Summary Report:
Whipcheck Test report

Internal Use Only – Not for Distribution Outside VJT Group Companies

Report prepared by:

A Hooper
VJ Technology Test Laboratory
Unit 18, New Forest Enterprise Centre
Chapel Lane, Rushington Business Park
Totton, Nr Southampton
SO40 9LA

Test conducted by:

A Hooper & N Elhag
VJ Technology Test Laboratory
Unit 18, New Forest Enterprise Centre
Chapel Lane, Rushington Business Park
Totton, Nr Southampton
SO40 9LA

For:

Liam Mabon (Technical)
V.J. Technology
Technology House
Brunswick Road
Cobbs Wood Industrial Estate
Ashford
Kent, TN23 1EN

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Reference:
VJTTL/54/Whipcheck/04November2021/1.0

1.0 INTRODUCTION / OBJECTIVE

Tests to check maximum tensile loads on Whipchecks were carried out at VJ Technology Test Laboratory in November 2021.

Tests carried out in accordance with an industry standard: *No*

Tests carried out in accordance with: *VJTTLSOP55: Procedure for testing Whipchecks and following safety guidelines in R.A for Whipchecks*

No compliance with associated standards is implied or given by these tests.

2.0 SAMPLE INSPECTION

Items received

10 x 3.0mm Whipchecks (Hose Safety retainers)

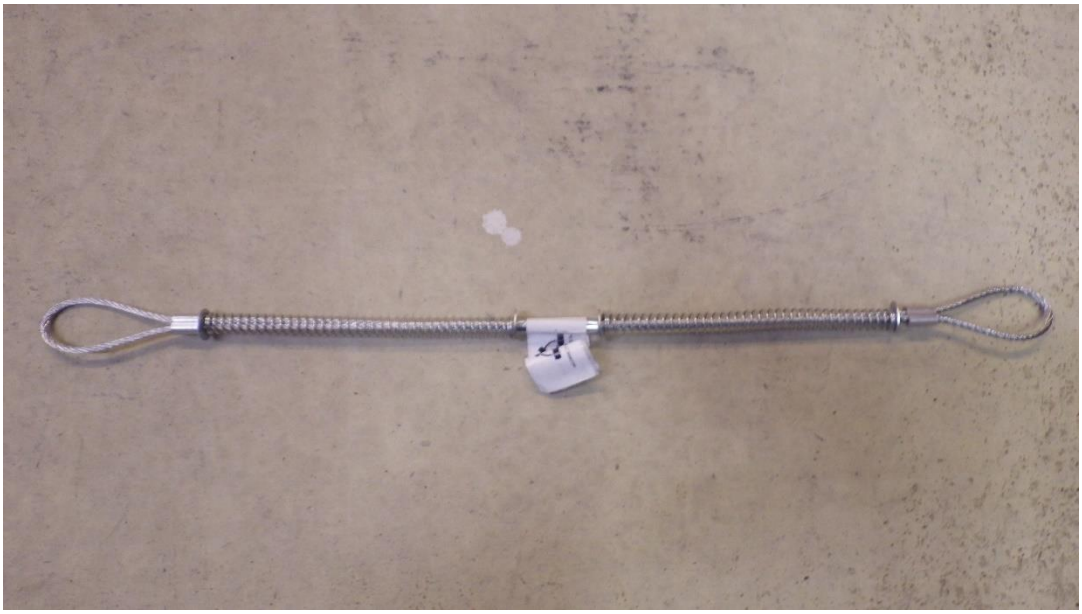

Image 1: 3mm Whipcheck sample

What is a Whipcheck!

A *Whip checks* is **a safety cable used during an abrasive blasting process**. *Whip checks* connects air hoses across the coupling to prevent the hoses from flying around if the connection inadvertently separates.

Whip checks are safety cables made of corrosion resistant, high strength steel that when installed diverts strain on the coupling to the whip check.

3.0 METHOD

As manufacturer did not supply any load data the lab has been asked to carry out Non-Standard ultimate load tests on a selection of ties.

We will attach one end to a fixed point and attach a Hydrajaws tensile load tester to the other end and load to failure.

We will measure point of failure a log reading onto report as per any normal tensile load test.

Rig used to carry out tests will be the Rig used for tensile & shear testing self-drilling screws, the set-up methodology is available upon request: **VJTTL*SOP31***

4.0 TEST

A Whipcheck wass inserted through a 3mm box section tube (Image 2), one end of the Whipcheck was attached to a fixed end/bolt (Image 3), the other was attached to the Hydrajaws tensile load tester (Images 4 & 5), the tube will then be clamped down and retained in place using flat bars as used during self-drill tests (Image 6).

Box section is used as a safety measure as the failure on the Whipcheck is unknown, so any fragments should be captured withing box section thus avoiding any possible injury.
Full risk assessment has been caried out

Image 2: Whipcheck inserted through box section

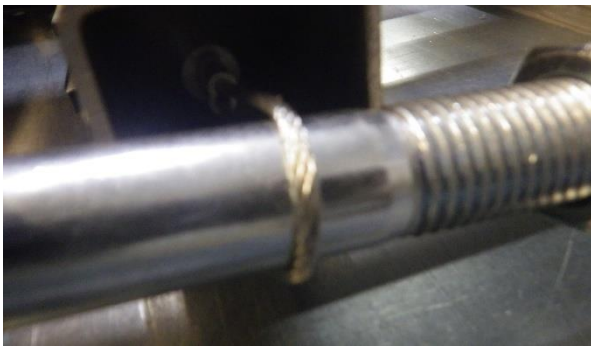

Image 3: One end attached to 24mm bolt

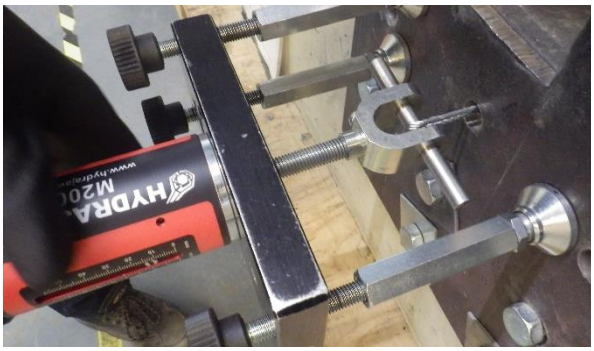

Image 4: End attached to clevis of Hydrajaws

Image 5: Hydrajaws set up

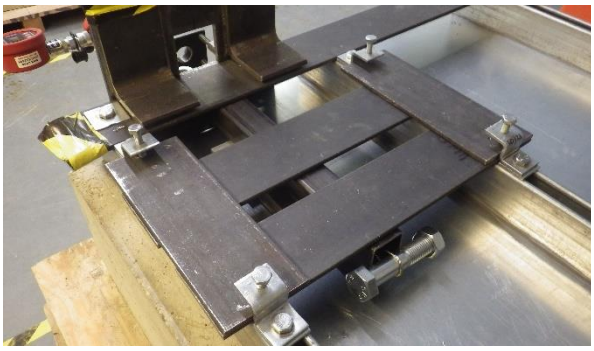

Image 6: Box section clamped down

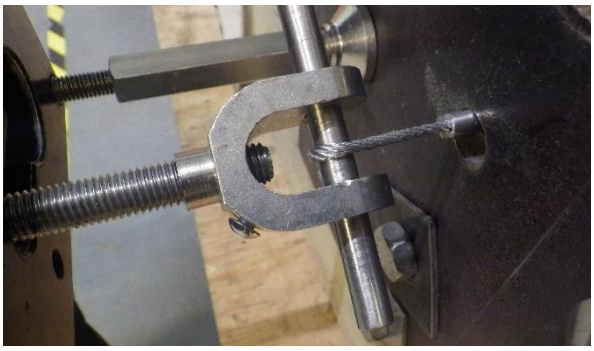

Image 7: Close up Whipcheck attached

A load is applied progressively whilst monitoring any change to the tie ends, once load has reached its ultimate it showed that one of the loop ends snapped, on all 6 tests it was the end where it was attached to the clevis pin (Image 8).

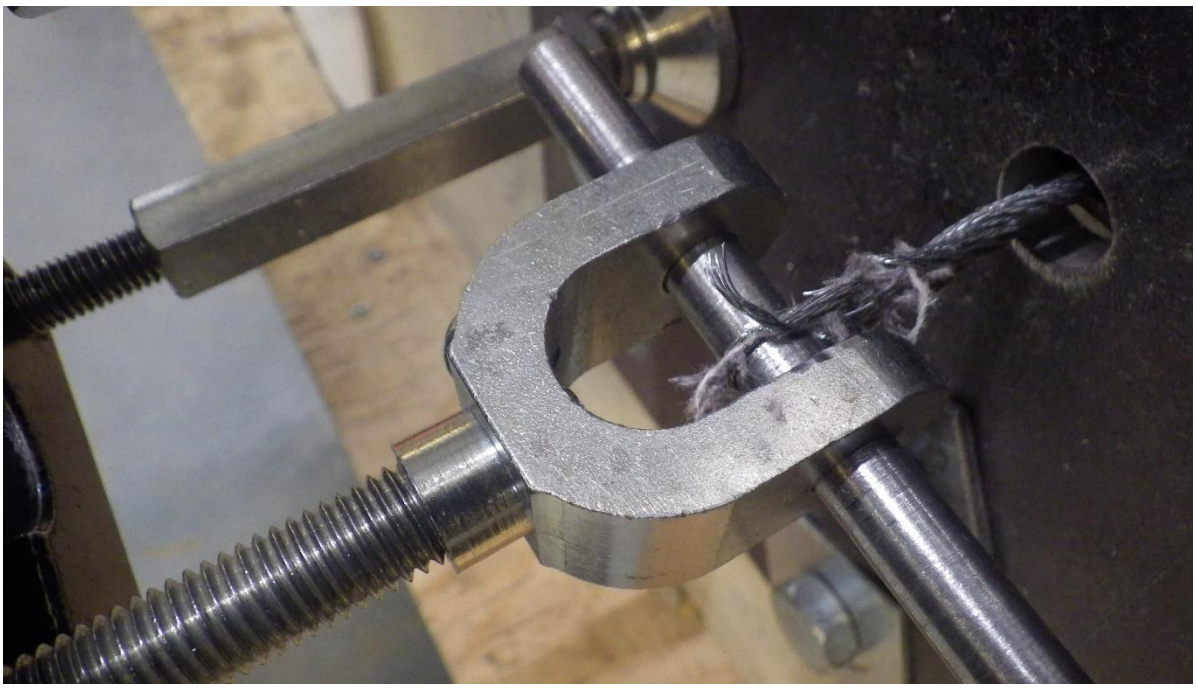

Image 8: Whipcheck before total failure

It was noted that the load drops off prior to total failure, this is within seconds of the first few strands snapping.

Image 8 captures strand fail just moments before it snapped

After test a further 5 tests were carried out and results are listed in results section below.

5.0 RESULTS

Test Results

Test No:	Load: kN	Comments
1	9.9 kN	Snapped on clevis end
2	9.6 kN	Snapped on clevis end
3	8.6 kN	Snapped on clevis end
4	9.9 kN	Snapped on clevis end
5	8.9 kN	Snapped on clevis end
6	10.5 kN	Snapped on clevis end
Total Average	9.56 kN	

Image 9: All 6 Whipchecks after test

6.0 CONCLUSION

As previously mentioned at beginning of report there is no compliance with associated standards or is it implied or given by these tests.

These tests are Non-Standard use tests and are solely for company use only.

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End of report