



MECHANICAL TESTING REPORT

Report No: GRM13-1144
Date of Issue: 20-09-2013
Page: 1 of 3
Client: Acusafe
Attention: Danny Klein
Address: PO Box 621

Order Number: Beenleigh, Gld 4207
Job Description: COD
Load Test of Tube Samples
Test Piece: Kag Tube - Stainless Steel - Grade 304 (Ø31.75 x 1.5mm WT)
Identification: Original Tube - Stainless Steel - Grade 304 (Ø31.75 x 1.5mm WT)
Kag Tube - Carbon Steel - Not Further Specified (32NB Sch40)
Original Tube - Carbon Steel - Not Further Specified (32NB Sch40)

Test Specification: Client Requirements
Date of Examination: 19-09-2013

Luke Davies
Laboratory Technician
Mechanical Testing

Note:

1. All work is subject to our standard terms and conditions, available on our website <http://www.alsglobal.com/en/Our-Services/Industrial/Asset-Care/Downloads>
2. Test plates and specimens will be disposed of 14 days from issue date of this report unless other arrangements have been made.

TEST PROCEDURE for Test Setup 1

Each Tube was placed in the 3-point bending jig that was placed on the bottom platen of the Shimadzu 300kN Universal Testing Machine. The Rollers of the Bending Jig were placed 415mm apart at the centres. A load was gradually applied with a 128mm former at equal distance between the rollers. The maximum load achieved was recorded.

Test Setup 1**Stainless Steel - Grade 304 (Ø31.75 x 1.5mm WT)**

Test ID	Identification	Maximum Load	Increase over Original Tube
1	Kag Tube	7.29kN	48%
2	Original Tube	4.91kN	N/A

Test Setup 1**Carbon Steel - Not Further Specified (32NB Sch40)**

Test ID	Identification	Maximum Load	Increase over Original Tube
3	Kag tube	19.33kN	6%
4	Original Tube	18.26kN	N/A



TEST PROCEDURE for Test Setup 2

Each Tube was cut to 100mm in length and placed between the hardened plates on the bottom and top platens of the Shimadzu 300kN Universal Testing Machine. A load was gradually applied. The load at which the first sign of deformation occurred was recorded.

Test Setup 2

Stainless Steel - Grade 304 [Ø31.75 x 1.5mm WT]

Test ID	Identification	Load at first sign of deformation	Increase over Original Tube
1	Kag Tube	12.8kN	225%
2	Original Tube	5.7kN	N/A

Test Setup 2

Carbon Steel - Not Further Specified [32NB sch40]

Test ID	Identification	Load at first sign of deformation	Increase over Original Tube
3	Kag tube	25.0kN	14%
4	Original Tube	22.0kN	N/A



Test Setup 2