



Test Certificate

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

Date: **13 May 2016**

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 27 April 2016 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. 15148.

Gantry Railing Limited Type 3226 Clip.
M24 Bolt Material BS EN ISO 898-1 Grade 10.9
M24 Nut Material BS EN ISO 898-2 Grade 10
Design Load 300kN

Test Procedure

The above Clip was subjected to lateral testing in accordance with Gantry Railing Limited Test Procedure No. Clipst Issue 4 & recorded as GTR-112. The procedure is based on BS 5950 Part 1: 2000 – Section 2.1.2.5 and Section 7.

The Clip was bolted down with the cap at centre position onto a test rig simulating normal fixing conditions with a measured torque of 750 Nm.

Pre Load Test (Design Load)

The Clip was subjected to a pre-load of 300kN for one minute duration as a preliminary bedding down load.

Acceptance Test Load (1.3 x Design Load)

A test load was applied in gradual stages until the washer cracked at 383kN. The test was then stopped. The required Acceptance Test Load of 390kN was not achieved.

Strength Test Load (1.6 x Design Load)

Test stopped due to failure of washer at 383kN.

Proof / Strength Test Result

The Pre-Load Test was considered acceptable. The Acceptance Test was unacceptable. Strength Test not completed due to failure. Test stopped due to washer failure.

Failure Load

At 383kN the clip washer failed & the test was stopped. Upon disassembly of the components, all other components were in very good condition with no signs of mechanical damage. The Clip body was in excellent condition with no signs of deformation. The nuts were in good condition & but the bolts had bent in the direction of the load. The washers cracked at the edge of the clip slot.

Gantry Railing Ltd Equipment Record Card Item No. 150.
Pressure gauge serial No. S8814 (HFGP274 Hydraulic) 0-10000 psi,
calibrated 29/08/2014, Certificate No. PG274.
Certificate issued by Hi-Force Hydraulic Tools (UKAS 022)
Calibration due 28/08/2016 (Ref. E.R.C Item No. 150)
Gantry Railing Ltd Equipment Record Card Item No. 133
Torque Wrench Serial No. 1999/54063-1000 Nm, calibrated
10/07/2015, due 09/07/2016. Certificate No. U154083,
Certificate Issued by Quasartronics Ltd (UKAS 0511)



Birmingham Office
Lloyd's Register EMEA

David Hodges
Surveyor to Lloyd's Register EMEA

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