300sq.100H Surface Box-(Grade A)



東恒測試顧問有限公司 AQUALITY (ES) CONSULT LIMITED

香港新界粉資坪輋凸啟 方園11A&B號

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

. 85 ?-2 574-0478 AX: 852-2574-1177

EMAIL: main.aqtl@gmail.com WEDCITE: www.aqtlgroup.com

Peport no.

200511MMA-1P

TEST REPORT

Loading Test to Cast / Ductile Iron Sur ace Pox

(Tested to BS5834 : Part 2 : 1983 Appendix A)

Chering Hing Foundry (HK) Limited

?99 Pak Sha Tsuen, Kung Um Road, Yuen Long, N.T.

Date Received : 11-May-2020

D te Tested : 14-May-2020

Customer Code

Site Code

Project

Address

Sample Info. mation Provided by Coustomer:

Sample Description

: 200 Square Ductile Iron Surface Box

rade A

Clear Opening

: 300

Test Results

1 csi Resutts	
Lab. Sample No.	2005111/1MA-1P/1
Custo per Sample No.	
Size of Ter. Block (diameter) mm	300
Loading Test	7,
Applied Test Load (maintained for 30 sec.)	233.1
Observation	NCF
Compliance#	Passed
Mass	Cover: 13.3 Frame: 13.0

Legend:

FAC -- Fracture at over / grating

-- Fracture at frame

-- No Visible Fracture

Remarks:

1) Test result related to the sample tested on y.

Manufacture. Chering Hing Foundry (HK) Limited; Country of Origin China Brand: CHF

3) Frame Type: Type 1 & Type 2.

Tested by Data issued

K.C.Yeung 22-May-2020

Approved Signatory:

Page - End of report CHAN Leung Chor, Dennis Laboratory Manager

550sq.100H Double Seal-(C250)



東恒測試配問有限公司

AQUALI7 Y 7 ESTCONSULT LIMITED 香港新界粉等 平審。 版芳園 1,A2 B 號 NO.11A&B KAI ONG GA DE 1, PING CHE ROAD, FANLING, N.T., HONG KON TEL: 852-674-478 FAY 852 2674-1177 EMAIL: mai. aqti@gi. ail.c m; E' AIL: main@aqtigroup.com WEBSITE: www.aqtigroup.com





2005 1MA-1P

TEST REPORT OF PERMANEN SET & LOADING TEST OF GUI LY TOPS, MANHOLE TOPS

BS EN 124-1: 2015

Cheung Hing Foundry (HK) Limited

299 Pak Sha Tsuen, Kung Um Road, Yuen Long, N.T. Addre.

11-May-2020 Date Received

: 14-May-2020 Date Tested

: C120 Customer Code Site ode

Project

Surve Ir jorme ion Provided by C istomer:

550 x 5.0 clear opening x 100(H) Double Seal Duc 'le Lon Manh le Cover & Frame Sample Description

550

Clear Opening Test Results

Test Resuits.		7
Lab. Sample No.		200511Mz -1P/1
Customer Sample No.		
Size of Test Block	mm	250
Permanent Set		
Applied Load (2/3 of Applied Test Load)	kN	167.8
Meas 'red Permanent Set	mm	0.27
L'adin, Test		7
A plied Test Load (ainte ned for 30 sec.)	kN	252.2
Obser /ation	ľ	NCI
C acks Width	mm	
Compliance#		Passed
Measured Mass#	tg	C ver : 66.0 Fra ne : 40.0

Legend:

Fracture at cover / grau

-- Fractore at frame

o Visit 'e Fracture

Specific Requir mer ::

Permissib1 per nanent set pecific in BS TN 124-1: 2015 table 5

- a) or class 115 & B125
- b) For cass C250 to F 00 (secured according to 6.6a or 6.6c)
- c) For class C250 to F> 0 (secured according to 6.6b)
- C(5/100 or CO/5) (when CO<450mm)
- O/2 J0 or 'mm' ma .. (when CO<300mm) 'O/2 00 o 1r in m. x. (vhen CO<500mm)

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

For units made of materials 2) to 2) of cl. 7, shall not show cracks in the cause of the test

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

Remarks :

- The results apply to the sample as received.
- The esults relate only to the items tested.
- "Compaince of the test results to the specification is an opinion of the laboratory and is not covered under the HOKLA' accreditation.
- 4) The test and and a ize of loading block were provided by instomer.
- 5) Nanufacturer: " eung Hing Foundry (HK) Limited , Country Corigin: Chin.

Tested by Date issued 15-May-2020

A pproved By:

CHAN Leung Chor, Dennis Laboratory Manager

600sq.150H Double Seal-(E60



東恒測試配問河限公司

AQUALITY TESTCONSULT LIMITED

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2005.1MA-7P

TEST REPORT OF PERMANENT SET & LOADING TEST OF GUY LY TOPS, MANHOLE TOPS

BS EN 124-1: 2015

: Cheung Hing Foundry (HK) Limited

299 Pak Sha Tsuen, Kung Um Road, Yuen Long, N.T. Addicas

11-May-2020 Date Received

14-May-2020 D. te Tested

C120 Customer Code Sinc ode

Project

S. mple It forme ion Prov. led by C istomer:

600 Eq are x 150(H) Ductile Iron Manhole Cover Sample Descrition

: E600 Clas ification Clear Opcling 600

mm

Test Results:

Lab. Sample No.		200511ML\-7P/1
Customer Sample No.		
Size of Test Block	mm	250
Permanent Set		
Applied Load (2/3 of Applied Test Load)	kN	401.3
Mea. ired Permanent Set	mm	0.63
Loadir. Test		7
A plied Test Load (vainta ned for 30 sec.)	kN	608.1
Obser /ation	T	NCF
Cacks Width	mm	
Compliance#		Passed
Measured Mass#	rg /	Ever: 83.9 Fra ne: 69.5

Legend:

Fracture at co. ar / grad

-- Fract re at frame Vo Visit le Fracture

Specific Requir mer .:

Permissible, per lanent set pecific in BS FN 124-1: 2015 table 5

a) or class A15 & 3125

C5 /100 or CO/30 (when CO<450mm) (.O/3 00 or 1 mm ma .. (when CO<300mm)

b) For class C25c to F 00 (secured according to 6.6a or 6.6c)

'O/2 00 o 1m m m. x. (vhen CO<500mm)

c) For class C250 to F200 (secured according to 6.6b) Observation & test load Specific In. BS EN 124-1: 2015 table 4

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

For . nits made of reinforced concrete, no crack wider than 0.2mm .ppea. in the cause

Remarks:

The results apply to the sample as received.

- The esults relate only to the items tested.
- 3) # Comparence of the test results to the specification is an opinion of the labe atory and is not covered under the HOKLA' accreditation.
- 4) The test and and a ze of loading block were provided by sustomer.
- 5) Manufacturer, Cleung Hing Foundry (HK) Limited , Country of Origin: China Brown: CHF

Terted by

K.C. Yeung 15-May-2020 A proved By:

CHAN Leung Chor, Dennis Laboratory Manager

Page - End of report

600X800X100 Double Seal-(D4



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2005_7MA-6P

TEST REPORT OF PERMANE. T SET & LOADING TEST OF GUI LY TOP. MANHOLE TOPS

BS EN 124-1: 2015

: Cheung Hing Foundry (HK) Limited

299 Pak Sha Tsuen, Kung Um Road, Yuen Long, N.T. Adai ss

27-May-2020 Date Receive

3-Jun-2020 Date Tested

Customer code C120

Sin Code

S. mple It jorme ion Provided by C istomer:

Sample Descrition 600 8 0 clear opening x 100(H) Double Sea. Duc'ile Cover & Frame

Cla. ification

Clear Opening 600 x 800 mm

Test Results:

Lab. Sample No.		200527M-1-6P/1
Customer Sample No.		-
Size of Test Block	mm	250
Permanent Set		
Applied Load (2/3 of Applied Test Load)	kN	267.9
Mea. ured Permanent Set	mm	0.32
Loadir. 7 Test		7
A pliec Test Load (viainte ned for 30 sec.)	kN	401.0
Obser /ation	T	NCT
Cacks Width	mm	
Compliance#		Passed
Measured Mass#	(g	Frame : 51.6

Legend:

Fracture at frame

Specific Requir :mer 1:

Permissible per nanent set specific in BS FN 124-1: 2015 table 5

- a) or class A15 & B125
- b) For c'ass C250 to F 00 (secured according to 6.6a or 6.6c)
- c) For class \$250 to F200 (secured according to 6.6b)
- C5/100 or CO/50 (when CO<450mm)
- O/3 00 or 'mn ma . (when CO<300mm) O/200 o 1r m m/x. (vhen CO<500mm)

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

For units made of material, a) to e) 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 .ppca in the caus

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 lab ratory and is not covered under the HOKLA a reditation.
- 4) The test and and a ize of loading block were provided by sustomer.
- 'anufacturer, C' eung Hing Foundry (HK) Limited , Country FOrigin: Chi.

Tested by

K.C. Yeung 4-Jun-2020 pproved By:

CHAN Leung Chor, Dennis Laboratory Manager

675sq.88H Double Seal-(B125



東恒測試配問海限公司

AQUALITY / ESTCONSULT LIMITED





2005.1MA-4P

SET & LOADING TEST OF GUI LY TOPS, MANHOLE TOPS TEST REPORT OF PERMANEN

BS EN 124-1: 2015

Cheung Hing Foundry (HK) Limited

299 Pak Sha Tsuen, Kung Um Road, Yuen Long, N.T. Addre.

11-May-2020 Date Received

: 14-May-2020 Date Tested

Customer C. de Site ode

Project

Su. vole It form ion Provided by Castomer:

: 675 x 6/5 clear opening x 88(H) Double Seal Luctile Iron Manhole Cover & Frame Sample Jescri tion

: B125 675 Clear Opening

Test Results:

200511ML -4P/1 Lab. Sample No. Customer Sample No. Size of Test Block 250 mm Permanent Set Applied Load 84.0 2/3 of Applied Test Load) kN Meas red Permanent Set 0.14 mm Ladin Test A plied Test Load kN 128.8 naint; ned for 30 sec.) Obse vation acks Width mm Compliance# Passed ver: 104.0 Measured Mass#

mm

Legend:

Fracture at cover /

-- Frace re at frame

lo Visi, le Fracture

Specific Requiremert:

Permissib e per nanent set specific in BS TN 124-1: 2015 table 5

a) For class 415 & B12

C 2 /100 or CO/29 (when CO<450mm)

b) For cass C250 to F /00 (secured according to 6.6a or 6.6c)

2O/7 00 or .mr . me . (when CO<300mm)

c) For class C250 to F>00 (secured according to 6.6b)

CO/200 c. 1r m m x. (vhen CO<500mm)

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

For units made of materials a) to e) 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.

Fra ne: 78.0

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 HOKLA, a creditation.
- The test and lize of loading block were provided by sustomer.
- 5) Vanufacturer: Cleung Hing Foundry (HK) Limited , Country Corigin: Chin.

Tested by Date issued K.C. Yeung 15-May-2020 pproved By:

CHAN Leung Chor, Dennis Laboratory Manager

Page - End of report -

675sq.102H Double Seal-(C25



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2005 1MA-2P

TEST REPORT OF PERMANEL T SET & LOADING TEST OF GUI LY TOP. MANHOLE TOPS

BS EN 124-1: 2015

: Cheung Hing Foundry (HK) Limited

299 Pak Sha Tsuen, Kung Um Road, Yuen Long, N.T. Adai

11-May-2020 Date Receive.

14-May-2020 Date Tested

Customer Code C120 Sin Code

Project

S. mple It forme ion Provided by C istomer:

675 6 5 clear opening x 102(H) Double Sea, Duc ile Cover & Frame Sample Descrition

· C250 Clas ification Clear Opening

Test Results:

Test Resuits.		AI
Lab. Sample No.		200511M.\(\frac{1}{2}-2P/1\)
Customer Sample No.		
Size of Test Block	mm	250
Permanent Set		
Applied Load (2/3 of Applied Test Load)	kN	168.1
Mea. ured Permanent Set	mm	0.31
Loadir. Test		7
A pliec Test Load (ainta ned for 30 sec.)	kN ·	254.2
Obser vation		NCT
Cacks Width	mm	
Compliance#		Passed
Measured Mass#	cg (Ver : 116.7 Fr _e me : 97.0

mm

Legend:

Fracture at co er / gra

-- Frac 're at fram

No Visi le Fracture

Specific Requir mer ::

Permissib': per nanent set specific in Bo FN 124-1: 2015 table 5

a) or clas. A15 & B125

b) For class C250 to F 00 (secured according to 6.6a or 6.6c)

c) For class <250 to F200 (secured according to 6.6b)

C(1/100 or CO/5) (when CO<450mm) O/3 J0 or mr ma (when CO<300mm) CO/. 00 o 1r .n n. x. (vhen CO<500mm)

Observation & test load . pecific ... BS EN 124-1: 2015 table 4

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

For mits made of reinforced concrete, no crack wider than 0.2mm procinithe cause

Remarks

- The results apply to the sample as received.
- 2) The results relate only to the items tested.
- # Compliance of the test results to the specification is an opinion of the lab ratory and so not covered under the HOKLA*. Creditation.
- 4) The test and and ize of loading block were provided by austomer.
- . 'anufacturer. C' eung Hing Foundry (HK) Limitea Country of Origin: Chi. a : Brand : CHF

Tested by

K.C. Yeung 15-May-2020 pproved By:

CHAN Leung Chor, Dennis Laboratory Manager

Page - End of report

675sq.150H Double Seal-(E60



東恒測試配問有限公司

AQUALITY TESTCONSULT LIMITED

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2005 IMA-3P

TEST REPORT OF PERMANENT SET & LOADING TEST OF GUI LY TOPS, MANHOLE TOPS

BS EN 124-1: 2015

: Cheung Hing Foundry (HK) Limited

299 Pak Sha Tsuen, Kung Um Road, Yuen Long, N.T. Addicas

11-May-2020 Date Received

14-May-2020 L. te Tested

Customer Code C120 Sin Code

Project

S. role It forme ion Prov. led by C istomer:

675 . 6 5 clear opening x 150(H) Double Seal Duc ile on Mani ole Cover & Frame Sample Descrition

: E600 Clas ification

> 675 mm

Clear Opcling Test Results:

	200511M3P/1
mm	250
kN	400.9
mm	0.41
kN	602.1
ľ	NC.
mm	
	Passed
(g	ε ver : 140.6 Frε ne : 89.7
	kN mm

Legend:

Fracture at co or / gra

-- Fractire at frame

No Visi le Fracture

Specific Requir mer ::

Permissible per nanent set specific in BS FN 124-1: 2015 table 5

- a) or class A15 & B125
- b) For class C250 to Ff 00 (secured according to 6.6a or 6.6c)
- c) For class C250 to F200 (secured according to 6.6b)
- C'1/100 or CO/59 (when CO<450mm)
- O/3 JO or mr ma (when CO<300mm)
- CO/, 00 c 1r m m. x. (vhen CO<500mm)

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

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

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

Remarks:

- The results apply to the sample as received.
- The results relate only to the items tested.
- # Comp. ance of the test results to the specification is an opinion of the laboratory and is not covered under the HOKLA' a creditation.
- The test and and are of loading block were provided by sustomer.
- 5) Manufacturer. " eung Hing Foundry (HK) Limitea , Country of Origin: Chi. " Brand : CHF

Tested by

K.C. Yeung 15-May-2020 pproved By:

CHAN Leung Chor, Dennis Laboratory Manager

675sq.150H Double Trianglar-(E60



東恒測試配問有限公司

AQUALITY TESTCONSULT LIMITED

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2005 1MA-5P

TEST REPORT OF PERMANENT SET & LOADING TEST OF GUI LY TOPS, MANHOLE TOPS

BS EN 124-1: 2015

: Cheung Hing Foundry (HK) Limited

299 Pak Sha Tsuen, Kung Um Road, Yuen Long, N.T. Addies

11-May-2020 Date Received

: 21-May-2020 D. te Tested

: C120 Customer Code Site ode

Project

Sa. role It forme ion Prov. od by (istomer :

675 . 6/5 clear opening x 150 (H) Double Tranguar D cti e Iro. Mi nhole Cover & Frame Sample Jescri tion

Clas. fication

Clear Ope. ing 675

mm

Test Results:

Test Results.		A
Lab. Sample No.		200511M5P/1
Customer Sample No.		
Size of Test Block	mm	250
Permanent Set		
Applied Load (2/3 of Applied Test Load)	kN	401.7
Mea. ired Permanent Set	mm	0.31
Loadir. Test		
A pliec Test Load (naints ned for 30 sec.)	kN	603.0
Obse vation	T	NCF
C acks Width	mm	
Compliance#		Passed
Measured Mass#	(g	Cever : 119.0 Frame : 62.0

Legend:

Fracture at co er

No Visi le Fracture

Specific Requir emer c:

Permissib's per nanent set specific in BS TN 124-1: 2015 table 5

a) For class A15 & B12f

C 1/100 or CO/30 (when CO<450mm)

b) For class C25. to F 00 (secured according to 6.6a or 6.6c)

20/7 J0 or mr ma. (when CO<300mm) CO/. 00 c 1r m m/x. (vhen CO<500mm)

c) For class C250 to F200 (secured according to 6.6b)

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

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

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

Remarks

- The results apply to the sample as received.
- The results relate only to the items tested.
- # Comp. ance of the test results to the specification is an opinion of the laboratory and is not covered under the HOKLA' a creditation.
- 4) The test and and ize of loading block were provided by sustomer.
- 5) Anufacturer, Cleung Hing Foundry (HK) Limited , Country of Origin: Chi.

Tested by Date issued 22-May-2020

pproved By:

CHAN Leung Chor, Dennis Laboratory Manager

750X900X150H Double Seal-(D40



東恒測試顧問河限公司

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aqtl@gr. ail.c m; Ef AIL: main@aqtlgroup.com WEBSITE: www.aqtlgroup.com





TEST REPORT

PERMANENT SET & LOADING TEST OF MANHOLE COVERS, GULLY GRATINGS

3S EN 124-1: 2015

Custor er Cou

: C120

Report No

220225MA-1P

Date of Re pived

25-February-2022

Date of Naport

25-February-2022

Date of Test

25-February-2022

of

*Cusi mer & Samr e Information

Cu tomer

Cheung Hing Foundry (HK) Limited

Address

299 Pak Sha Tsuen, Kung Um Road, Yoon Long, N.T.

Project

Sample Description

750 x 900 clear opening x 150(H) Druble Shal Ductile Iron Manhole Cover & Frame

Supplier

Cheung Hing Foundry (HK) Limited

Classification

Clear Opening

: 750mm

: 750 x 900mm

Laboratory Information

Tes Lo ation

: Ping Che Main ab

Ambient Temperature

Tes. Results

Test rest is			
Lab. 5 ampl + I.D.		220z25***-1P/1	
*Cus omer Sample I.D.	4	1	á
Size of Test Block	(mm)	250	1
	Fermaner	nt Se'	
Applied Load (2/3 of Applied Test Load	d (m 1)	267.02	
Measured Permanent Set	'mm,	0.21	-
	Locding 1	Test	
Applied Load (Maintai led for 20 sec.)	(kN)	401.25	
Cracks Width	(mm)		
^Observation		NCF	N N
Compliance		Passed	7
^ Legend			1

Remarks :

FAC

FAF

- 1. * Information previded by customer.
- The results relate or 'v to the 'tems tested.
- Textesure apply to the cample as received.

Fracture at Cover / Graing Fracture at Frame

No Visible Fracture

- Manufacturer: Cheung Hing Foundry (HK) Limited, Country or Origin: China, Brand
- 5 Ma s of Cover: 14, 6 Kg; Mass of Frame: 115.3 Kg.

pproved By

LEE Mei Yee, Julia (Managing Director)

☐ CHAN Leung Chor, Dennis (Senior Manager)

WU Cheuk Kit (Operation Manager)

MAN 2-001aR

- End of Report-

Issue No.1 on 18 March 2021