

550sq.50H Double Seal-(A15)

AQuality

東恒測試顧問有限公司

AQUALITY TESTCONSULT LIMITED

香港新界粉嶺華語路啟芳園11A及B號

NO.11A&B, KAI FONG GARDE N, PING CHE ROAD, FANLING, N.T., HONG KONG

TEL: 852-2674-0478 FAX: 852-2674-1177

EMAIL: main.aqt@gmail.com; EMAIL: main@aqtgroup.com WEBSITE: www.aqtgroup.com



Report No. : 200527MA-1P

TEST REPORT OF PERMANENT SET & LOADING TEST OF GULLY TOPS, MANHOLE TOPS

BS EN 124-1 : 2015

Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, N.T.

Date Received : 27-May-2020

Date Tested : 3-Jun-2020

Customer Code : C120

Site Code : -

Project : -

Sample Information Provided by Customer :

Sample Description : 550 x 550 clear opening x 50(H) Double Seal Cast Iron Manhole Cover & Frame
Classification : A15
Clear Opening : 550 mm

Test Results:

Lab. Sample No.	200527MA-1P/1
Customer Sample No.	-
Size of Test Block	mm 250
Permanent Set	
Applied Load (2/3 of Applied Test Load)	kN 10.0
Measured Permanent Set	mm 0.04
Loading Test	
Applied Test Load (maintained for 30 sec.)	kN 16.0
Observation	NCF
Cracks Width	mm
Compliance#	Passed
Measured Mass#	kg Cover : 46.5 Frame : 19.5

Legend :
FAC Fracture at cover / grating
FAB Fracture at frame
NCF No Visible Fracture

Specific Requirements :

Permissible permanent set specific in BS EN 124-1 : 2015 table 5

- a) For class A15 & B125 : CO/100 or CO/20 (when CO<450mm)
- b) For class C250 to F900 (secured according to 6.6a or 6.6c) : CO/300 or 1mm max. (when CO<300mm)
- c) For class C250 to F900 (secured according to 6.6b) : CO/300 or 1mm max. (when CO<500mm)

Observation & test load specific in BS EN 124-1 : 2015 table 4

For units made of materials a) to c) of cl. 7, shall not show cracks in the cause of the test.

For units made of reinforced concrete, no crack wider than 0.2mm appear in the cause of the test.

Remarks :

- 1) The results apply to the sample as received.
- 2) The results relate only to the items 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) The test load and size of loading block were provided by customer.
- 5) Manufacturer: Cheung Hing Foundry (HK) Limited, Country of Origin: China, Brand: CHF

Tested by : K.C. Yeung
Date issued : 4-Jun-2020

Approved By: _____

CHAN Leung Chor, Dennis
Laboratory Manager

450sq.100H Double Seal-(C250)

AQuality

東恒測試顧問有限公司

AQUALITY TESTCONSULT LIMITED

香港新界粉嶺平糞街啟芳園11A&B號

NO.11A&B, KAI LONG GARDEIN, PING CHE ROAD, FANLING, N.T., HONG KONG

TEL: 852-2674-478 FAX: 852-2674-1177

EMAIL: main.aqlt@gmail.com; EMAIL: main@aqltgroup.com WEBSITE: www.aqltgroup.com



Report No. : 200527MA-13P

TEST REPORT OF PERMANENT SET & LOADING TEST OF GULLY TOPS, MANHOLE TOPS

BS EN 124-1 : 2015

Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, N.T.

Date Received : 27-May-2020

Date Tested : 3-Jun-2020

Customer Code : C120

Site Code : -

Project : -

Sample Information Provided by Customer :

Sample Description : 450 x 450 clear opening x 100(H) Double Seal Cast Iron Manhole Cover & Frame

Classification : C250

Clear Opening : 450 mm

Test Results:

Lab. Sample No.	200527MA-13P/1
Customer Sample No.	-
Size of Test Block	mm 250
Permanent Set	
Applied Load (2/3 of Applied Test Load)	kN 167.7
Measured Permanent Set	mm 0.37
Loading Test	
Applied Test Load (maintained for 30 sec.)	kN 250.7
Observation	NCF
Cracks Width	mm
Compliance#	Passed
Measured Mass#	kg Cover : 102.3 Frame : 101.7

Legend :
FAC Fracture at cover / grating
FAF Fracture at frame
NCF No Visible Fracture

Specific Requirements :

Permissible permanent set, specific in BS EN 124-1 : 2015 table 5

- For class A15 & B125 : CO/100 or CO/20 (when CO<450mm)
- For class C250 to F400 (secured according to 6.6a or 6.6c) : CO/200 or 1mm max. (when CO<300mm)
- For class C250 to F400 (secured according to 6.6b) : CO/200 or 1mm max. (when CO<500mm)

Observation & test load, specific in BS EN 124-1 : 2015 table 4

For units made of materials (a) to (c) of cl. 7, shall not show cracks in the cause of the test.

For units made of reinforced concrete, no crack wider than 0.2mm appear in the cause of the test.

Remarks :

- The results apply to the sample as received.
- The results relate only to the items tested.
- Compliance of the test results to the specification is an opinion of the laboratory and is not covered under the HOKLAS accreditation.
- The test load and size of loading block were provided by customer.
- Manufacturer: Cheung Hing Foundry (HK) Limited, Country of Origin: China, Brand: CHF

Tested by : K.C.Yeung
Date issued : 10-Jun-2020

Approved By:

CHAN Leung Chor, Dennis
Laboratory Manager

550sq.100H Double Seal-(B125)

AQuality

東恒測試顧問有限公司

AQUALITY TESTCONSULT LIMITED

香港新界粉嶺坪輦路啟芳園11A及B號

NO.11A&B, KAI FONG GARDE II, PING CHE ROAD, FANLING, N.T., HONG KONG

TEL: 852-2674-0478 FAX: 852-2674-1177

EMAIL: main.aqlt@gmail.com; EMAIL: main@aqltgroup.com WEBSITE: www.aqltgroup.com



Report No. : 200527MA-2P

TEST REPORT OF PERMANENT SET & LOADING TEST OF GULLY TOPS, MANHOLE TOPS

BS EN 124-1 : 2015

Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, N.T.

Date Received : 27-May-2020
Date Tested : 3-Jun-2020
Customer Code : C120
Site Code : -

Project : -

Sample Information Provided by Customer :

Sample Description : 550 x 550 clear opening x 100(H) Double Seal Cast Iron Manhole Cover & Frame
Classification : B125
Clear Opening : 550 mm

Test Results:

Lab. Sample No.	200527MA-2P/1
Customer Sample No.	-
Size of Test Block	mm 250
Permanent Set	
Applied Load (2/3 of Applied Test Load)	83.0 kN
Measured Permanent Set	0.29 mm
Loading Test	
Applied Test Load (maintained for 30 sec.)	127.2 kN
Observation	NCF
Cracks Width	mm
Compliance#	Passed
Measured Mass#	kg Cover : 98.3 Frame : 43.9

Legend :
FAC -- Fracture at cover / grate
FAM -- Fracture at frame
NCF -- No Visible Fracture

Specific Requirement :

Permissible permanent set specific in BS EN 124-1 : 2015 table 5

- For class A15 & B125 : CO/100 or CO/50 (when CO<450mm)
- For class C250 to F400 (secured according to 6.6a or 6.6c) : CO/200 or 1mm max. (when CO<300mm)
- For class C250 to F400 (secured according to 6.6b) : CO/200 or 1mm max. (when CO<500mm)

Observation & test load specific in BS EN 124-1 : 2015 table 4

For units made of materials a) to c) of cl. 7, shall not show cracks in the cause of the test.

For units made of reinforced concrete, no crack wider than 0.2mm appear in the cause of the test.

Remarks :

- The results apply to the sample as received.
- The results relate only to the items tested.
- # Compliance of the test results to the specification is an opinion of the laboratory and is not covered under the HOKLAS accreditation.
- The test load and size of loading block were provided by customer.
- Manufacturer: Cheung Hing Foundry (HK) Limited, Country of Origin: China, Brand: CHF

Tested by : K.C.Yeung
Date issued : 4-Jun-2020

Approved By:

CHAN Leung Chor, Dennis
Laboratory Manager

550sq.150H Double Seal-(D400)

AQuality

東恒測試顧問有限公司

AQUALITY TESTCONSULT LIMITED

香港新界粉嶺平潭路啟芳園1/A2B號

NO.11A&B, KAI LONG GARDE, PING CHE ROAD, FANLING, N.T., HONG KONG

TEL: 852-2674-478 FAX: 852-2674-1177

EMAIL: main.aqtl@gmail.com; EMAIL: main@aqtlgroup.com WEBSITE: www.aqtlgroup.com



Report No. : 200527MA-3P

TEST REPORT OF PERMANENT SET & LOADING TEST OF GULLY TOPS, MANHOLE TOPS

BS EN 124-1 : 2015

Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, N.T.

Date Received : 27-May-2020

Date Tested : 3-Jun-2020

Customer Code : C120

Site Code : -

Project : -

Sample Information Provided by Customer :

Sample Description : 550 x 550 clear opening x 150(H) Double Seal Cast Iron Manhole Cover & Frame

Classification : D400

Clear Opening : 550 mm

Test Results:

Lab. Sample No.	200527MA-3P/1
Customer Sample No.	-
Size of Test Block	mm 250
Permanent Set	
Applied Load (2/3 of Applied Test Load)	kN 267.0
Measured Permanent Set	mm 0.39
Loading Test	
Applied Test Load (maintained for 30 sec.)	kN 401.2
Observation	NCF
Cracks Width	mm
Compliance#	Passed
Measured Mass#	kg Cover : 177.5 Frame : 84.8

Legend :
FAC Fracture at cover / gully top
FAB Fracture at frame
NCF No Visible Fracture

Specific Requirement :

Permissible permanent set specific in BS EN 124-1 : 2015 table 5

- a) For class A15 & B125 : CO/100 or CO/50 (when CO<450mm)
- b) For class C250 to F900 (secured according to 6.6a or 6.6c) : CO/300 or 1mm max. (when CO<300mm)
- c) For class C250 to F900 (secured according to 6.6b) : CO/300 or 1mm max. (when CO<500mm)

Observation & test load specific in BS EN 124-1 : 2015 table 4

For units made of materials a) to c) of cl. 7, shall not show cracks in the cause of the test.

For units made of reinforced concrete, no crack wider than 0.2mm appear in the cause of the test.

Remarks :

- 1) The results apply to the sample as received.
- 2) The results relate only to the items 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) The test load and size of loading block were provided by customer.
- 5) Manufacturer: Cheung Hing Foundry (HK) Limited, Country of Origin: China, Brand: CHF

Tested by : K.C.Yeung
Date issued : 4-Jun-2020

Approved By: _____

CHAN Leung Chor, Dennis
Laboratory Manager

600X800X100H Double Seal-(B125)



東恒測試顧問有限公司

AQUALITY TESTCONSULT LIMITED

香港新界粉嶺平潭路啟芳園1/A2B號

NO.11A&B, KAI LONG GARDEIN, PING CHE ROAD, FANLING, N.T., HONG KONG

TEL: 852-2674-4478 FAX: 852-2674-1177

EMAIL: main.aqtl@gmail.com; EMAIL: main@aqtlgroup.com WEBSITE: www.aqtlgroup.com



Report No. : 200801MA-1P

TEST REPORT OF PERMANENT SET & LOADING TEST OF GULLY TOPS, MANHOLE TOPS

BS EN 124-1 : 2015

Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, N.T.

Date Received : 1-Aug-2020
Date Tested : 5-Aug-2020
Customer Code : C120
Site Code : -

Project : -

Sample Information Provided by Customer :

Sample Description : 600 x 800 clear opening x 100(H) Double Seal Cast Iron Manhole Cover & Frame
Classification : B125
Clear Opening : 600 x 800 mm

Test Results:

Lab. Sample No.	200801MA-1P/1
Customer Sample No.	-
Size of Test Block	mm 250
Permanent Set	
Applied Load (2/3 of Applied Test Load)	kN 84.2
Measured Permanent Set	mm 0.21
Loading Test	
Applied Test Load (maintained for 30 sec.)	kN 126.7
Observation	NCF
Cracks Width	mm
Compliance#	Passed
Measured Mass#	g Cover : 171.2 Frame : 108.2

Legend :
FAC -- Fracture at cover / grating
FAF -- Fracture at frame
NCF -- No Visible Fracture

Specific Requirements :

Permissible permanent set specific in BS EN 124-1 : 2015 table 5

- a) For class A15 & B125 : CO/100 or CO/50 (when CO<450mm)
- b) For class C250 to F900 (secured according to 6.6a or 6.6c) : CO/300 or 1mm max. (when CO<300mm)
- c) For class C250 to F900 (secured according to 6.6b) : CO/500 or 1mm max. (when CO<500mm)

Observation & test load specific in BS EN 124-1 : 2015 table 4

For units made of materials (a) to (c) of cl. 7, shall not show cracks in the cause of the test.

For units made of reinforced concrete, no crack wider than 0.2mm appear in the cause of the test.

Remarks :

- 1) The results apply to the sample as received.
- 2) The results relate only to the items 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) The test load and size of loading block were provided by customer.
- 5) Manufacturer: Cheung Hing Foundry (HK) Limited, Country of Origin: China, Brand: CHF

Approved By:

Tested by : K.C. Yeung
Date issued : 5-Aug-2020

☐ LEE Mei Yee, Julia (Managing Director)
☐ CHAN Leung Chor, Dennis (Laboratory Manager)

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600X800X150H Double Seal-(C250)



東恒測試顧問有限公司

AQUALITY TESTCONSULT LIMITED

香港新界粉嶺華豐路啟芳園 11A & B 號

NO.11A&B KAI FONG GARDE II, PING CHE ROAD, FANLING, N.T., HONG KONG

TEL: 852-2674-0478 FAX: 852-2674-1177

EMAIL: main.aqtl@gmail.com; EMAIL: main@aqtlgroup.com WEBSITE: www.aqtlgroup.com



Report No. : 200825MA-1P

TEST REPORT OF PERMANENT SET & LOADING TEST OF GULLY TOPS, MANHOLE TOPS

BS EN 124-1 : 2015

Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, N.T.

Date Received : 25-Aug-2020

Date Tested : 5-Sep-2020

Customer Code : C120

Site Code : -

Project : -

Sample Information Provided by Customer :

Sample Description : 600 x 800 clear opening x 150(H) Double Seal Cast Iron Manhole Cover & Frame

Classification : C250

Clear Opening : 600 x 800 mm

Test Results:

Lab. Sample No.	200825MA-1P/1
Customer Sample No.	-
Size of Test Block	mm
Permanent Set	
Applied Load (2/3 of Applied Test Load)	kN
Measured Permanent Set	mm
Loading Test	
Applied Test Load (maintained for 30 sec.)	kN
Observation	NCF
Cracks Width	mm
Compliance#	Passed
Measured Mass#	g

Legend :
FAC Fracture at cover / grating
FAF Fracture at frame
NCF No Visible Fracture

Specific Requirement :

Permissible permanent set, specific in BS EN 124-1 : 2015 table 5

- For class A15 & B125 : CO/100 or CO/20 (when CO<450mm)
- For class C250 to F300 (secured according to 6.6a or 6.6c) : CO/300 or 1mm max. (when CO<300mm)
- For class C250 to F300 (secured according to 6.6b) : CO/200 or 1mm max. (when CO<500mm)

Observation & test load, specific in BS EN 124-1 : 2015 table 4

For units made of materials a) to c) of cl. 7, shall not show cracks in the cause of the test.

For units made of reinforced concrete, no crack wider than 0.2mm appear in the cause of the test.

Remarks :

- The results apply to the sample as received.
- The results relate only to the items tested.
- The compliance of the test results to the specification is an opinion of the laboratory and is not covered under the HOKLAS accreditation.
- The test load and size of loading block were provided by customer.
- Manufacturer: Cheung Hing Foundry (HK) Limited, Country of Origin: China, Brand: CHF

Approved By:

Tested by : K.C.Yeung

Date issued : 7-Sep-2020

☐ LEE Mei Yee, Julia (Managing Director)

☒ CHAN Leung Chor, Dennis (Laboratory Manager)

675sq.100H Double Seal-(B125)

AQuality

東恒測試顧問有限公司

AQUALITY TESTCONSULT LIMITED

香港新界粉嶺平糞路啟芳園11A及B號

NO.11A&B, KAI LONG GARDE N, PING CHE ROAD, FANLING, N.T., HONG KONG

TEL: 852-674-0478 FAX: 852-2674-1177

EMAIL: main.aqtl@gmail.com; EMAIL: main@aqtlgroup.com WEBSITE: www.aqtlgroup.com



Report No. : 200925MA-1P

TEST REPORT OF PERMANENT SET & LOADING TEST OF GULLY TOPS, MANHOLE TOPS

BS EN 124-1 : 2015

Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, N.T.

Date Received : 25-Sep-2020

Date Tested : 5-Oct-2020

Customer Code : C120

Site Code : -

Project : -

Sample Information Provided by Customer :

Sample Description : 675 x 675 clear opening x 100(H) Double Seal Cast Iron Manhole Cover & Frame

Classification : B125

Clear Opening : 675 mm

Test Results:

Lab. Sample No.	200925MA-1P/1
Customer Sample No.	-
Size of Test Block	mm 250
Permanent Set	
Applied Load (2/3 of Applied Test Load)	kN 83.4
Measured Permanent Set	mm 0.33
Loading Test	
Applied Test Load (maintained for 30 sec.)	kN 126.9
Observation	NCF
Cracks Width	mm
Compliance#	Passed
Measured Mass#	kg Cover : 156.8 Frame : 95.1

Legend :
FAC -- Fracture at cover / grating
FAF -- Fracture at frame
NCF -- No Visible Fracture

Specific Requirements :

Permissible permanent set specific in BS EN 124-1 : 2015 table 5

- a) For class A15 & B125 : CO/100 or CO/20 (when CO<450mm)
- b) For class C250 to F900 (secured according to 6.6a or 6.6c) : CO/300 or 1mm max. (when CO<300mm)
- c) For class C250 to F900 (secured according to 6.6b) : CO/200 or 1mm max. (when CO<500mm)

Observation & test load specific in BS EN 124-1 : 2015 table 4

For units made of material (a) to (c) of cl. 7, shall not show cracks in the cause of the test.

For units made of reinforced concrete, no crack wider than 0.2mm appear in the cause of the test.

Remarks :

- 1) The results apply to the sample as received.
- 2) The results relate only to the items 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) The test load and size of loading block were provided by customer.
- 5) Manufacturer: Cheung Hing Foundry (HK) Limited, Country of Origin: China, Brand: CHF

Approved By:

Tested by : K.C. Yeung
Date issued : 5-Oct-2020

☐ LEE Mei Yee, Julia (Managing Director)
☒ CHAN Leung Chor, Dennis (Laboratory Manager)

Page 1 of 1
- End of report -

675sq.150H Double Seal-(C250)

AQuality

東恒測試顧問有限公司

AQUALITY TESTCONSULT LIMITED

香港新界粉嶺華豐路啟芳園 117 & B 號

NO.11A&B KAI FONG GARDEN, PING CHE ROAD, FANLING, N.T., HONG KONG

TEL: 852-2674-1478 FAX: 852-2674-1177

EMAIL: main.aqtl@gmail.com; EMAIL: main@aqtlgroup.com WEBSITE: www.aqtlgroup.com



Report No. : 200925MA-2P

TEST REPORT OF PERMANENT SET & LOADING TEST OF GULLY TOPS, MANHOLE TOPS

BS EN 124-1 : 2015

Customer : Cheung Hing Foundry (HK) Limited
Address : 299 Pak Sha Tsuen, Kung Um Road, Yuen Long, N.T.

Date Received : 25-Sep-2020

Date Tested : 5-Oct-2020

Customer Code : C120

Site Code : -

Project : -

Sample Information Provided by Customer :

Sample Description : 675 x 675 clear opening x 150(H) Double Seal Cast Iron Manhole Cover & Frame

Classification : C250

Clear Opening : 675 mm

Test Results:

Lab. Sample No.	200925MA-2P/1
Customer Sample No.	-
Size of Test Block	mm 250
Permanent Set	
Applied Load (2/3 of Applied Test Load)	kN 167.8
Measured Permanent Set	mm 0.26
Loading Test	
Applied Test Load (maintained for 30 sec.)	kN 251.3
Observation	NCF
Cracks Width	mm
Compliance#	Passed
Measured Mass#	g Cover : 225.6 Frame : 116.3

Legend :
FAC -- Fracture at cover / grating
FAF -- Fracture at frame
NCF -- No Visible Fracture

Specific Requirements :

Permissible permanent set specific in BS EN 124-1 : 2015 table 5

- a) For class A15 & B125 : CO/100 or CO/20 (when CO<450mm)
- b) For class C250 to F900 (secured according to 6.6a or 6.6c) : CO/300 or 1mm max. (when CO<300mm)
- c) For class C250 to F900 (secured according to 6.6b) : CO/200 or 1mm max. (when CO<500mm)

Observation & test load specific in BS EN 124-1 : 2015 table 4

For units made of material (a) to (c) of cl. 7, shall not show cracks in the cause of the test.

For units made of reinforced concrete, no crack wider than 0.2mm appear in the cause of the test.

Remarks :

- 1) The results apply to the sample as received.
- 2) The results relate only to the items 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) The test load and size of loading block were provided by customer.
- 5) Manufacturer: Cheung Hing Foundry (HK) Limited, Country of Origin: China, Brand: CHF

Approved By: _____

Tested by : K.C. Yeung
Date issued : 5-Oct-2020

- ☐ LEE Mei Yee, Julia (Managing Director)
- ☒ CHAN Leung Chor, Dennis (Laboratory Manager)

Page 1 of 1
- End of report -

CASTCO**佳力高試驗中心有限公司**
CASTCO TESTING CENTRE LTD.香港粉嶺安居街33號
香港粉嶺安全街29A號
E-mail: castco@citygate.com.hk
Test Certificate33, On Kui Street, Fanling, Hong Kong.
29A, On Chuen Street, Fanling, Hong Kong.
Website: www.castco.com.hkTel: 2677 2138
Fax: 2677 0351

Mass Determination & Loading Test of Manhole Covers, Gully Gratings & Kerb Overflow Weirs

[Tested to BS EN 124 : 1994, Cl. 8 (AMD 8587)]

Date of issue : 20-10-2006
Page 1 of 1 page

Castco LRN : DP260925-0624 MISCEL

Detected as supplied by client

Client : Cheung Hong Foundry Ltd.

Contract No. : --

Title : --

Client Ref. No. : --

Sample description : 550 Clear Opening x 65 Height Cast Iron Double Seal Manhole Cover & Frame

Class : A15

Laboratory Test Result

Date Received: 25-09-2006

Date Tested: 30-09-2006

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
DF260925-0624	--	--	--	--	--	--	15	Passed	N/V

Remark:

- Legend : FC - Fracture at cover FF - Fracture at frame N/V - No visible fracture.
3. Test results relate only to the specimen tested
- 4.. At client's request, measurement of permanent set was not performed.

2. Permissible permanent set as given in BS EN 124 : 1994 AMD 8587 Table 8.
- a) For class A15 and B12.5 : $\frac{CO}{50}$, OR $\frac{CO}{50}$ when CO < 50mm.
- b) For class C250 up to F900 : $\frac{CO}{30}$, OR 1mm max. when CO < 300mm.
(When secured according to 7.8a or 7.8c)
- c) For class C250 up to F900 : $\frac{CO}{50}$, OR 1mm max. when CO < 500mm.
(When secured according to 7.8b)

Checked by :

Form No. : STL Manhole_EN124_T ddt603/2004

K. N. SIT

Approved signatory :

Item no. DP0421

KEITH CHOI
C.ENG, MHKIE MICE
Laboratory Engineer

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CASTCO**佳力高試驗中心有限公司**
CASTCO TESTING CENTRE LTD.香港粉嶺安居街33號
香港粉嶺安全街29A號
E-mail: spc@castco.com
Test Certificate33, On Kui Street, Fanling, Hong Kong.
29A, On Chuen Street, Fanling, Hong Kong.
Website: www.castco.com.hkTel: 2677 2138
Fax: 2677 0351

Mass Determination & Loading Test of Manhole Covers, Gully Gratings & Kerb Overflow Weirs

[Tested to BS EN 124 : 1994, Cl. 8 (AMD 8587)]

Date of issue : 20-10-2006
Page 1 of 1 page

Castco LRN : DP260925-0625 MISCEL

Test is as stipulated by client

Client Cheung Hing Foundry Ltd.

Contract No. : --

Title : --

Sample description : 500 Clear Opening x 125 Height Cast Iron Double Seal Manhole Cover & Frame

Client Ref. No.: --
Class : C250**Laboratory Test Result**

Date Received: 25-09-2006

Date Tested: 30-09-2006

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)	Logging test result	Observation
DF260925-0625	--	--	--	--	--	--	250	Passed	N/V

Remark:

1. Legend : FC - Fracture at cover FF - Fracture at frame N/V - No visible fracture.

3. Test results relate only to the specimen tested.

4. At client's request, measurement of permanent set was not performed.

2. Permissible permanent set as given in BS EN 124 : 1994 AMD 8587 Table 8.

a) For class A15 and B125 : $\frac{CO}{100}$, OR $\frac{CO}{50}$ when CO < 450mm.b) For class C250 up to F900 : $\frac{CO}{300}$, OR 1mm max. when CO < 300mm.
(When secured according to 7.8a or 7.8c)c) For class C250 up to F900 : $\frac{CO}{500}$, OR 1mm max. when CO < 100mm.
(When secured according to 7.8b)

Checked by :

Form No. : STL Manhole_EN124_T ddt6/03/2004

K. N. SIT

Item no. DP0621b

Approved signatory :

KEITH CHOI
C.Eng., MHKIE MICE
Laboratory Engineer