



DN 100X300 Double Seal Rainwater Outlet



佳力高試驗中心有限公司
CASTCO TESTING CENTRE LIMITED

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

Pipes - Discharge and Ventilating Pipes and Fittings, Sand-Cast or Spun in Cast Iron
(BS 416: Part 1: 1990 Cl. 4)

Date of issue: 27 October 2021

Page 1 of 1 page(s)

Castco LRN: 211006-2701-002 DIM

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: --

Sample description: DN100 x 300H Double Seal Rainwater Outlet with (S.S.316 or C.I.) Dome / Flat Grating

Manufacturer: Cheung Hing Foundry (HK) Limited

Brand: CHF

Remark: 1. Sample Submitted by: Asia Development (HK) Limited 2. Country of Origin: China

Laboratory test result

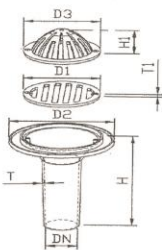
Date sample received: 06 October 2021

Date of test: 25 October 2021

Dimensions Check

Specimen no.: 211006-2701-002

Dimensions	BS requirement from figure 5	Product requirement from code no. --	Measured mean value
DN	≥99mm	100mm	101mm
D1	--	160mm	161mm
D2	--	220mm	219mm
D3	--	160mm	160mm
H	--	310mm	310mm
H1	--	69mm	67mm
T	5(+0/-1.5)mm	5mm	4.51mm
T1	--	9mm	9.80mm



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

2. Test results of the sample comply with the requirement of BS416: Part 1: 1990, Clause 4

The sample curve shall be within grading zone. The acceptance limit is the same as the tolerance limit (simple acceptance, see Figure A) Only test results out of the acceptance limits will be concluded as out-of-tolerance.

Checked by: SIT KWAN NING

Approved Signatory: WONG KA MAN

Senior Supervisor

End of Report

WONG KA MAN

Senior Manager

Form No. PIPE-DIM416_T1-01 (2019/02/21)

HOKLAS has accredited this laboratory (Reg. No. HOKLAS 012) 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 or the laboratory's certified true copy is valid.

DN 150X300 Double Seal Rainwater Outlet



佳力高試驗中心有限公司
CASTCO TESTING CENTRE LIMITED

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

Pipes - Discharge and Ventilating Pipes and Fittings, Sand-Cast or Spun in Cast Iron
(BS 416: Part 1: 1990 Cl. 4)

Date of issue: 27 October 2021

Page 1 of 1 page(s)

Castco LRN: 211006-2702-001 DIM

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: --

Sample description: DN150 x 300H Double Seal Rainwater Outlet with (C.I.) Dome / Flat Grating

Manufacturer: Cheung Hing Foundry (HK) Limited

Brand: CHF

Remark: 1. Sample Submitted by: Asia Development (HK) Limited 2. Country of Origin: China

Laboratory test result

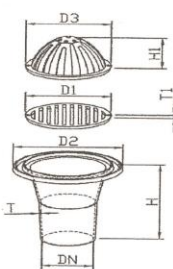
Date sample received: 06 October 2021

Date of test: 25 October 2021

Dimensions Check

Specimen no.: 211006-2702-001

Dimensions	BS requirement from figure 5	Product requirement from code no. --	Measured mean value
DN	≥150mm	150mm	150mm
D1	--	250mm	249mm
D2	--	320mm	318mm
D3	--	250mm	250mm
H	--	310mm	309mm
H1	--	125mm	124mm
T	5(+0/-1.5)mm	5mm	4.99mm
T1	--	11mm	11.80mm



DN 200X300 Double Seal Rainwater Outlet



佳力高試驗中心有限公司
CASTCO TESTING CENTRE LTD.

香港粉嶺安樂街33號 33, On Kui Street, Fanling, Hong Kong. Tel: 2677 2138
香港粉嶺安樂街29A號 29A, On Chuen Street, Fanling, Hong Kong. Fax: 2677 0351
E-mail: castco@netvigator.com Website: www.castco.com.hk

Test Certificate

Dimension check on discharge and ventilating pipes and fittings, sand-cast or spun in cast iron
(Based on BS416: Part 1: 1990, Clause 4)

Date of issue: 26 September 2013

Page 1 of 1 page

Castco LRN: DP0130918-143 DIM

Details as supplied by client

Client: Cheung Hing Foundry (HK) Limited

Client's ref. no.: --

Contract no.: -- Job title: --

Sample description: DN200 x 300H Double Seal Rainwater Outlet with Dome / Flat Grating

Manufacturer: Cheung Hing Foundry (HK) Limited

Brand: CHF

Remark: Sample Submitted by: Asia Development (HK) Limited

Laboratory test result

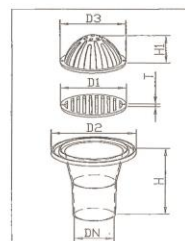
Date sample received: 18 September 2013

Date of test: 19 September 2013

Dimensions Check

Specimen no.: DP0130918-143

Dimensions	BS requirement from figure --	Product requirement from code no. --	Measured mean value
D1	--	250 mm	250 mm
D2	--	330 mm	330 mm
D3	--	250 mm	252 mm
DN	--	200 mm	200 mm
H	--	300 mm	306 mm
H1	--	125 mm	125 mm
T	--	11 mm	12 mm



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

2. Compliance of the test results to the specification is an opinion of the laboratory and is not covered under the HOKLAS accreditation.

3. Compliance check against BS416: Part 1: 1990, Clause 4 was not possible as this fitting could not be found in the standard.

Checked by: WONG KA MAN

Approved Signatory: LEE WAI KWOK

Form No. PIPE-DIM416_T1-01 (2019/02/21)

End of Report

LEE WAI KWOK

B.Sc., C. Eng., M.C.E., M.I.E.E.

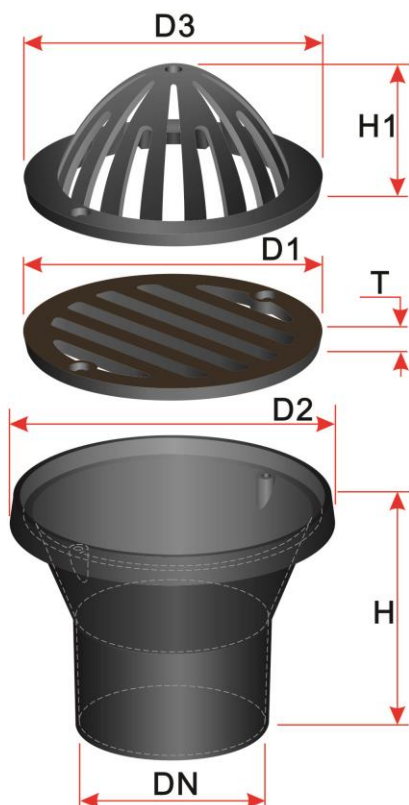
Regional Professional Engineer

HOKLAS has accredited this laboratory (Reg. No. 012) under HOKLAS for specific laboratory activities as listed in the HOKLAS directory of accredited laboratories. This report shall not be reproduced unless with prior written approval from this laboratory. This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer joint ISO-ILAC-AF Certificate dated January 2009).



祥興鑄鐵有限公司

CHEUNG HING FOUNDRY (HK) LIMITED



Technical Specification

No. 序號	Type 款式	Outlet Body 斗身			Grating 疏冷			Material 材質
		Nominal Diameter 公稱內徑 DN (mm)	Height 高度 H (mm)	Outer Diameter 外徑 D2 (mm)	Thickness 厚度 T (mm)	Height 高度 H1 (mm)	Outer Diameter 外徑 D1&D3 (mm)	
** 1	50	50	300	135	8	50	120	Cast Iron Comply with BS EN 1561 EN-GJL-150
** 2	75	75	300	180	9	69	160	
** 3	100	100	300	180	9	69	160	
4	150	150	300	270	11	125	250	
5	200	200	300	280	12	131	254	
6	225	225	300	325	12	150	300	
7	250	250	300	325	12	150	300	
8	300	300	348	365	14	191	335	

The 50-100mm Flat / Dome Grating can be change for the stainless steel (SS 316)

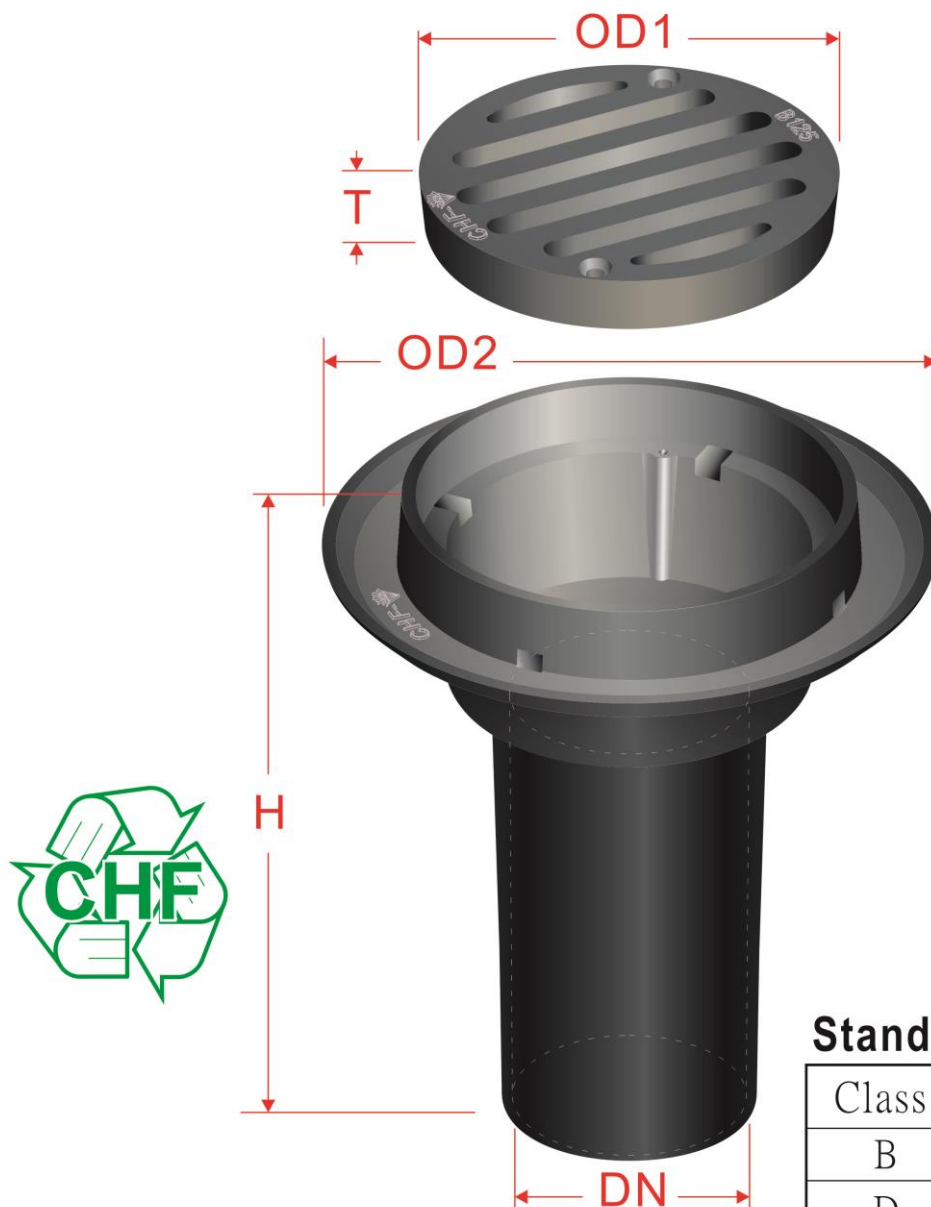
Note :

1. The physical structure of cast iron may change during and / or after the process of smelting, therefore variance in the dimensions of products is anticipated.
2. All specifications described here are subject to change without notice.
3. All drawings shown in this catalog are for reference only. (Not to scale)
4. Features and specifications are subject to change depending on market requirements.
5. Cheung Hing Foundry (HK) Limited reserves the right to make any changes without notice concerning colors or specifications detailed in this catalog or discontinue individual products.
6. The colors of products may differ from those in this catalog.
7. All rights reserved. It is unlawful to copy or extract the whole or part of the materials from this catalog without written consent of Cheung Hing Foundry (HK) Limited.



Heavy Duty Grating & Sealed Water Outlet 承重疏冷雙止口水斗

B 125
D 400



Standard : BS EN 124

Class	Test load (kN)
B	125
D	400

DIMENSIONS AND GRATING LOADING		DN 75 mm	DN 100 mm	DN 150 mm
Code No.	產品編號	HABW075	HABW100	HABW150
1.Flat Grating 平冷				
Outer Diameter	外徑 OD 1	180	180	270
Thickness	厚度 T	25	25	40
2.Outer Body 水斗				
Outer Diameter	外徑 OD 2	263	263	362
Height	高度 H	300	300	300
3.Loading	承重 Class	B	B	D

Ratio of outlet with grating 疏冷與水斗的排水比			
Outlet Size 出水尺寸 (mm)	75	100	150
Grating Size 疏冷尺寸 (mm)	180	180	270
Outlet cross-sectionai area 出水咀切面面積 (mm)	4417.9	7854.0	17672
Area of drainage grating pit 疏冷排水坑面積 (mm)	8976.8	8976.8	20672
The relative ratio of 相對比 (1 : X)	2.0319	1.1430	1.1698



祥興鑄鐵有限公司
CHEUNG HING FOUNDRY (HK) LIMITED



Heavy Duty Grating & Sealed Water Outlet 承重疏冷雙止口水斗

B 125



HOKLAS Endorsed Test Certificates

CASTCO 佳力高試驗中心有限公司
CASTCO TESTING CENTRE LTD.

香港粉嶺安樂街33號 33, On Kai Street, Fanling, Hong Kong Tel: 2677 2138
香港粉嶺安樂街29A號 29A, On Chuen Street, Fanling, Hong Kong Fax: 2677 0351
E-mail: castco@hoklas.com Website: www.castco.com.hk

Test Certificate
Measurement of Permanent Set & Loading Test of Manhole Covers, Gully Gratings
(Tested to BS EN 124 : 1994, Cl. 8 (AMD 8587))

Date of issue: 15 December 2015
Page 1 of 1 page(s)
Castco LRN: DP0151024-528 MISCEL

Details as supplied by customer
Customer: Cheung Hing Foundry (HK) Limited
Address: 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, NT, HK
Contract no.: -- Job title: --
Sample description: DN75 x 300mm H Double Seal Rainwater Outlet with ϕ 180 Heavy Duty Grating
Manufacturer: Cheung Hing Foundry (HK) Limited Brand: CHF

Laboratory Test Result
Date sample received: 23 September 2015 Date tested: 01 December 2015

Specimen No.	Specimen Description	Clear opening (mm)	Size of test block (mm)	Measurement of permanent set			Application of the test load (Test load maintained for 30 sec.)		
				2/3 of the test load applied (kN)	Permanent set of cover/grating (mm)	Permanent set test result	Load applied (kN)	Loading test result	Observation
1	DN75 x 300mm H Double Seal Rainwater Outlet with ϕ 180 Heavy Duty Grating	145	ϕ 75	--	--	--	125	Passed	N/V

Remarks:
1. Legend: FC - Fracture at cover FF - Fracture at frame N/V - No visible fracture.
2. Test results relate only to the specimen tested.
3. Compliance of the test results to the specification is an opinion of the laboratory and is not covered under the HOKLAS accreditation.
4. Test results of the sample comply with the requirement of BS EN 124 : 1994, Cl. 8 (including Cl. 8.3.1) (AMD 8587).
5. Customer instructed to waive the permanent set testing.
6. Customer instructed to waive the permanent set testing.
7. Failure load: 188 kN.

Checked by: SIT KWAN NING Laboratory Supervisor
Approved signature: WONG KA MAN Laboratory Manager
End of Report

CASTCO 佳力高試驗中心有限公司
CASTCO TESTING CENTRE LTD.

香港粉嶺安樂街33號 33, On Kai Street, Fanling, Hong Kong Tel: 2677 2138
香港粉嶺安樂街29A號 29A, On Chuen Street, Fanling, Hong Kong Fax: 2677 0351
E-mail: castco@hoklas.com Website: www.castco.com.hk

Test Report
Dimension check on discharge and ventilating pipes and fittings, sand-cast or spun in cast iron
(Based on BS416 : Part 1 : 1990, Clause 4)

Date of issue: 12 November 2015
Page 1 of 1 page(s)
Castco LRN: DP0150923-234 DIM

Details as supplied by customer
Customer: Cheung Hing Foundry (HK) Limited
Address: 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, NT, HK
Contract no.: -- Job title: --
Sample description: DN75 x 300 H Double Seal Rainwater Outlet with ϕ 180 Heavy Duty Grating
Manufacturer: Cheung Hing Foundry (HK) Limited Brand: CHF

Laboratory test result
Date sample received: 23 September 2015 Date of test: 07 October 2015

Dimensions Check
Specimen no.: DP0150923-234

Dimensions	BS requirement from figure 20	Product requirement from code no. --	Measured mean value
OD1	--	180 mm	180 mm
OD2	--	263 mm	263 mm
DN	≥ 74 mm	75 mm	75 mm
H	--	300 mm	303 mm
T	--	25 mm	25.07 mm

Remarks:
1. Test result relates only to the specimen tested.
2. Compliance of the test results to the specification is an opinion of the laboratory and is not covered under the HOKLAS accreditation.
3. Test results of the sample comply with the requirement of BS416 : Part 1 : 1990, Clause 4.

Checked by: SIT KWAN NING Laboratory Supervisor
Approved Signature: WONG KA MAN Laboratory Manager
End of Report

CASTCO 佳力高試驗中心有限公司
CASTCO TESTING CENTRE LTD.

香港粉嶺安樂街33號 33, On Kai Street, Fanling, Hong Kong Tel: 2677 2138
香港粉嶺安樂街29A號 29A, On Chuen Street, Fanling, Hong Kong Fax: 2677 0351
E-mail: castco@hoklas.com Website: www.castco.com.hk

Test Report
Dimension check on discharge and ventilating pipes and fittings, sand-cast or spun in cast iron
(Based on BS416 : Part 1 : 1990, Clause 4)

Date of issue: 12 November 2015
Page 1 of 1 page(s)
Castco LRN: DP0150923-236 DIM

Details as supplied by customer
Customer: Cheung Hing Foundry (HK) Limited
Address: 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, NT, HK
Contract no.: -- Job title: --
Sample description: DN100 x 300 H Double Seal Rainwater Outlet with ϕ 180 Heavy Duty Grating
Manufacturer: Cheung Hing Foundry (HK) Limited Brand: CHF

Laboratory test result
Date sample received: 23 September 2015 Date of test: 07 October 2015

Dimensions Check
Specimen no.: DP0150923-236

Dimensions	BS requirement from figure 20	Product requirement from code no. --	Measured mean value
OD1	--	180 mm	180 mm
OD2	--	263 mm	264.5 mm
DN	≥ 99 mm	100 mm	100 mm
H	--	300 mm	305 mm
T	--	25 mm	25 mm

Remarks:
1. Test result relates only to the specimen tested.
2. Compliance of the test results to the specification is an opinion of the laboratory and is not covered under the HOKLAS accreditation.
3. Test results of the sample comply with the requirement of BS416 : Part 1 : 1990, Clause 4.

Checked by: SIT KWAN NING Laboratory Supervisor
Approved Signature: WONG KA MAN Laboratory Manager
End of Report

CASTCO 佳力高試驗中心有限公司
CASTCO TESTING CENTRE LTD.

香港粉嶺安樂街33號 33, On Kai Street, Fanling, Hong Kong Tel: 2677 2138
香港粉嶺安樂街29A號 29A, On Chuen Street, Fanling, Hong Kong Fax: 2677 0351
E-mail: castco@hoklas.com Website: www.castco.com.hk

Test Certificate
Measurement of Permanent Set & Loading Test of Manhole Covers, Gully Gratings
(Tested to BS EN 124 : 1994, Cl. 8 (AMD 8587))

Date of issue: 15 December 2015
Page 1 of 1 page(s)
Castco LRN: DP0151024-529 MISCEL

Details as supplied by customer
Customer: Cheung Hing Foundry (HK) Limited
Address: 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, NT, HK
Contract no.: -- Job title: --
Sample description: DN100 x 300mm H Double Seal Rainwater Outlet with ϕ 180 Heavy Duty Grating
Manufacturer: Cheung Hing Foundry (HK) Limited Brand: CHF

Laboratory Test Result
Date sample received: 24 October 2015 Date tested: 01 December 2015

Specimen No.	Specimen Description	Clear opening (mm)	Size of test block (mm)	Measurement of permanent set			Application of the test load (Test load maintained for 30 sec.)		
				2/3 of the test load applied (kN)	Permanent set of cover/grating (mm)	Permanent set test result	Load applied (kN)	Loading test result	Observation
2	DN100 x 300mm H Double Seal Rainwater Outlet with ϕ 180 Heavy Duty Grating	145	ϕ 75	--	--	--	125	Passed	N/V

Remarks:
1. Legend: FC - Fracture at cover FF - Fracture at frame N/V - No visible fracture.
2. Test results relate only to the specimen tested.
3. Compliance of the test results to the specification is an opinion of the laboratory and is not covered under the HOKLAS accreditation.
4. Test results of the sample comply with the requirement of BS EN 124 : 1994, Cl. 8 (including Cl. 8.3.1) (AMD 8587).
5. Customer instructed to waive the permanent set testing.

Checked by: SIT KWAN NING Laboratory Supervisor
Approved signature: WONG KA MAN Laboratory Manager
End of Report



祥興鑄鐵有限公司
CHEUNG HING FOUNDRY (HK) LIMITED



Heavy Duty Grating & Sealed Water Outlet 承重疏冷雙止口水斗

D 400



HOKLAS Endorsed Test Certificates

CASTCO 佳力高試驗中心有限公司
CASTCO TESTING CENTRE LTD.

Measurement of Permanent Set & Loading Test of Manhole Covers, Gully Gratings
[Tested to BS EN 124 : 1994, Cl. 8 (AMD 8587)]

Date of issue : 15 December 2015
Page 1 of 1 page(s)
Customer: Cheung Hing Foundry (HK) Limited
Address: 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, NT, HK
Title: --
Sample description: DN150 x 300mm H Double Seal Rainwater Outlet with 4270 Heavy Duty Grating
Manufacturer: Cheung Hing Foundry (HK) Limited
Sample Submitted by: Asia Development (HK) Limited
Brand: CHF

Castco LRN: DP0151024-530 MISCEL
Customer Ref. No.: --
Contract No.: --
Class: D400

Laboratory Test Result
Date Received: 24 October 2015
Date Tested: 01 December 2015

Specimen No.	Specimen Description	Clear opening (mm)	Size of test block (mm)	Measurement of permanent set			Application of the test load (Test load maintained for 30 sec.)			Observation
				2/3 of the test load applied (kN)	Permanent set of cover/grating (mm)	Permanent set test result	Load applied (kN)	Loading test result		
3	DN150 x 300mm H Double Seal Rainwater Outlet with 4270 Heavy Duty Grating	220	φ 150	--	--	--	400	Passed	N/V	

Remarks:
1. Legend: FC - Fracture at cover FF - Fracture at frame N/V - No visible fracture.
2. Test results relate only to the specimen tested.
3. Compliance of the test results to the specification is an opinion of the laboratory and is not covered under the HOKLAS accreditation.
4. Test results of the sample comply with the requirement of BS EN 124 : 1994, Cl. 8 (excluding Cl. 8.3.1) (AMD 8587).
5. Customer instructed to waive the permanent set testing.

Checked by: SIT KWAN NING
Laboratory Supervisor
Approved Signatory: WONG KA MAN
Laboratory Manager
End of Report

File No: PPM 000410, 11-01-2016-0011 (1)

HOKLAS has accredited this laboratory (Reg. No. 012 - TEST) under HOKLAS for specific laboratory activities as listed in the HOKLAS directory of accredited laboratories. This report shall not be reproduced without prior written approval from this laboratory. This laboratory is in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system under ISO/IEC 15189:2003 (dated January 2009).

CASTCO 佳力高試驗中心有限公司
CASTCO TESTING CENTRE LTD.

Dimension check on discharge and ventilating pipes and fittings, sand-cast or spun in cast iron
(Based on BS416 : Part 1 : 1990, Clause 4)

Date of issue : 12 November 2015
Page 1 of 1 page(s)
Customer: Cheung Hing Foundry (HK) Limited
Address: 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, NT, HK
Contract no.: --
Job title: --
Sample description: DN150 x 300 H Double Seal Rainwater Outlet with 4270 Heavy Duty Grating
Manufacturer: Cheung Hing Foundry (HK) Limited
Brand: CHF

Castco LRN: DP0150923-238 DIM
Customer's ref. no.: --

Laboratory test result
Date sample received: 23 September 2015
Date of test: 07 October 2015

Dimension Check
Specimen no.: DP0150923-238

Dimensions	BS requirement from figure 20	Product requirement from code no. --	Measured mean value
OD1	--	270 mm	270 mm
OD2	--	362 mm	361 mm
DN	≥ 150 mm	150 mm	151 mm
H	--	300 mm	305 mm
T	--	40 mm	40 mm

Remarks:
1. Test result relates only to the specimen tested.
2. Compliance of the test results to the specification is an opinion of the laboratory and is not covered under the HOKLAS accreditation.
3. Test results of the sample comply with the requirement of BS416 : Part 1 : 1990, Clause 4.

Checked by: SIT KWAN NING
Laboratory Supervisor
Approved Signatory: WONG KA MAN
Laboratory Manager
End of Report

File No: PPM 000410, 11-01-2016-0011 (1)

HOKLAS has accredited this laboratory (Reg. No. 012 - TEST) under HOKLAS for specific laboratory activities as listed in the HOKLAS directory of accredited laboratories. This report shall not be reproduced without prior written approval from this laboratory. This laboratory is in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system under ISO/IEC 15189:2003 (dated January 2009).

TECHNICAL SPECIFICATIONS

Item	Material	Functions
1 Flat Grating	Cast Iron	Flat The Flat Grating can be loading at 12.5 and 40 tons. (BS EN 124 B 125 & D 400) The BS EN 124 B 125 suitable for footway, pedestrian areas and comparable areas, car parks or parking decks. Ane the BS EN 124 D 400 suitable for gully top installed in the area of kerb side channels of roads, which when measured from the kerb edge, extend a maximum of 0.5 m into the carriageway and a maximum of 0.2 m into the footway.
2 Outlet body		This outlet body ensures an adequate and efficient flow of rainwater and surface water into the drainage system with appropriate installation.
3 Compatibility		Heavy Duty Grating & Sealed Water Outlet can be connected to spigot and socket pipe works, socket-less cast iron pipe works and other pipe work systems with proper installation and appropriate application.



All rights reserved. It is unlawful to copy extract the whole or part of the materials from this catalog without the written consent of Cheung Hing Foundry (HK) Limited.



CHEUNG HING FOUNDRY (HK) LIMITED
Address : 299, Pak Sha Tsuen,
Kung Um Road, Yuen Long, Hong Kong
Tel : (852) 2447-1262 Fax : (852) 2447-0198

祥興鑄鐵有限公司
地址：香港 元朗公庵路 白沙村 299 號
Email : chf@chfhk.com http://www.chfhk.com