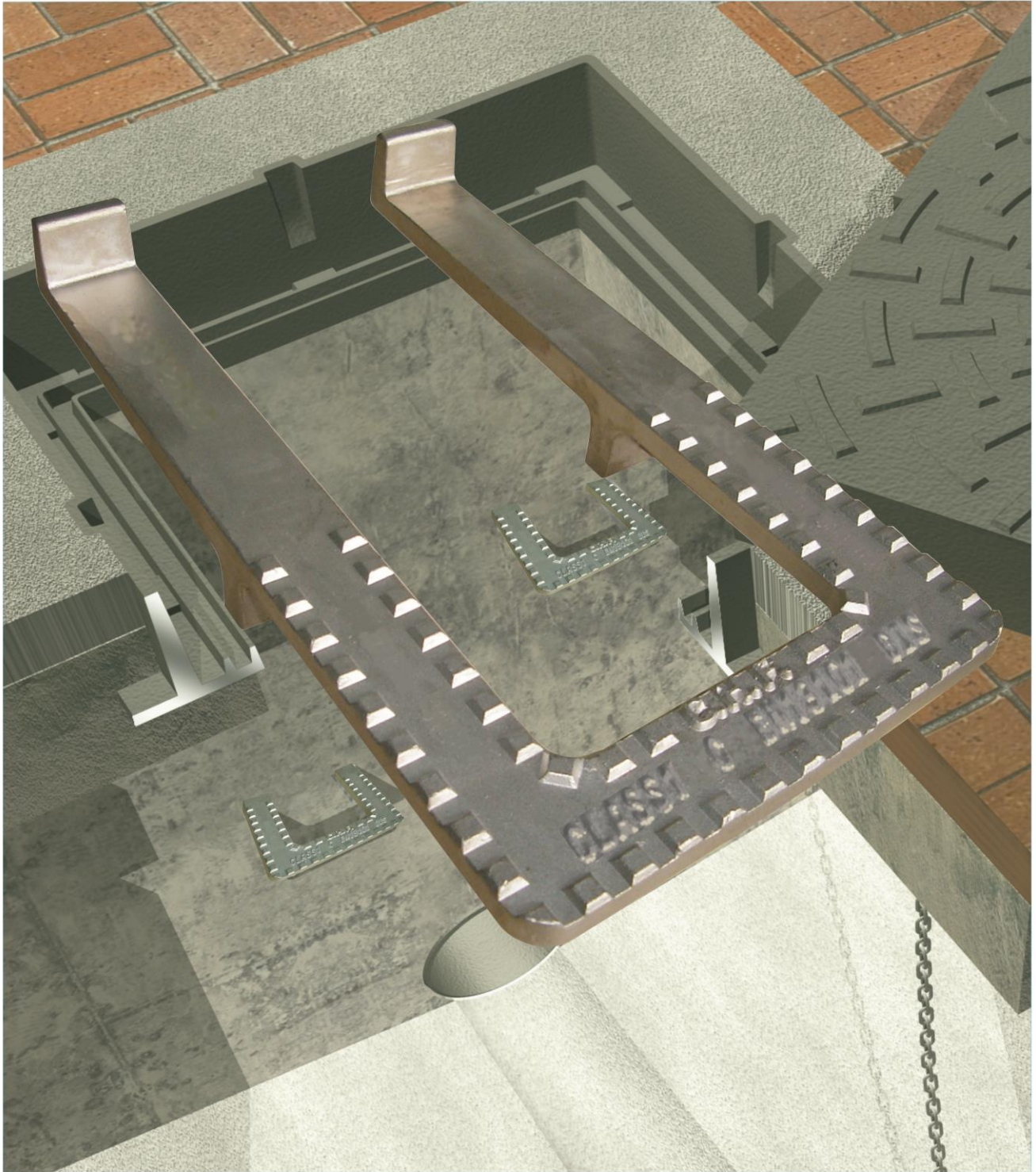


Manhole Step Iron

CHF[®]

Galvanized D. I. : CLASS 1 C EN 13101 DIS

鍍鋅球墨鑄鐵沙井腳踏

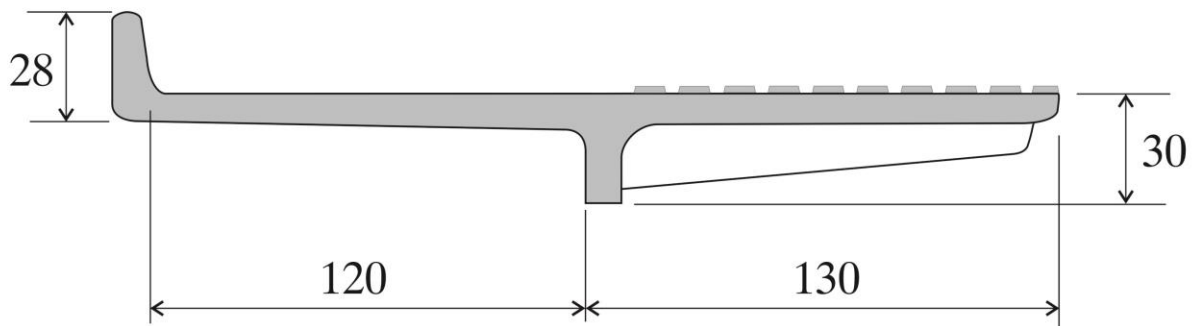
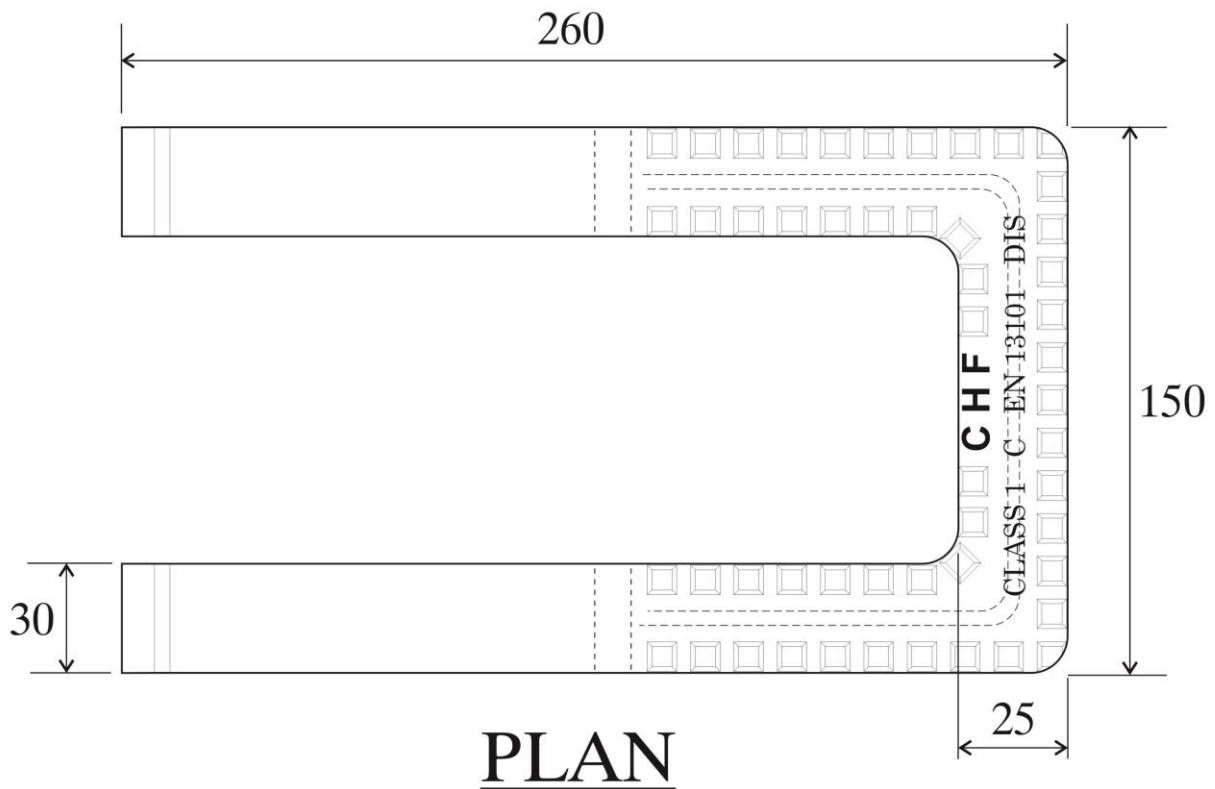


祥興鑄鐵有限公司

CHEUNG HING FOUNDRY (HK) LIMITED

CHF[®] Manhole Step Iron - Galvanized

鍍鋅球墨鑄鐵沙井腳踏



Standard : BS EN 13101 : 2002

Functions: To provide step-like access to underground sewage system through the opening of manhole for servicing and maintenance.

Hot-dipped galvanization enhances rust-resistance. (BS EN ISO 1461:2009, Table 3)

Ductile iron has the ability to withstand greater loading pressure.



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CHF[®] Manhole Step Iron - Galvanized

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HOKLAS Endorsed Test Certificates

Twist Test

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

Test Report
Steps for Underground Man Entry Chambers - Twist Test
(BS EN 13101 : 2002 Clause 4.3.6 Annex A)

Date of issue : 02 July 2020
Page 2 of 2 page(s)
Castco LRN : NW0200609-004

Appendix A

Form no.: NW_STEP_TWIST_BS EN 13101-2002_T_01_13102020
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香港粉嶺安樂街30號聯泰中心1樓·1/F, Sun Lin
香港粉嶺安樂街29A號·29A, On
Tel: 2597 8333 Fax: 2597 8399 E-mail: info@castco.com.hk

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

Test Report
Steps for Underground Man Entry Chambers - Twist Test
(BS EN 13101 : 2002 Clause 4.3.6 Annex A)

Date of issue : 02 July 2020
Page 1 of 2 page(s)
Castco LRN : NW0200609-004

Details as supplied by customer
Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kwun Um Road, Yuen Long, N. T.
Job title : --
Sample description : Hot Dip Galvanized Ductile Iron Step Iron
Manufacturer : Cheung Hing Foundry (HK) Limited
Brand name : CHF
Sample submitted by : Asia Development (HK) Limited
Laboratory test results
Date of sample received : 09 June 2020
Date of test : 12 June 2020

Specimen no.	1
Maximum difference of height of front edge of the thread from surface (mm)	1.22
Requirement	The height of the front edge of the tread from the level surface shall not vary along its length by more than 3.0 mm

Remark(s):
1. Test results relate only to the specimen tested.
2. Test results of sample comply with the requirement of BS EN 13101 : 2002 Clause 4.3.6 (effect of easurement uncertainty has not been taken into account).

Checked by: FU HO MAN
Assistant Technical Manager

Certified by: WONG KAM MAN
Senior Manager

Zinc Coating Test →

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

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

TEST REPORT
Determination of Zinc and Zinc Alloy Coatings on Iron and Steel Articles by Gravimetric Method
(BS EN ISO 1460 : 1995)

Date of issue : 24-06-2020
Page 1 of 1 pages
Castco LRN : MS0200612-2

Sample details as supplied by customer
Customer : Cheung Hing Foundry (HK) Limited
Customer Ref. No. : --
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, Hong Kong
Job Title : --
Sample Description : Hot Dip Galvanized Ductile Iron Step Iron
Contract No. : --
Sample Identification No. : --
Place of Sampling : --
Type : Hot Dip Galvanized (Non-Centrifuged)
Date of Sampling : --
Manufacturer : Cheung Hing Foundry (HK) Limited
Brand name : CHF

Laboratory test result
Date Received : 12-06-2020
Test Period : 19-06-2020

Specimen No.	12-2 (1)	12-2 (2)
Mass of coating	g/m ² 665	633
Average mass of coating for specimens	g/m ² 649	

Remarks : 1. Test results relate only to the specimens tested
2. Average thickness of coating for specimen is 11mm.
3. Test results of the specimen comply with BS EN ISO 1461:2009, Table 3, articles and its thickness for Steel >6mm, minium of mean coating mass: 610g/m².

Checked by: Lau Hiu Yat
Assistant Technical Manager

Approved Signatory: Lai Peter Shu Hung
B.Sc. MSc. Pk. PEng. CEng.
MEMBER, MICE, IPE, CPE, MAE(I)
Deputy General Manager

End of Report

Form No. CHM BS EN ISO 1460 T 02/06/2016

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



Manhole Step Iron - Galvanized

鍍鋅球墨鑄鐵沙井腳踏



HOKLAS Endorsed Test Certificates

Pull-out Test

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

Test Report
Steps for Underground Man Entry Chambers - Resistance to Pull-out
(BS EN 13101 : 2002 Annex D)

Date of issue : 02 July 2020
Page 1 of 1 page(s)
Castco LRN : NW0200609-006

Details as supplied by customer
Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kwun Um Road, Yuen Long, N. T.
Job title : --
Sample description : Hot Dip Galvanized Ductile Iron Step Iron
Manufacturer : Cheung Hing Foundry (HK) Limited
Brand name : CHF
Sample submitted by : Asia Development (HK) Limited

Laboratory test results
Date of sample received : 09 June 2020
Date of test : 13 to 27 June 2020

Specimen no.	2
Nominal dimensions of concrete block (mm)	100 x 200 x 250
Date of concrete block casted	13/06/2020
Age of concrete block at test (days)	14
Apply the load of 5 kN and sustain for 1 minute	Step resisted the load
Requirement	Step shall resist a force of 5kN

Remark(s):
1. Test results relate only to the specimen tested.
2. Test results of sample comply with the requirement of BS EN 13101 : 2002 Clause 4.3.9 (effect of measurement uncertainty has not been taken into account).

Checked by: FU HO MAN
Certified by: WONG KA MAN

Vertical Loading Test

Tensile Test

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

Test Report
Steps for Underground Man Entry Chambers - Vertical Loading Test
(BS EN 13101 : 2002 Annex B)

Date of issue : 02 July 2020
Page 1 of 1 page(s)
Castco LRN : NW0200609-005

Details as supplied by customer
Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kwun Um Road, Yuen Long, N. T.
Job title : --
Sample description : Hot Dip Galvanized Ductile Iron Step Iron
Manufacturer : Cheung Hing Foundry (HK) Limited
Brand name : CHF
Sample submitted by : Asia Development (HK) Limited

Laboratory test results
Date of sample received : 09 June 2020
Date of test : 13 June 2020

Specimen no.	1
Apply load (kN)	Deflection (mm)
0.5	0.15
1.0	0.96
1.5	1.28
2.0	1.89
Hold for 1 minute & remove load	Permanent deflection (mm) : 0.11
Present of cracking	No
Apply load (kN)	
4.0	
Hold for 1 minute & remove load	Permanent deflection (mm) : 0.47
Present of cracking	No

Compliance :-
1. Step shall support of both initial and ultimate load without visible cracking and the deflection under load shall not exceed 5mm.
2. After removal of the load, the permanent deflection shall not exceed 1mm of Initial load and 5mm of Ultimate load.

Remark(s):
1. Test results relate only to the specimen tested.
2. Test results of sample comply with the requirement of BS EN 13101 : 2002 Clause 4.3.7 (effect of measurement uncertainty has not been taken into account).

Checked by: FU HO MAN
Certified by: WONG KA MAN

End of Report

From: NW_STEP_VERTICAL_LOAD_BSEN13101-2002_T_AJ_13052020

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E-mail: info@castco.com.hk Website: www.castco.com.hk

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

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

Date of issue : 31 December 2019
Page 1 of 1 page(s)
Castco LRN : DP0191121-172 TEN

Details as supplied by customer
Customer : Cheung Hing Foundry (HK) Ltd.
Address : 299 Pak Sha Tsuen, Kwun Um Road, Yuen Long, N.T.
Job Title : --
Origin of steel : --
Grade & Form of steel product : EN-GJS-500-7
Nominal diameter : 7.0 mm
No. & Type of specimen supplied : Ductile Iron Test Bar
Acceptance standard : BS EN 1563 : 2018

Laboratory Test Result
Date Received : 21 November 2019
Date Tested : 19 December 2019

Specimen Identity	Grade	Type & Prepar'n	Diameter (mm)	Thickness (mm)	Org. X-sect Area (mm ²)	Org. Gauge Length (mm)	Yield Strength (MPa)	Tensile Strength (MPa)	Elong. After fracture (%)	Position of Fracture	Remark
DP0191121-172	EN-GJS-500-7	--	7.01	--	38.5	35	321	675	7.0	Valid	--

Remarks:
1. Legends : A - Proportional; B - Non - proportional; M - Machined; N - Unmachined;
+ This measurement is 'invalid' which relates to the position of fracture only.
2. The yield stress is determined at 0.2% proof strength.
3. Test results relate only to the specimen tested.
4. Test results comply with BS EN 1563 : 2018 Clause 7.2.1.1 Table 1 (effect of measurement uncertainty has not been taken into account).
5. Sample Submitted by: Asia Development (HK) Ltd.

Checked by: SIT EWAN NING
Approved Signatory: WONG KA MAN

End of Report

From: ST_6892_T1_0125072018 /IT

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