



Test Certificate

Office: **Lloyd's Register EMEA - Energy, Coventry**

Date: **18 March 2015**

This Certificate is issued to **Gantry Railing Limited** to certify that the undersigned Surveyor to Lloyd's Register EMEA did, at their request, attend their **Sudmeadow Works, Gloucester** on 04 March 2015 for the purpose of witnessing the testing of the undernoted Gantry Railing Limited Clip in accordance with the requirements of Gantry Railing Limited Order No. 13929.

Gantry Railing Limited Type 1116 Clip.
M16 Bolt Material BS EN ISO 898-1 Grade 10.9
M16 Nut Material BS EN ISO 898-1 Grade 10

Design Load 120 KN

Test Procedure

The above Clip was subjected to lateral testing in accordance with Gantry Railing Limited Test Procedure No. TESTBS5950. The procedure is based on BS 5950 Part 1: 2000 – Section 2.1.2.5 and Section 7.

The Clip was welded to a plate with a 4mm (throat) fillet weld around the base.

The Clip was bolted down onto a test rig simulating normal fixing conditions with a measured torque of 200 Nm.

Pre Load Test (Design Load)

The Clip was subjected to a pre-load of 120KN for one minute duration for a preliminary bedding down load.

Acceptance Test Load (1.3 x Design Load)

A test load of 156KN was applied in gradual stages.

Strength Test Load (1.6 x Design Load)

The proof load was increased in gradual stages to 192KN.

Proof / Strength Test Result

The pre-load test, proof test and strength test were all considered acceptable.

Failure Load

The strength load was increased gradually to 240kN (2 x Design Load). Upon dis-assembly of the components, it was observed that the base had pressure marks on contact face, but had not yielded significantly. The clip cap had a small crack at the root of the triangular boss and was yielding consistent with rail contact area. The bolts were in good condition with evidence of bearing at edges of the head. Slight deformation of threads was noted due to contact with slot in clip cap.

Pressure gauge serial No. HFPG274 (Hydraulic) 0-10000 psi, calibrated 29/08/2014, due 29/08/2015. Certificate No. PG274. Certificate was issued by Hi-Force Hydraulic Tools (UKAS 022) Torque Wrench serial number M140052-1000 Nm, calibrated 13/11/2014, due 13/11/2015. Certificate No.U146732, Certificate was issued by Quasartronics Ltd (UKAS 0511)



Stephen Meredith
Surveyor to Lloyd's Register EMEA

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