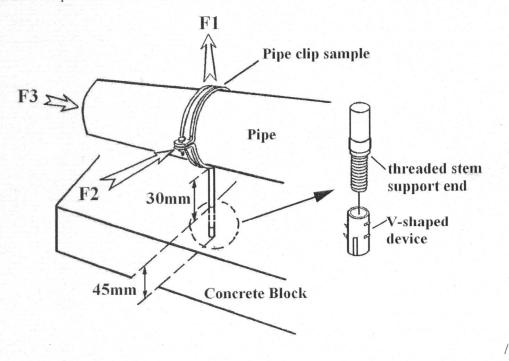
ISI NUTI	ΞK	SYSTEMS, LTD.	Fo Tan, Shatin, N.T., Hong Kong. Tel: (852) 2605 5736 Fax: (852) 2692 0798
이번 영상에 있는 것이 같아요.		TEST REPORT	E-mail: nutek@nuteksystems.com
TITLE	:	Testing of New Patented Applied V-Shape	ed Tail Pipe Clip
OUR REFERENCE NO.	:	J13543-1	
DESCRIPTION OF SAMPLE	:	Ø15mm (½") Stainless steel pipe clip supp tail device; for BSEN1057 copper tube; di 15mm width x 2.5mm thick ring; with Ø9 electrically welded onto the ring; with 3/1 (Factory confirmed that M5x15mm screw) Patent No.: ZL2007 2 0183080.4	mensions: mm support stem
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	:	* (S)= ®	
COUNTRY OF ORIGIN	:	China	
TEST REQUIRED	:	Loading test	
PERIOD OF TESTS	:	14 th April to 14 th May 2009	
<u>RESULTS: -</u> 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

TEST REPORT

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

OUR REFERENCE NO.J13543-1 (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. 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	Horizontal force F2 to result in a 20mm horizontal deflection	Horizontal force F3 to slip the pipe by 20mm
(kgf)	(kgf)	(kgf)
280	220	68

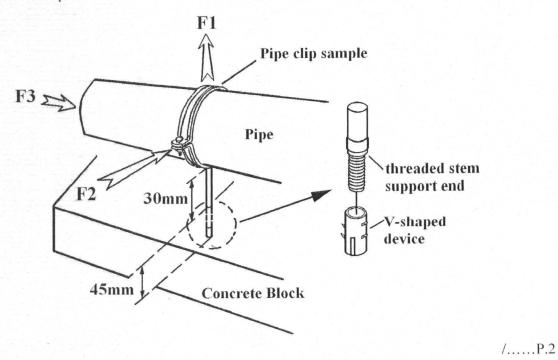
Authorized signature : Date

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

Samson W.K. Yiu

	Ξи	SYSTEMS, LTD.	Unit B, 13/F., Universal Ind. Ctr., 23-25 Shan Mei Street,
			23-25 Snan Mei Street, Fo Tan, Shatin, N.T., Hong Kong. Tel: (852) 2605 5736 Fax: (852) 2692 0798
		TEST REPORT	E-mail: nutek@nuteksystems.com
TITLE	:	Testing of New Patented Applied V-Shape	ed Tail Pipe Clip
OUR REFERENCE NO.	:	J13543-2	
DESCRIPTION OF SAMPLE	:	Ø20mm (¾") Stainless steel pipe clip sup tail device; for BSEN1057 copper tube; d 15mm width x 2.5mm thick ring; with Ø9 electrically welded onto the ring; with 3/1 (Factory confirmed that M5x15mm screw Patent No.: ZL2007 2 0183080.4	imensions: mm support stem
SAMPLE SUBMITTED BY	:	Cheung's Engineering Co. G/F., 90 Tak Cheong Street, Kowloon, Hong Kong. (web-site : http://www.pipe-clips.com)	ě
MANUFACTURER	;	Cheung's Engineering Co.	
BRAND / LOGO	:	≠ <u>(</u> (),+ ,0	
COUNTRY OF ORIGIN	:	China	
TEST REQUIRED	:	Loading test	
PERIOD OF TESTS	:	14 th April to 14 th May 2009	
<u>RESULTS: -</u> 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.



SINCE NUTEK SYSTEMS, LTD. Unit B, 13/F., Universal 23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Ho Tel: (852) 2605 5736

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

OUR REFERENCE NO.J13543-2 (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. 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	Horizontal force F2 to result in a 20mm horizontal deflection	Horizontal force F3 to slip the pipe by 20mm
(kgf)	(kgf)	(kgf)
280	210	53

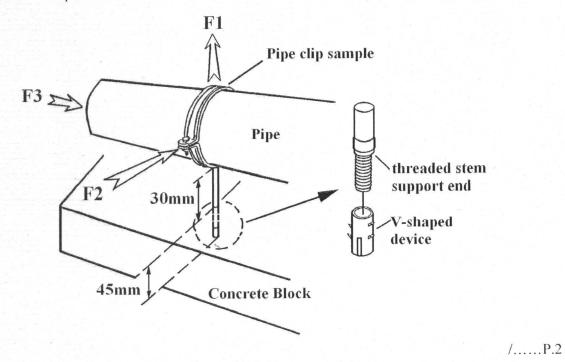
Ture 2009 Date : 4 Authorized signature :

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

Samson W.K. Yiu

	-1/	OVOTEMO ITO	Unit B, 13/F., Universal Ind. Ctr.,
NUIE		SYSTEMS, LTD.	23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Hong Kong.
		TEST REPORT	Tel: (852) 2605 5736 Fax: (852) 2692 0798 E-mail: nutek@nuteksystems.com
TITLE	:	Testing of New Patented Applied V-Shape	d Tail Pipe Clip
OUR REFERENCE NO.	:	J13543-3	
DESCRIPTION OF SAMPLE		Ø28mm (1") Stainless steel pipe clip suppl tail device; for BSEN1057 copper tube; din 15mm width x 2.5mm thick ring; with Ø9r electrically welded onto the ring; with 3/16 (Factory confirmed that M5x15mm screws) Patent No.: ZL2007 2 0183080.4	mensions: mm support stem
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	:	* (S)*	
COUNTRY OF ORIGIN	:	China	
TEST REQUIRED	:	Loading test	
PERIOD OF TESTS	:	14 th April to 14 th May 2009	
<u>RESULTS: -</u> 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.



Unit B, 13/F., Universal 23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Ho Tel: (852) 2605 5736 F

Unit B, 13/F., Universal Ind. Ctr., 23-25 Shan Mei Strøet, Fo Tan, Shatin, N.T., Hong Kohg. Tel: (852) 2605 5736 Fax: (852) 2692 0798 E-mail: nutek@nuteksystems.com

TEST REPORT

OUR REFERENCE NO.J13543-3 (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. 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	Horizontal force F2 to result in a 20mm horizontal deflection	Horizontal force F3 to slip the pipe by 20mm
(kgf)	(kgf)	(kgf)
280	188	97

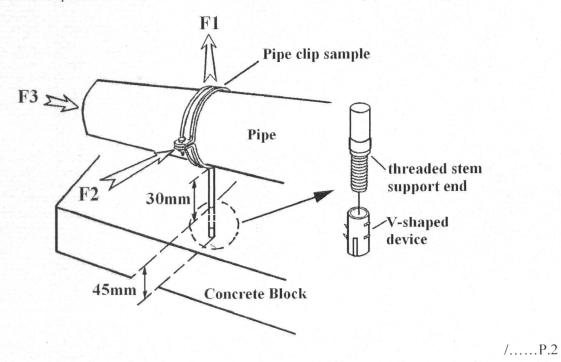
Date: Let Tune 2009 Authorized signature :

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

Samson W.K. Yiu

ISI NUTE	EK	CSYSTEMS, 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) 2693 E-mail: nutek@nuteksystems.com	2 0798
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-shape 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	:	₹ Ţ ſ	
COUNTRY OF ORIGIN	:	China	
TEST REQUIRED	:	Loading test	
PERIOD OF TESTS	:	14 th April to 14 th May 2009	
<u>RESULTS: -</u> 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.



TEST REPORT NUTEK SYSTEMS, LTD. UNI TEST REPORT

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

OUR REFERENCE NO.J13543-4 (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. 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	Horizontal force F2 to result in a 20mm horizontal deflection	Horizontal force F3 to slip the pipe by 20mm
(kgf)	(kgf)	(kgf)
280	180	100

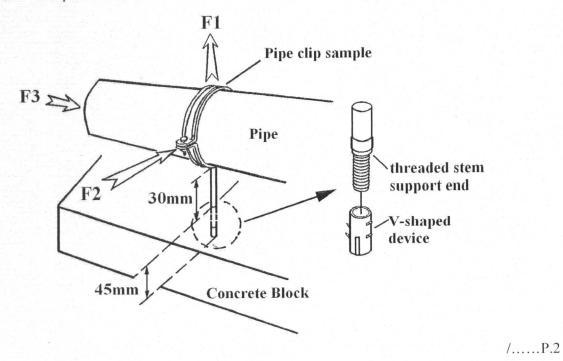
Authorized signature : Date

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

Samson W.K. Yiu

NUTE	EK	Unit B, 13/F., Universal Ind. Ctr., 23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Hong Kong.
		TEST REPORT Tel: (852) 2605 5736 Fax: (852) 2692 0796 E-mail: nutek@nuteksystems.com E-mail: nutek@nuteksystems.com
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	:	* (S)+
COUNTRY OF ORIGIN	:	China
TEST REQUIRED	:	Loading test
PERIOD OF TESTS	:	14 th April to 14 th May 2009
<u>RESULTS: -</u> LOADING TEST		
		동안 동안 이 집에 가지 않는 것이 같이 많은 것이 많이 많이 많이 했다.

- 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.



TEST REPORT

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

OUR REFERENCE NO.J13543-5 (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. 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	Horizontal force F2 to result in a 20mm horizontal deflection	Horizontal force F3 to slip the pipe by 20mm
(kgf)	(kgf)	(kgf)
280	168	132

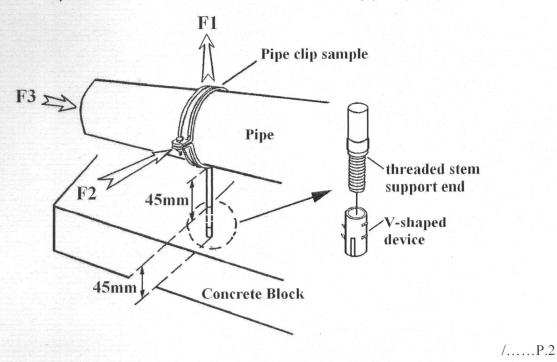
Authorized signature : Date

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

Samson W.K. Yiu

	ΞK	CALCENT OF CONTROL STATES AND AND AND AND AND AND AND AND AND AND
		TEST REPORT Tel: (852) 2605 5736 Fax: (852) 2692 079 E-mail: nutek@nuteksystems.com E-mail: nutek@nuteksystems.com
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 ¹ / ₄ " x ³ / ₄ " 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	:	≠ (<u>S</u>)=
COUNTRY OF ORIGIN	:	China
TEST REQUIRED	:	Loading test
PERIOD OF TESTS	:	14 th April to 14 th May 2009
<u>RESULTS: -</u> 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.



TEST REPORT 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

OUR REFERENCE NO.J13543-6 (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. 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	Horizontal force F2 to result in a 20mm horizontal deflection	Horizontal force F3 to slip the pipe by 20mm
(kgf)	(kgf)	(kgf)
280	152	134

Date :

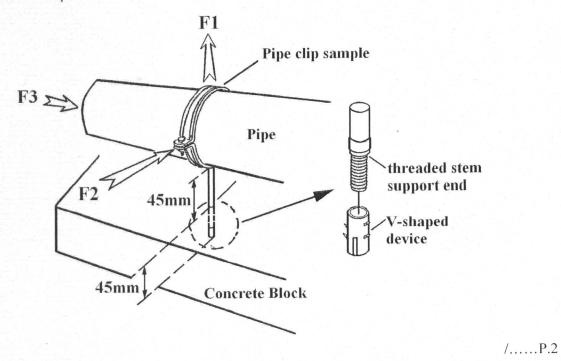
Authorized signature :

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

Samson W.K. Yiu

	ISI NUTE	EK	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
			Testing of New Patented Applied V-Shape	E-mail: nutek@nuteksystems.com
	TITLE	·	Testing of New Fatenced Applied V-Shape	a ran ripe enp
	OUR REFERENCE NO.	:	J13543-7	
	DESCRIPTION OF SAMPLE	•	Ø66.7mm (2 ¹ / ₂ ") Stainless steel pipe clip s tail device; for BSEN1057 copper tube; di 18mm width x 2.5mm thick ring; with Ø9 electrically welded onto the ring; with ¹ / ₄ " (Factory confirmed that M6x20mm screw Patent No.: ZL2007 2 0183080.4	imensions: mm support stem $x \frac{3}{4}$ " screws and nuts.
	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	:	* (S)* *	
	COUNTRY OF ORIGIN	:	China	
	TEST REQUIRED	:	Loading test	
	PERIOD OF TESTS	:	14 th April to 14 th May 2009	
1. ····	<u>RESULTS: -</u> LOADING TEST			
			1 20D10 (D012 1079 -	ad A concepto to

- 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.



TEST REPORT 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

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	Horizontal force F2 to result in a 20mm horizontal deflection	Horizontal force F3 to slip the pipe by 20mm
(kgf)	(kgf)	(kgf)
280	123	138

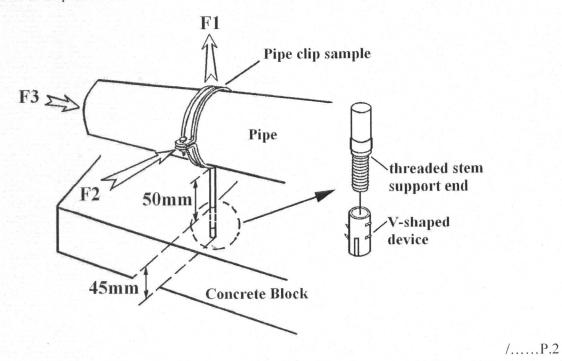
Date : 4th Two 2009 Authorized signature :

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

Samson W.K. Yiu

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



TEST REPORT 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

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	Horizontal force F2 to result in a 20mm horizontal deflection	Horizontal force F3 to slip the pipe by 20mm
(kgf)	(kgf)	(kgf)
380	180	182

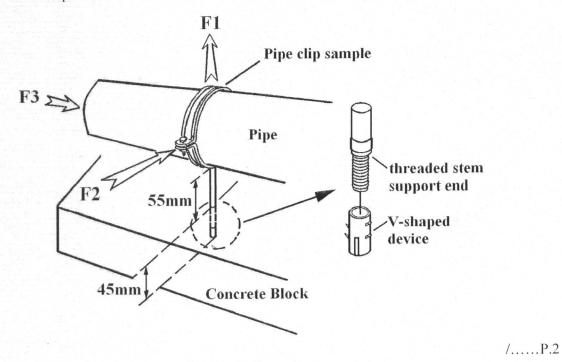
Authorized signature : Date :

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

Samson W.K. Yiu

NUTE NUTE	ΞK	Unit B, 13/F., Universal Ind. Ctr., 23-25 Shan Mei Street, Fo Tan, Shatin, N.T., Hong Kong.
		TEST REPORT Tel: (852) 2605 5736 Fax: (852) 2692 0798 E-mail: nutek@nuteksystems.com E-mail: nutek@nuteksystems.com
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	:	* (S)* ®
COUNTRY OF ORIGIN	:	China
TEST REQUIRED	:	Loading test
PERIOD OF TESTS	:	14 th April to 14 th May 2009
<u>RESULTS: -</u> 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.



NUTEK SYSTEMS, LTD. \sum

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

REPORT TEST

OUR REFERENCE NO.J13543-9 (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 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	Horizontal force F2 to result in a 20mm horizontal deflection	Horizontal force F3 to slip the pipe by 20mm
(kgf)	(kgf)	(kgf)
380	182	168

Date :

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