

Unit B, 13/F., Universal Ind. Ctr., 23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Hong Kong.

Tel: (852) 2605 5736 Fax: (852) 2692 0798

#### TEST REPORT

TITLE

Testing of Pipe Clip

OUR REFERENCE NO.

J8861-1

DESCRIPTION OF SAMPLE

Ø32mm (11/4") Stainless steel pipe clip supplied with plastic wall filling device; for BS5255 uPVC/plastic drain pipe; dimensions: 15mm width x 2.5mm thick ring; with Ø9mm support stem electrically welded onto the ring; with 3/16" x 5/8" screws and nuts.

SAMPLE SUBMITTED BY

Cheung's Engineering Co. G/F., 90 Tak Cheong Street. Kowloon, Hong Kong.

MANUFACTURER

Cheung's Engineering Co.

BRAND / LOGO

Pipe Clips-

COUNTRY OF ORIGIN

China

**TEST REQUIRED** 

Loading test

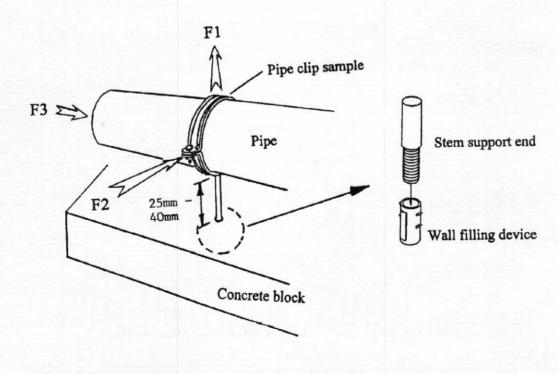
PERIOD OF TESTS

20th to 24th January 2003

RESULTS. -

LOADING TEST

- 1. A concrete block made of concrete mix grade 30D10 (cement to BS12: 1978 and Aggregate to BS882: 1973) was prepared and used for the loading test.
- 2. The plastic wall filling device was connected to the end of a new pipe clip's support stem.





Unit B, 13/F., Universal Ind. Ctr., 23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Hong Kong.

Tel: (852) 2605 5736 Fax: (852) 2692 0798

### TEST REPORT

### OUR REFERENCE NO.J8861-1 (P.2)

- 3. The concrete block was secured to the loading test frame. A hole was drilled on the concrete block; the pipe clip's support stem was hammered into the hole. An uPVC drain pipe of BS5255 was connected to the pipe clip.
- 4. The vertical pulling force F1 applied to detach the pipe clip from the concrete block was measured.
- 5. Steps 1 to 3 were repeated. A horizontal force **F2** applied to the pipe clip (perpendicular to the pipe axis) to result in a 20mm horizontal deflection was measured.
- 6. Steps 1 to 3 were repeated. A horizontal force **F3** acting on the pipe along its longitudinal axis to slip the pipe from the pipe clip by 20mm was measured.

#### 7. Result:

Vertical force F1 to detach the pipe clip from the concrete block	Horizontal force F2 to result in a 20mm horizontal deflection	Horizontal force <b>F3</b> to slip the pipe by 20mm
(kgf)	(kgf)	(kgf)
260	229.4	183.5

Date: 15th February 2003 Authorized signature:

Nutck Systems is a testing agency, approved by the Water Authority and Government Supplies Department, for testing water supply fittings.

Samson W.K. Yiu



Unit B, 13/F., Universal Ind. Ctr., 23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Hong Kong.

Tel: (852) 2605 5736 Fax: (852) 2692 0798

#### TEST REPORT

TITLE Testing of Pipe Clip

OUR REFERENCE NO. J8861-2

Ø40mm (1½") Stainless steel pipe clip supplied with plastic wall filling device; for BS5255 uPVC/plastic drain pipe; dimensions: DESCRIPTION OF SAMPLE

15mm width x 2.5mm thick ring; with Ø9mm support stem electrically welded onto the ring; with 3/16" x 5/8" screws and nuts.

SAMPLE SUBMITTED BY Cheung's Engineering Co.

G/F., 90 Tak Cheong Street,

Kowloon, Hong Kong.

Cheung's Engineering Co. MANUFACTURER

BRAND / LOGO

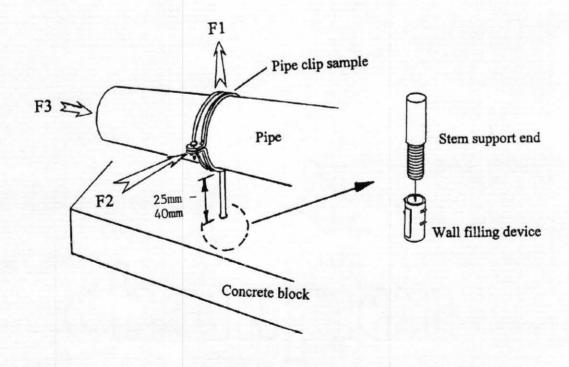
COUNTRY OF ORIGIN China

**TEST REQUIRED** Loading test

20th to 24th January 2003 PERIOD OF TESTS

**RESULTS: -**LOADING TEST

1. A concrete block made of concrete mix grade 30D10 (cement to BS12: 1978 and Aggregate to BS882: 1973) was prepared and used for the loading test.





Unit B, 13/F., Universal Ind. Ctr., 23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Hong Kong.

Tel: (852) 2605 5736 Fax: (852) 2692 0798

### TEST REPORT

### OUR REFERENCE NO.J8861-2 (P.2)

- 3. The concrete block was secured to the loading test frame. A hole was drilled on the concrete block; the pipe clip's support stem was hammered into the hole. An uPVC drain pipe of BS5255 was connected to the pipe clip.
- 4. The vertical pulling force F1 applied to detach the pipe clip from the concrete block was measured.
- 5. Steps 1 to 3 were repeated. A horizontal force **F2** applied to the pipe clip (perpendicular to the pipe axis) to result in a 20mm horizontal deflection was measured.
- 6. Steps 1 to 3 were repeated. A horizontal force **F3** acting on the pipe along its longitudinal axis to slip the pipe from the pipe clip by 20mm was measured.

### 7. Result:

Vertical force F1 to detach the pipe clip from the concrete block	Horizontal force <b>F2</b> to result in a 20mm horizontal deflection	Horizontal force <b>F3</b> to slip the pipe by 20mm
(kgf)	(kgf)	(kgf)
260	244.7	168.2

Date: 15th February 2003

\_Authorized signature:

Nutek Systems is a testing agency, approved by the Water Authority and Government Supplies Department, for testing water supply fittings.

Samson W.K. Yiu



Unit B, 13/F., Universal Ind. Ctr., 23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Hong Kong.

Tel: (852) 2605 5736 Fax: (852) 2692 0798

### TEST REPORT

TITLE : Testing of Pipe Clip

OUR REFERENCE NO. : J8861-3

DESCRIPTION OF SAMPLE : Ø50mm (2") Stainless steel pipe clip supplied with plastic wall filling device; for BS5255 uPVC/plastic drain pipe; dimensions:

18mm width x 2.5mm thick ring; with Ø9mm support stem electrically welded onto the ring; with ¼" x ¾" screws and nuts.

SAMPLE SUBMITTED BY : Cheung's Engineering Co.

G/F., 90 Tak Cheong Street,

Kowloon, Hong Kong.

MANUFACTURER : Cheung's Engineering Co.

BRAND/LOGO :

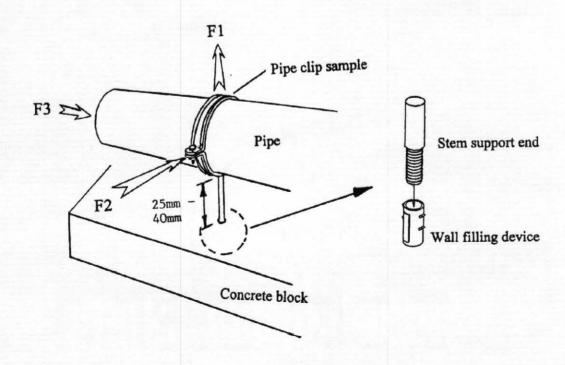
COUNTRY OF ORIGIN : China

TEST REQUIRED : Loading test

PERIOD OF TESTS : 20<sup>th</sup> to 24<sup>th</sup> January 2003

RESULTS: -LOADING TEST

1. A concrete block made of concrete mix grade 30D10 (cement to BS12: 1978 and Aggregate to BS882: 1973) was prepared and used for the loading test.





# NUTEK SYSTEMS, LTD. Unit B, 13/F., Universal 23-25 Shan Mei Street,

Unit B, 13/F., Universal Ind. Ctr., Fo Tan, Shatin, N.T., Hong Kong.

Tel: (852) 2605 5736 Fax: (852) 2692 0798

### TEST REPORT

### OUR REFERENCE NO.J8861-3 (P.2)

- 3. The concrete block was secured to the loading test frame. A hole was drilled on the concrete block; the pipe clip's support stem was hammered into the hole. An uPVC drain pipe of BS5255 was connected to the pipe clip.
- 4. The vertical pulling force F1 applied to detach the pipe clip from the concrete block was measured.
- 5. Steps 1 to 3 were repeated. A horizontal force F2 applied to the pipe clip (perpendicular to the pipe axis) to result in a 20mm horizontal deflection was measured.
- 6. Steps 1 to 3 were repeated. A horizontal force F3 acting on the pipe along its longitudinal axis to slip the pipe from the pipe clip by 20mm was measured.

#### 7. Result:

Vertical force F1 to detach the pipe clip from the concrete block	Horizontal force <b>F2</b> to result in a 20mm horizontal deflection	Horizontal force <b>F3</b> to slip the pipe by 20mm
(kgf)	(kgf)	(kgf)
260	198.8	290.6

Date: 15th February 2003

Authorized signature:

Nutek Systems is a testing agency, Water Authority and Government Supplies Department, for testing water supply fittings.

Samson W.K. Yiu



Unit B, 13/F., Universal Ind. Ctr., 23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Hong Kong.

Tel: (852) 2605 5736 Fax: (852) 2692 0798

#### TEST REPORT

TITLE Testing of Pipe Clip

OUR REFERENCE NO. J8861-4

DESCRIPTION OF SAMPLE

Ø65mm (2½") Stainless steel pipe clip supplied with plastic wall filling device; for BS4514 uPVC/plastic drain pipe; dimensions: 18mm width x 2.5mm thick ring; with Ø9mm support stem electrically welded onto the ring; with ¼" x ¾" screws and nuts.

SAMPLE SUBMITTED BY Cheung's Engineering Co.

G/F., 90 Tak Cheong Street,

Kowloon, Hong Kong.

**MANUFACTURER** Cheung's Engineering Co.

BRAND / LOGO

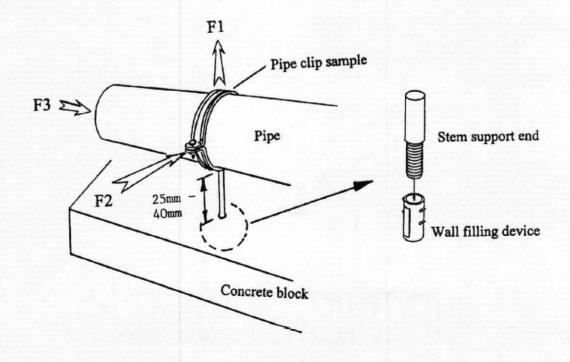
Pipe Clips-COUNTRY OF ORIGIN China

**TEST REQUIRED** Loading test

20th to 24th January 2003 PERIOD OF TESTS

RESULTS: -LOADING TEST

1. A concrete block made of concrete mix grade 30D10 (cement to BS12: 1978 and Aggregate to BS882: 1973) was prepared and used for the loading test.





Unit B, 13/F., Universal Ind. Ctr., 23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Hong Kong.

Tel: (852) 2605 5736 Fax: (852) 2692 0798

### TEST REPORT

### OUR REFERENCE NO. J8861-4 (P.2)

- 3. The concrete block was secured to the loading test frame. A hole was drilled on the concrete block; the pipe clip's support stem was hammered into the hole. An uPVC drain pipe of BS4514 was connected to the pipe clip.
- 4. The vertical pulling force F1 applied to detach the pipe clip from the concrete block was measured.
- 5. Steps 1 to 3 were repeated. A horizontal force **F2** applied to the pipe clip (perpendicular to the pipe axis) to result in a 20mm horizontal deflection was measured.
- 6. Steps 1 to 3 were repeated. A horizontal force **F3** acting on the pipe along its longitudinal axis to slip the pipe from the pipe clip by 20mm was measured.

#### 7. Result:

Vertical force F1 to detach the pipe clip from the concrete block	Horizontal force <b>F2</b> to result in a 20mm horizontal deflection	Horizontal force <b>F3</b> to slip the pipe by 20mm
(kgf)	(kgf)	(kgf)
260	229.4	137.6

Date: 15th February 2003 Authorized signature:

Samson W.K. Yiu

Nutek Systems is a testing agency, approved by the Water Authority and Government Supplies Department, for testing water supply fittings.



Unit B, 13/F., Universal Ind. Ctr., 23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Hong Kong.

Tel: (852) 2605 5736 Fax: (852) 2692 0798

#### TEST REPORT

TITLE Testing of Pipe Clip

OUR REFERENCE NO. J8861-5

DESCRIPTION OF SAMPLE

Ø80mm (3") Stainless steel pipe clip supplied with plastic wall filling device; for BS4514 uPVC/plastic drain pipe; dimensions: 18mm width x 2.5mm thick ring; with Ø9mm support stem electrically welded onto the ring; with ¼" x ¾" screws and nuts.

SAMPLE SUBMITTED BY Cheung's Engineering Co.

G/F., 90 Tak Cheong Street, Kowloon, Hong Kong.

Cheung's Engineering Co. MANUFACTURER

BRAND / LOGO

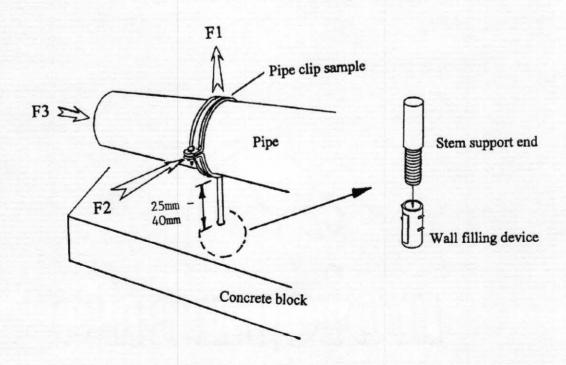
Pipe Clips. COUNTRY OF ORIGIN China

**TEST REQUIRED** Loading test

20th to 24th January 2003 PERIOD OF TESTS

**RESULTS: -**LOADING TEST

1. A concrete block made of concrete mix grade 30D10 (cement to BS12: 1978 and Aggregate to BS882: 1973) was prepared and used for the loading test.





## NUTEK SYSTEMS, LTD. Unit B, 13/F., Universal 23-25 Shan Mei Street,

Fo Tan, Shatin, N.T., Hong Kong. Tel: (852) 2605 5736 Fax: (852) 2692 0798

#### TEST REPORT

### OUR REFERENCE NO. J8861-5 (P.2)

- 3. The concrete block was secured to the loading test frame. A hole was drilled on the concrete block; the pipe clip's support stem was hammered into the hole. An uPVC drain pipe of BS4514 was connected to the pipe clip.
- 4. The vertical pulling force F1 applied to detach the pipe clip from the concrete block was measured.
- 5. Steps 1 to 3 were repeated. A horizontal force F2 applied to the pipe clip (perpendicular to the pipe axis) to result in a 20mm horizontal deflection was measured.
- 6. Steps 1 to 3 were repeated. A horizontal force F3 acting on the pipe along its longitudinal axis to slip the pipe from the pipe clip by 20mm was measured.

#### 7. Result:

Vertical force F1 to detach the pipe clip from the concrete block	Horizontal force <b>F2</b> to result in a 20mm horizontal deflection	Horizontal force <b>F3</b> to slip the pipe by 20mm
(kgf)	(kgf)	(kgf)
260	152.9	214.1

Date: 15th February 2003 Authorized signature:

Samson W.K. Yiu

(Director)

approved by the Water Authority and Government Supplies Department, for

testing water supply fittings.



23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Hong Kong.

Tel: (852) 2605 5736 Fax: (852) 2692 0798

#### TEST REPORT

TITLE Testing of Pipe Clip

OUR REFERENCE NO. J8861-6

DESCRIPTION OF SAMPLE

Ø100mm (4") Stainless steel pipe clip supplied with plastic wall filling device; for BS4514 uPVC/plastic drain pipe; dimensions:

19mm width x 3mm thick ring, with Ø9mm support stem electrically welded onto the ring, with ¼" x ¾" screws and nuts.

SAMPLE SUBMITTED BY Cheung's Engineering Co.

G/F., 90 Tak Cheong Street, Kowloon, Hong Kong.

Pipe Clips-

MANUFACTURER Cheung's Engineering Co.

BRAND/LOGO

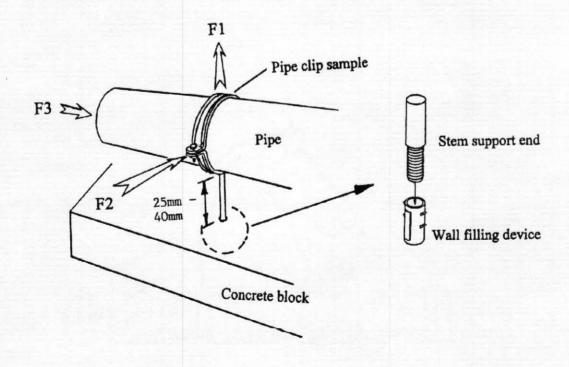
COUNTRY OF ORIGIN

**TEST REQUIRED** Loading test

20th to 24th January 2003 PERIOD OF TESTS

RESULTS: -LOADING TEST

1. A concrete block made of concrete mix grade 30D10 (cement to BS12: 1978 and Aggregate to BS882: 1973) was prepared and used for the loading test.





Unit B, 13/F., Universal Ind. Ctr., 23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Hong Kong.

Tel: (852) 2605 5736 Fax: (852) 2692 0798

### TEST REPORT

### OUR REFERENCE NO. J8861-6 (P.2)

- 3. The concrete block was secured to the loading test frame. A hole was drilled on the concrete block; the pipe clip's support stem was hammered into the hole. An uPVC drain pipe of BS4514 was connected to the pipe clip.
- 4. The vertical pulling force F1 applied to detach the pipe clip from the concrete block was measured.
- 5. Steps 1 to 3 were repeated. A horizontal force **F2** applied to the pipe clip (perpendicular to the pipe axis) to result in a 20mm horizontal deflection was measured.
- 6. Steps 1 to 3 were repeated. A horizontal force **F3** acting on the pipe along its longitudinal axis to slip the pipe from the pipe clip by 20mm was measured.

#### 7. Result:

Vertical force F1 to detach the pipe clip from the concrete block	Horizontal force <b>F2</b> to result in a 20mm horizontal deflection	Horizontal force <b>F3</b> to slip the pipe by 20mm
(kgf)	(kgf)	(kgf)
260	137.6	260.0

Date: 15th February 2003

Authorized signature :

Nutek Systems is a testing agency, approved by the Water Authority and Government Supplies Department, for testing water supply fittings.

Samson W.K. Yiu



Unit B, 13/F., Universal Ind. Ctr., 23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Hong Kong.

Tel: (852) 2605 5736 Fax: (852) 2692 0798

#### TEST REPORT

TITLE Testing of Pipe Clip

OUR REFERENCE NO. J8861-7

DESCRIPTION OF SAMPLE

Ø100mm (4") Stainless steel pipe clip supplied with plastic wall filling device; for BS4514 uPVC/plastic drain pipe; dimensions: 19mm width x 3mm thick ring; with Ø12mm support stem electrically welded onto the ring; with ¼" x ¾" screws and nuts.

SAMPLE SUBMITTED BY Cheung's Engineering Co.

G/F., 90 Tak Cheong Street,

Kowloon, Hong Kong.

**MANUFACTURER** Cheung's Engineering Co.

BRAND / LOGO Pipe Clips-

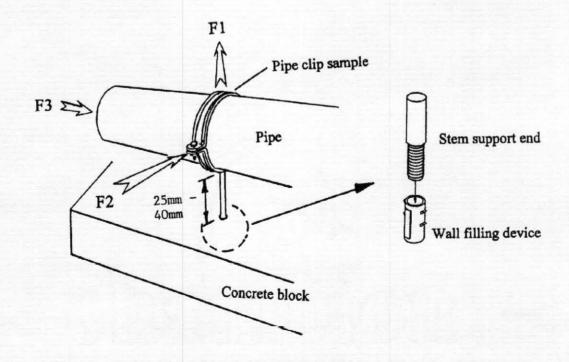
COUNTRY OF ORIGIN China

TEST REQUIRED Loading test

20th to 24th January 2003 PERIOD OF TESTS

RESULTS: -LOADING TEST

1. A concrete block made of concrete mix grade 30D10 (cement to BS12: 1978 and Aggregate to BS882: 1973) was prepared and used for the loading test.





Unit B, 13/F., Universal Ind. Ctr., 23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Hong Kong. Tel: (852) 2605 5736 Fax: (852) 2692 0798

#### TEST REPORT

### OUR REFERENCE NO. J8861-7 (P.2)

- 3. The concrete block was secured to the loading test frame. A hole was drilled on the concrete block; the pipe clip's support stem was hammered into the hole. An uPVC drain pipe of BS4514 was connected to the pipe clip.
- 4. The vertical pulling force F1 applied to detach the pipe clip from the concrete block was measured.
- 5. Steps 1 to 3 were repeated. A horizontal force F2 applied to the pipe clip (perpendicular to the pipe axis) to result in a 20mm horizontal deflection was measured.
- 6. Steps 1 to 3 were repeated. A horizontal force F3 acting on the pipe along its longitudinal axis to slip the pipe from the pipe clip by 20mm was measured.

#### 7. Result:

Vertical force F1 to detach the pipe clip from the concrete block	Horizontal force <b>F2</b> to result in a 20mm horizontal deflection	Horizontal force <b>F3</b> to slip the pipe by 20mm
(kgf)	(kgf)	(kgf)
380	137.6	260.0

Date: 15th February 2003 Authorized signature:

Nutek Systems is a testing agency, approved by the Water Authority and Government Supplies Department, for testing water supply fittings. Samson W.K. Yiu



Unit B, 13/F., Universal Ind. Ctr., 23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Hong Kong.

Tel: (852) 2605 5736 Fax: (852) 2692 0798

### TEST REPORT

TITLE

Testing of Pipe Clip

OUR REFERENCE NO.

J8861-8

DESCRIPTION OF SAMPLE

 $\emptyset$ 150mm (6") Stainless steel pipe clip supplied with plastic wall filling device; for BS4514 uPVC/plastic drain pipe; dimensions: 19mm width x 3mm thick ring; with  $\emptyset$ 12mm support stem electrically welded onto the ring; with  $\frac{1}{4}$ " x  $\frac{3}{4}$ " screws and nuts.

SAMPLE SUBMITTED BY

Cheung's Engineering Co. G/F., 90 Tak Cheong Street, Kowloon, Hong Kong.

MANUFACTURER

Cheung's Engineering Co.

BRAND / LOGO

Pipe Clips-

COUNTRY OF ORIGIN

China

TEST REQUIRED

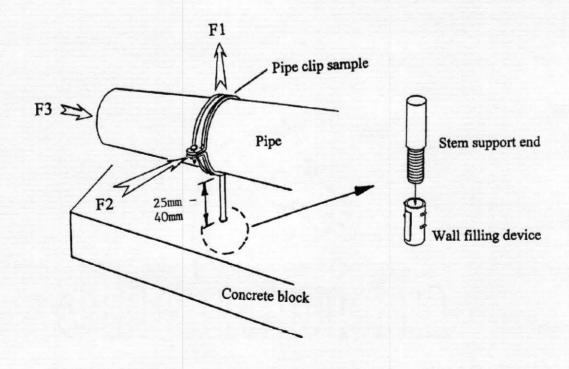
Loading test

PERIOD OF TESTS

20<sup>th</sup> to 24<sup>th</sup> January 2003

RESULTS: -LOADING TEST

- 1. A concrete block made of concrete mix grade 30D10 (cement to BS12: 1978 and Aggregate to BS882: 1973) was prepared and used for the loading test.
- 2. The plastic wall filling device was connected to the end of a new pipe clip's support stem.





Unit B, 13/F., Universal Ind. Ctr., 23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Hong Kong.

Tel: (852) 2605 5736 Fax: (852) 2692 0798

### TEST REPORT

### OUR REFERENCE NO. J8861-8 (P.2)

- 3. The concrete block was secured to the loading test frame. A hole was drilled on the concrete block; the pipe clip's support stem was hammered into the hole. An uPVC drain pipe of BS4514 was connected to the pipe clip.
- 4. The vertical pulling force F1 applied to detach the pipe clip from the concrete block was measured.
- 5. Steps 1 to 3 were repeated. A horizontal force **F2** applied to the pipe clip (perpendicular to the pipe axis) to result in a 20mm horizontal deflection was measured.
- 6. Steps 1 to 3 were repeated. A horizontal force **F3** acting on the pipe along its longitudinal axis to slip the pipe from the pipe clip by 20mm was measured.

#### 7. Result:

Vertical force F1 to detach the pipe clip from the concrete block	Horizontal force <b>F2</b> to result in a 20mm horizontal deflection	Horizontal force <b>F3</b> to slip the pipe by 20mm
(kgf)	(kgf)	(kgf)
380	122.3	183.5

Date: 15th February 2003 Authorized signature:

Nutck Systems is a testing agency, approved by the Water Authority and Government Supplies Department, for testing water supply fittings.

Samson W.K. Yiu