NUTEK SYSTEMS, LTD.

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
E-mail: nutek@nuteksystems.com

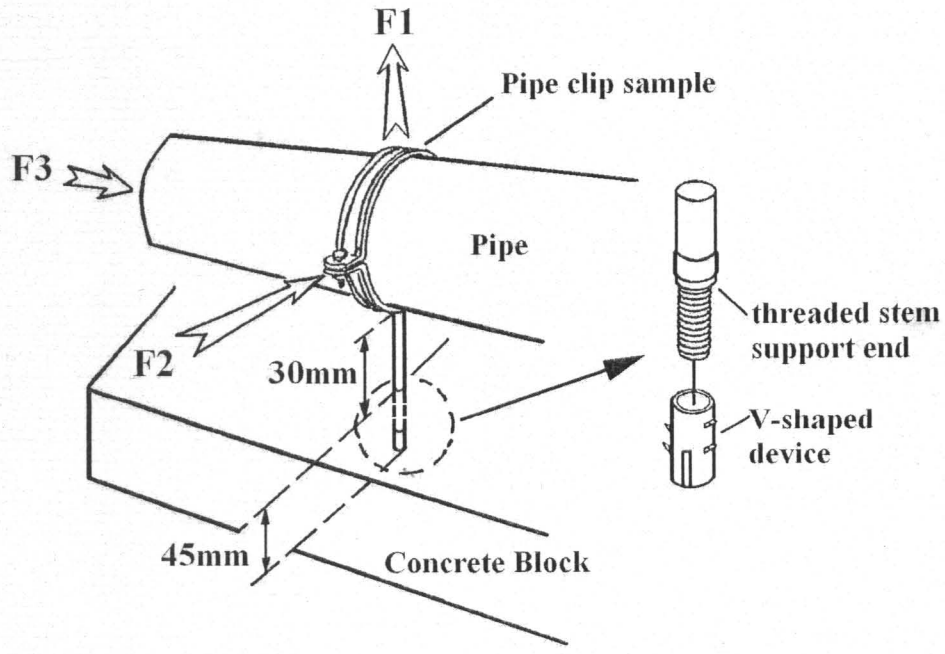
TEST REPORT

TITLE	:	Testing of New Patented Applied V-Shaped Tail Pipe Clip
OUR REFERENCE NO.	:	J13543-1
DESCRIPTION OF SAMPLE	:	Ø15mm (½") Stainless steel pipe clip supplied with plastic V-shaped tail device; for BSEN1057 copper tube; 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. (Factory confirmed that M5x15mm screws and nuts are also available) Patent No.: ZL2007 2 0183080.4
SAMPLE SUBMITTED BY	:	Cheung's Engineering Co. G/F., 90 Tak Cheong Street, Kowloon, Hong Kong. (web-site : http://www.pipe-clips.com)
MANUFACTURER	:	Cheung's Engineering Co.
BRAND / LOGO	:	
COUNTRY OF ORIGIN	:	China
TEST REQUIRED	:	Loading test
PERIOD OF TESTS	:	14th April to 14th May 2009

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 V-shaped tail device was connected to the end of a new pipe clip's support stem.



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TEST REPORT

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. The pipe clip was further screwed into the hole until it was hand-tight; the length of the concealed part of the support stem was now about 40mm to 50mm. A 15mm hot water copper tube was then clamped by 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 (kgf)	Horizontal force **F2** to result in a 20mm horizontal deflection (kgf)	Horizontal force **F3** to slip the pipe by 20mm (kgf)
280	220	68

Date : 4th June 2009 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

(Director)

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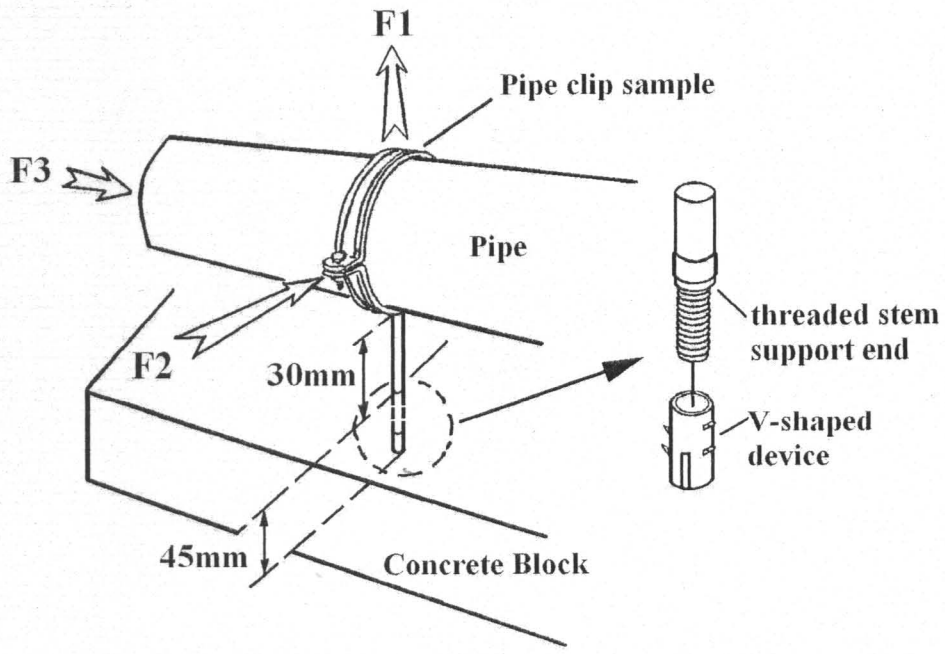
TEST REPORT

TITLE	:	Testing of New Patented Applied V-Shaped Tail Pipe Clip
OUR REFERENCE NO.	:	J13543-2
DESCRIPTION OF SAMPLE	:	Ø20mm (¾") Stainless steel pipe clip supplied with plastic V-shaped tail device; for BSEN1057 copper tube; 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. (Factory confirmed that M5x15mm screws and nuts are also available) Patent No.: ZL2007 2 0183080.4
SAMPLE SUBMITTED BY	:	Cheung's Engineering Co. G/F., 90 Tak Cheong Street, Kowloon, Hong Kong. (web-site : http://www.pipe-clips.com)
MANUFACTURER	:	Cheung's Engineering Co.
BRAND / LOGO	:	
COUNTRY OF ORIGIN	:	China
TEST REQUIRED	:	Loading test
PERIOD OF TESTS	:	14th April to 14th May 2009

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 V-shaped tail device was connected to the end of a new pipe clip's support stem.



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TEST REPORT

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. The pipe clip was further screwed into the hole until it was hand-tight; the length of the concealed part of the support stem was now about 40mm to 50mm. A 20mm hot water copper tube was then clamped by 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 (kgf)	Horizontal force **F2** to result in a 20mm horizontal deflection (kgf)	Horizontal force **F3** to slip the pipe by 20mm (kgf)
280	210	53

Date : 4th June 2009 Authorized signature : _____

Samson W.K. Yiu

(Director)

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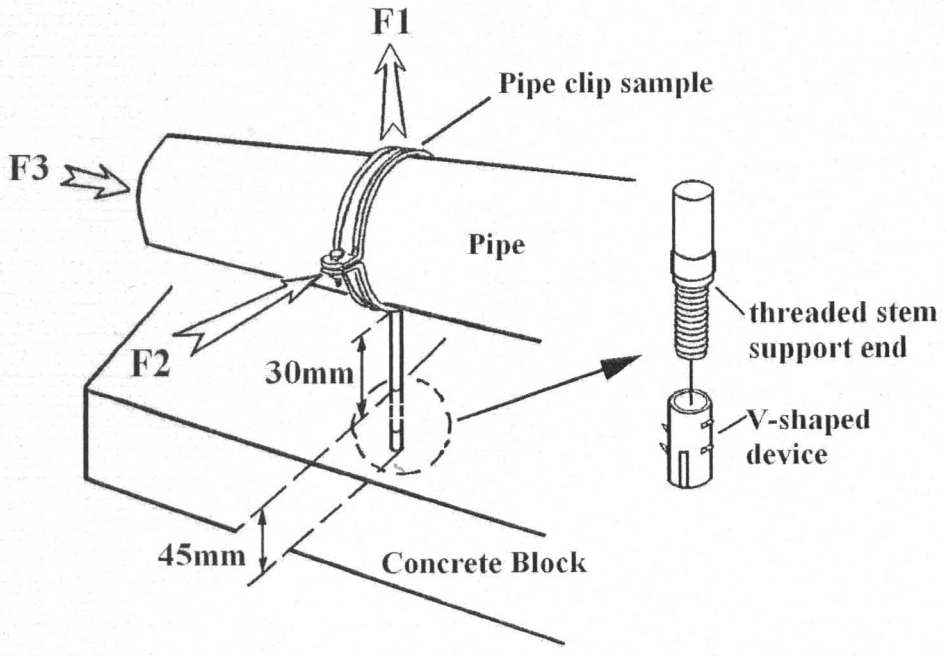
TEST REPORT

TITLE	:	Testing of New Patented Applied V-Shaped Tail Pipe Clip
OUR REFERENCE NO.	:	J13543-3
DESCRIPTION OF SAMPLE	:	Ø28mm (1") Stainless steel pipe clip supplied with plastic V-shaped tail device; for BSEN1057 copper tube; 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. (Factory confirmed that M5x15mm screws and nuts are also available) Patent No.: ZL2007 2 0183080.4
SAMPLE SUBMITTED BY	:	Cheung's Engineering Co. G/F., 90 Tak Cheong Street, Kowloon, Hong Kong. (web-site : http://www.pipe-clips.com)
MANUFACTURER	:	Cheung's Engineering Co.
BRAND / LOGO	:	
COUNTRY OF ORIGIN	:	China
TEST REQUIRED	:	Loading test
PERIOD OF TESTS	:	14th April to 14th May 2009

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 V-shaped tail device was connected to the end of a new pipe clip's support stem.



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TEST REPORT

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. The pipe clip was further screwed into the hole until it was hand-tight; the length of the concealed part of the support stem was now about 40mm to 50mm. A 28mm hot water copper tube was then clamped by 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 (kgf)	Horizontal force **F2** to result in a 20mm horizontal deflection (kgf)	Horizontal force **F3** to slip the pipe by 20mm (kgf)
280	188	97

Date : 4th June 2009 Authorized signature : _____

Samson W.K. Yiu

(Director)

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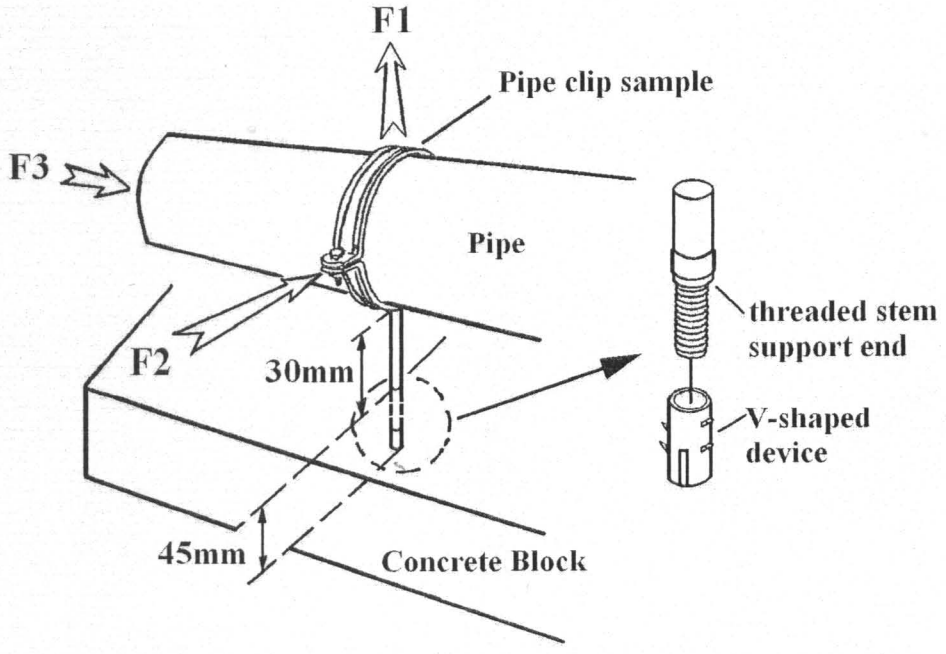
TEST REPORT

TITLE	:	Testing of New Patented Applied V-Shaped Tail Pipe Clip
OUR REFERENCE NO.	:	J13543-4
DESCRIPTION OF SAMPLE	:	Ø35mm (1¼") Stainless steel pipe clip supplied with plastic V-shaped tail device; for BSEN1057 copper tube; 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. (Factory confirmed that M5x15mm screws and nuts are also available) Patent No.: ZL2007 2 0183080.4
SAMPLE SUBMITTED BY	:	Cheung's Engineering Co. G/F., 90 Tak Cheong Street, Kowloon, Hong Kong. (web-site : http://www.pipe-clips.com)
MANUFACTURER	:	Cheung's Engineering Co.
BRAND / LOGO	:	
COUNTRY OF ORIGIN	:	China
TEST REQUIRED	:	Loading test
PERIOD OF TESTS	:	14th April to 14th May 2009

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 V-shaped tail device was connected to the end of a new pipe clip's support stem.



/.....P.2

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TEST REPORT

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. The pipe clip was further screwed into the hole until it was hand-tight; the length of the concealed part of the support stem was now about 40mm to 50mm. A 35mm hot water copper tube was then clamped by 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 (kgf)	Horizontal force **F2** to result in a 20mm horizontal deflection (kgf)	Horizontal force **F3** to slip the pipe by 20mm (kgf)
280	180	100

Date : 4th June 2009 Authorized signature : _____

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Samson W.K. Yiu

(Director)

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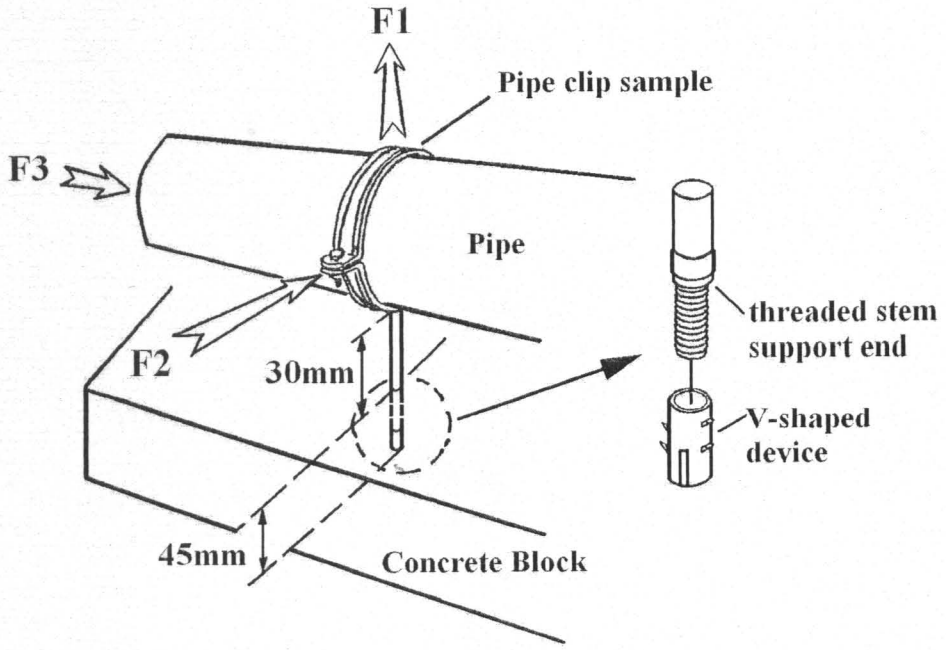
TEST REPORT

TITLE	:	Testing of New Patented Applied V-Shaped Tail Pipe Clip
OUR REFERENCE NO.	:	J13543-5
DESCRIPTION OF SAMPLE	:	Ø42mm (1½") Stainless steel pipe clip supplied with plastic V-shaped tail device; for BSEN1057 copper tube; 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. (Factory confirmed that M5x15mm screws and nuts are also available) Patent No.: ZL2007 2 0183080.4
SAMPLE SUBMITTED BY	:	Cheung's Engineering Co. G/F., 90 Tak Cheong Street, Kowloon, Hong Kong. (web-site : http://www.pipe-clips.com)
MANUFACTURER	:	Cheung's Engineering Co.
BRAND / LOGO	:	
COUNTRY OF ORIGIN	:	China
TEST REQUIRED	:	Loading test
PERIOD OF TESTS	:	14th April to 14th May 2009

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 V-shaped tail device was connected to the end of a new pipe clip's support stem.



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TEST REPORT

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. The pipe clip was further screwed into the hole until it was hand-tight; the length of the concealed part of the support stem was now about 40mm to 50mm. A 15mm copper tube was then clamped by 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 (kgf)	Horizontal force **F2** to result in a 20mm horizontal deflection (kgf)	Horizontal force **F3** to slip the pipe by 20mm (kgf)
280	168	132

Date : 4th June 2009 Authorized signature : _____

Samson W.K. Yiu

(Director)

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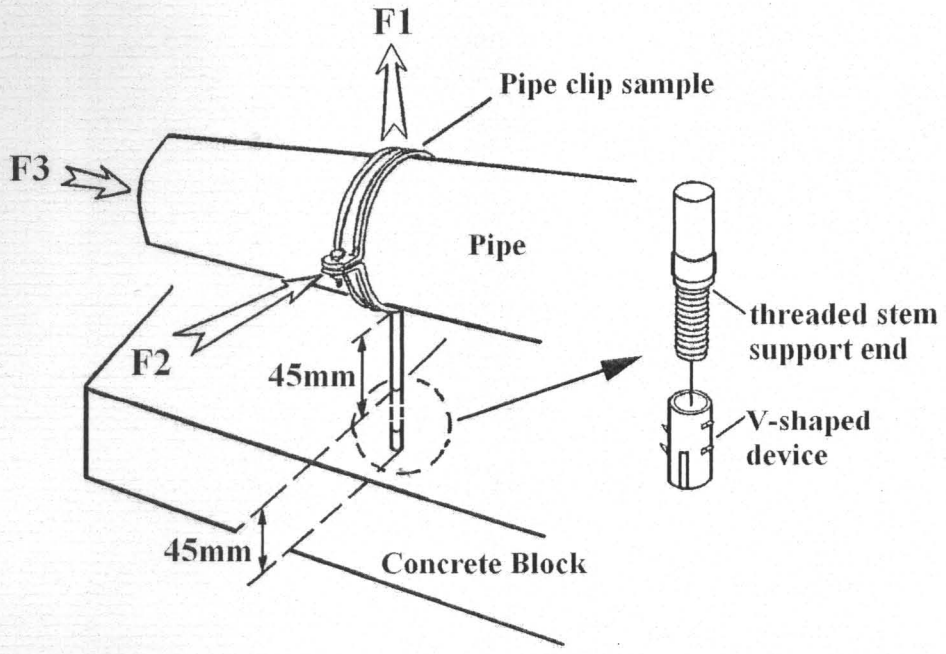
TEST REPORT

TITLE	:	Testing of New Patented Applied V-Shaped Tail Pipe Clip
OUR REFERENCE NO.	:	J13543-6
DESCRIPTION OF SAMPLE	:	Ø54mm (2") Stainless steel pipe clip supplied with plastic V-shaped tail device; for BSEN1057 copper tube; dimensions: 18mm width x 2.5mm thick ring; with Ø9mm support stem electrically welded onto the ring; with ¼" x ¾" screws and nuts. (Factory confirmed that M6x20mm screws and nuts are also available) Patent No.: ZL2007 2 0183080.4
SAMPLE SUBMITTED BY	:	Cheung's Engineering Co. G/F., 90 Tak Cheong Street, Kowloon, Hong Kong. (web-site : http://www.pipe-clips.com)
MANUFACTURER	:	Cheung's Engineering Co.
BRAND / LOGO	:	
COUNTRY OF ORIGIN	:	China
TEST REQUIRED	:	Loading test
PERIOD OF TESTS	:	14th April to 14th May 2009

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 V-shaped tail device was connected to the end of a new pipe clip's support stem.



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TEST REPORT

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. The pipe clip was further screwed into the hole until it was hand-tight; the length of the concealed part of the support stem was now about 40mm to 50mm. A 54mm copper tube was then clamped by 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 (kgf)	Horizontal force **F2** to result in a 20mm horizontal deflection (kgf)	Horizontal force **F3** to slip the pipe by 20mm (kgf)
280	152	134

Date : 4th June 2009 Authorized signature : _____

Samson W.K. Yiu

(Director)

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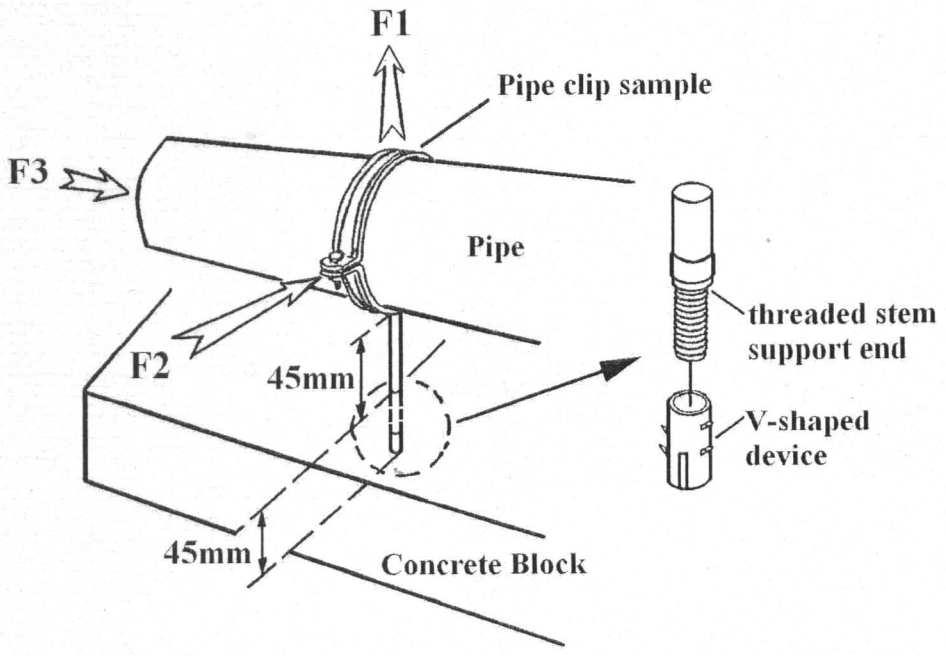
TEST REPORT

TITLE	:	Testing of New Patented Applied V-Shaped Tail Pipe Clip
OUR REFERENCE NO.	:	J13543-7
DESCRIPTION OF SAMPLE	:	Ø66.7mm (2½") Stainless steel pipe clip supplied with plastic V-shaped tail device; for BSEN1057 copper tube; dimensions: 18mm width x 2.5mm thick ring; with Ø9mm support stem electrically welded onto the ring; with ¼" x ¾" screws and nuts. (Factory confirmed that M6x20mm screws and nuts are also available) Patent No.: ZL2007 2 0183080.4
SAMPLE SUBMITTED BY	:	Cheung's Engineering Co. G/F., 90 Tak Cheong Street, Kowloon, Hong Kong. (web-site : http://www.pipe-clips.com)
MANUFACTURER	:	Cheung's Engineering Co.
BRAND / LOGO	:	
COUNTRY OF ORIGIN	:	China
TEST REQUIRED	:	Loading test
PERIOD OF TESTS	:	14th April to 14th May 2009

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 V-shaped tail device was connected to the end of a new pipe clip's support stem.



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TEST REPORT

OUR REFERENCE NO.J13543-7 (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. The pipe clip was further screwed into the hole until it was hand-tight; the length of the concealed part of the support stem was now about 40mm to 50mm. A 66.7mm copper tube was then clamped by 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 (kgf)	Horizontal force **F2** to result in a 20mm horizontal deflection (kgf)	Horizontal force **F3** to slip the pipe by 20mm (kgf)
280	123	138

Date : 4th June 2009 Authorized signature : _____

Samson W.K. Yiu

(Director)

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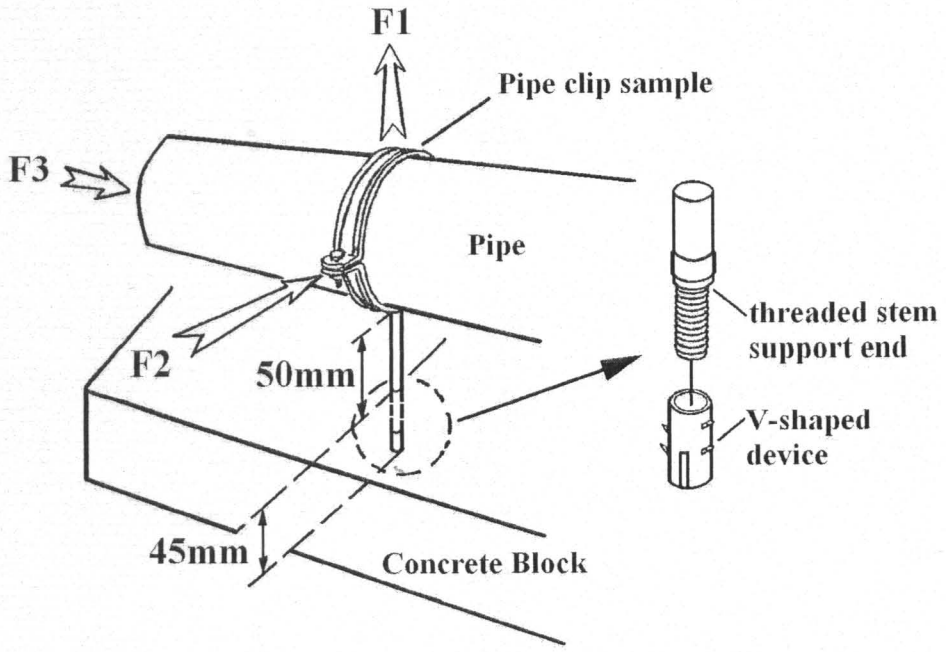
TEST REPORT

TITLE	:	Testing of New Patented Applied V-Shaped Tail Pipe Clip
OUR REFERENCE NO.	:	J13543-8
DESCRIPTION OF SAMPLE	:	Ø76mm (3") Stainless steel pipe clip supplied with plastic V-shaped tail device; for BSEN1057 copper tube; dimensions: 19mm width x 2.5mm thick ring; with Ø12mm support stem electrically welded onto the ring; with ¼" x ¾" screws and nuts. (Factory confirmed that M6x20mm screws and nuts are also available) Patent No.: ZL2007 2 0183080.4
SAMPLE SUBMITTED BY	:	Cheung's Engineering Co. G/F., 90 Tak Cheong Street, Kowloon, Hong Kong. (web-site : http://www.pipe-clips.com)
MANUFACTURER	:	Cheung's Engineering Co.
BRAND / LOGO	:	
COUNTRY OF ORIGIN	:	China
TEST REQUIRED	:	Loading test
PERIOD OF TESTS	:	14th April to 14th May 2009

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 V-shaped tail device was connected to the end of a new pipe clip's support stem.



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TEST REPORT

OUR REFERENCE NO.J13543-8 (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. The pipe clip was further screwed into the hole until it was hand-tight; the length of the concealed part of the support stem was now about 40mm to 50mm. A 76mm copper tube was then clamped by 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 (kgf)	Horizontal force **F2** to result in a 20mm horizontal deflection (kgf)	Horizontal force **F3** to slip the pipe by 20mm (kgf)
380	180	182

Date : 4th June 2009 Authorized signature : _____

Samson W.K. Yiu

(Director)

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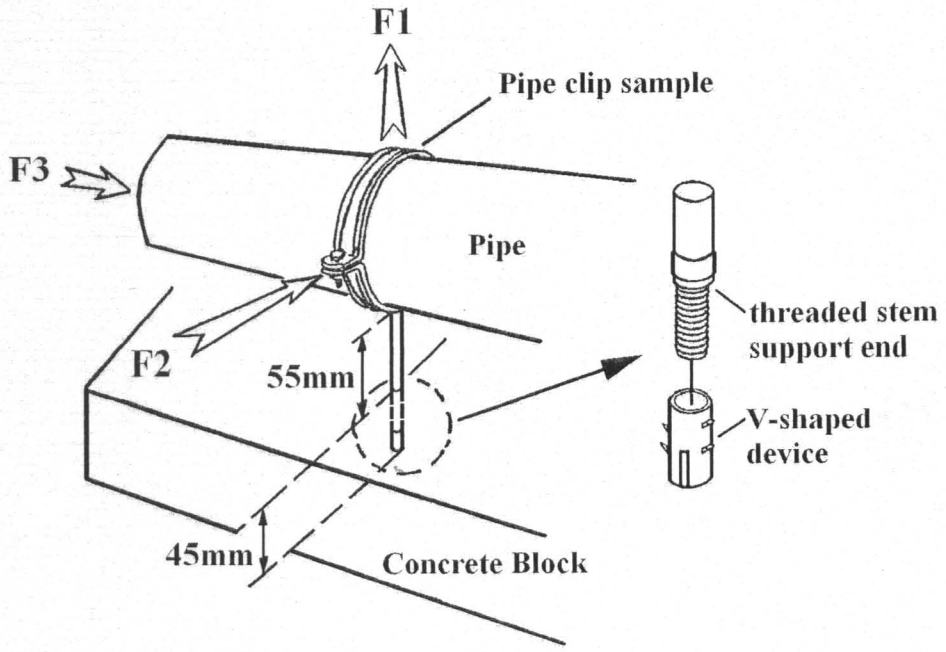
TEST REPORT

TITLE	:	Testing of New Patented Applied V-Shaped Tail Pipe Clip
OUR REFERENCE NO.	:	J13543-9
DESCRIPTION OF SAMPLE	:	Ø108mm (4") Stainless steel pipe clip supplied with plastic V-shaped tail device; for BSEN1057 copper tube; dimensions: 25mm width x 3mm thick ring; with Ø12mm support stem electrically welded onto the ring; with 5/16" x 1" screws and nuts. (Factory confirmed that M8x25mm screws and nuts are also available) Patent No.: ZL2007 2 0183080.4
SAMPLE SUBMITTED BY	:	Cheung's Engineering Co. G/F., 90 Tak Cheong Street, Kowloon, Hong Kong. (web-site : http://www.pipe-clips.com)
MANUFACTURER	:	Cheung's Engineering Co.
BRAND / LOGO	:	
COUNTRY OF ORIGIN	:	China
TEST REQUIRED	:	Loading test
PERIOD OF TESTS	:	14th April to 14th May 2009

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 V-shaped tail device was connected to the end of a new pipe clip's support stem.



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TEST REPORT

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. The pipe clip was further screwed into the hole until it was hand-tight; the length of the concealed part of the support stem was now about 40mm to 50mm. A 108mm copper tube was then clamped by 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 (kgf)	Horizontal force **F2** to result in a 20mm horizontal deflection (kgf)	Horizontal force **F3** to slip the pipe by 20mm (kgf)
380	182	168

Date : 4th June 2009 Authorized signature : _____

Samson W.K. Yiu

(Director)

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