

02 May 2014



Attention: Rob Dickerson  
TransNet NZ Ltd  
P O Box 39 383  
Howick  
Auckland 2145

Job No.1-LO143.80  
File Ref: 003/14  
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## Chain – Strength in Tension

### Client:

TransNet NZ Ltd  
Attention: Rob Dickerson

### Client Instructions:

To measure the strength in tension of the chain submitted.  
Items Tested: *TNCHOPEN Chain Open 32x12x2.5mm*  
*TNCHWELD Chain Welded 25x12x2mm*

### Test Method:

The tensile Strength of the chains were measured as follows:

The *TNCHOPEN Chain Open 32x12x2.5mm* was tested by attaching the chain to a gantry with a large container suspended from it. The container was filled progressively with sand. When the chain opened enough to be parted the container and sand in it was weighed to give the applied load that the chain failed at.

The *TNCHWELD Chain Welded 25x12x2mm* was tested following the method as described in BS EN 10 002-1 : 1990 Tensile Testing of Metallic Materials, Part 1, Test at ambient temperature. A length of chain was gripped in the jaws of a Shimadzu REH100TV Universal testing machine and the load applied until the chain opened enough to be parted. The load in Newtons was then recorded and converted to kg.

### Findings:

Testing carried out 2<sup>nd</sup> May 2014. The values below are the average of three (3) tests.

*TNCHOPEN Chain Open 32x12x2.5mm* Applied load = 29.8kg

*TNCHWELD Chain Welded 25x12x2mm* Applied Load = 479kg (*Opened at weld*)

**Tested:** Laboratory Staff & D Hotham

**Checked:** D Hotham   
Assistant Laboratory Manager/QA Manager