



Test Certificate

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

Date: **07 December 2020**

This Certificate is issued to **Gantry Railing Limited** to certify that the undersigned Surveyor to Lloyd's Register EMEA did, at their request, remotely witness on 12 November 2020 the testing at the Sudmeadow Works, Gloucester of the undernoted Gantry Railing Limited Clip in accordance with the requirements of Gantry Railing Limited Order No. 17824.

Gantrail Type 4116 Clip & 416 Washer - Design Load – 50KN

M16 Bolt Material BS EN ISO 898-1 Grade 10.9

M16 Nut Material BS EN ISO 898-2 Grade 10

Test Procedure

The above Clip assembly was subjected to lateral testing in accordance with Gantry Railing Limited Test Procedure No. Cliptst Issue 4 & recorded as GTR-0213. The procedure is based on BS 5950 Part 1:2000, Section 2.1.2.5 and Section 7. The Clip was bolted down at the middle position with the M16 bolt onto a test rig simulating normal fixing conditions with a measured torque of 300Nm.

Pre-Load Test (Design Load)

The Clip was subjected to a pre-load of 50kN for one-minute duration as a preliminary bedding in load.

Acceptance Test Load (1.3 x Design Load)

A test load of 65kN was applied in gradual stages.

Strength Test Load (1.6 x Design Load)

The proof load was increased in gradual stages to 80kN. The desired 1.6 x Design Load was achieved.

Failure Load

The proof load was increased in gradual stages to 100kN. The desired 2.0 x Design Load was achieved

Proof / Strength Test Result

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

Post Test Inspection

A good pass. On disassembly of the components, there were slight thread pressure marks in the clip slot & deformation of the threads on the bolt. No permanent deflection of any components. Clip, washer & front of clip show no sign of mechanical damage.

**Pressure Gauge serial No. 5431041267, 0-700bar, calibrated 13/10/2020, HES Certificate Ref. No CC-0-317-4220.
Calibration verified to DH Budenberg (UKAS 0138)
Torque Wrench Serial No. 201820016, 120-400 Nm, calibrated 12/10/2020, due 12/10/2021. Certificate No. U2009236,
Certificate Issued by Quasartronics Ltd (UKAS 0511)**



David Hodges
Surveyor to Lloyd's Register EMEA

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