



Technical Report

Report No. D-09/0873

Q-Railing Europe GmbH & Co.KG

Marie-Curie-Straße 8-14

D-46446 Emmerich am Rhein

Germany

Project

Barrier Testing to BS 6399-1:1996

Project Ref. 09119

14th April 2009

Rev 1 – Results detailed on individual pages – 27.04.09

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WINTECH ENGINEERING LIMITED, HALESFIELD 2, TELFORD, TF7 4QH, ENGLAND.

TEL: +44 (0) 1952 586580 FAX: +44 (0) 1952 586585 E-mail: testing@wintech-group.co.uk Web: www.wintech-engineering.com

Testing Conducted by: Wintech Engineering Ltd
Halesfield 2
Telford
Shropshire
TF7 4QH

Test Conducted for: Q-Railing Europe GmbH & Co.KG

Test Conducted at: Q-Railing Europe GmbH & Co.KG
Marie-Curie-Straße 8-14
D-46446 Emmerich am Rhein
Germany

Standards Specified: BS 6399-1:1996 – Loading for buildings Part 1: Code of practice for dead and imposed loads

Project No: 09119

Dates of Test Sequence: 23rd and 24th February 2009

Product/System Tested: Easy Glass System – Top & Side Mounting
Extra Strong System
Quickrail System
Post Model 0914
Post Model 0915
Prototype Aluminium Cast Profile

Testing Conducted by: M Wass Wintech Engineering Ltd
R Caizzo Wintech Engineering Ltd

Report Compiled by:

M Wass
Deputy Quality & Technical Manager

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1. INTRODUCTION

This report describes tests conducted at the test site of Q-Railing Europe GmbH & Co.KG on various barrier samples incorporating various fixing methods and glass thicknesses.

The test barriers were supplied and erected on to the test rig by Q-Railing Europe GmbH & Co.KG.

2. TEST ARRANGEMENT

2.1 TEST RIG

Various barrier specimens, supplied for testing in accordance with BS 6399-1:1996, were mounted on to a rigid, purpose built, test rig constructed from steel with sufficient strength to withstand the loads applied to it.

2.2 INSTRUMENTATION

2.2.1 Hydraulic Ram

A hydraulic ram was used to apply loads to the barrier.

2.2.2 Load Measurement

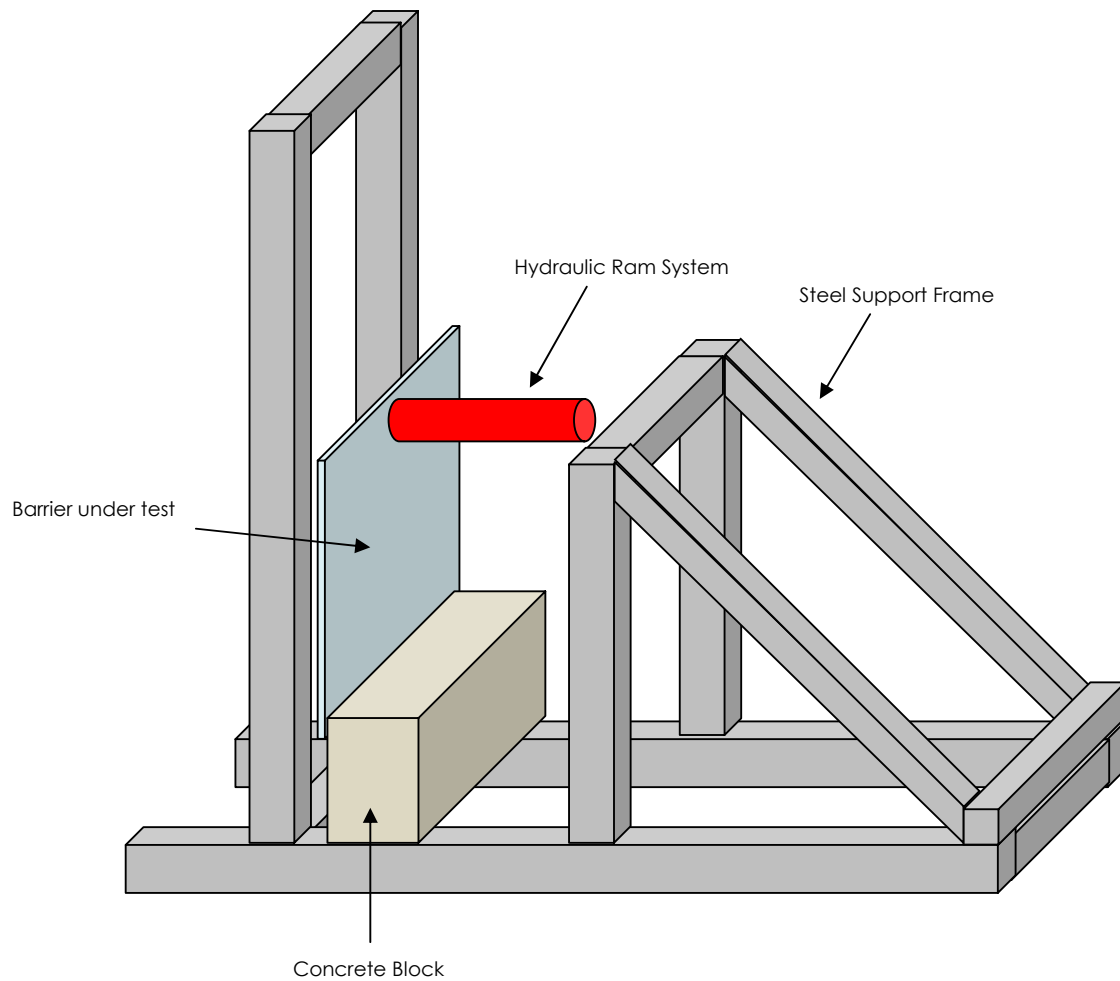
An S-beam load cell coupled with a digital readout was located in line with the hydraulic ram to measure applied loads.

2.2.3 Deflection

A digital calliper was used to measure the displacement of the barrier from its neutral position.

**All measurement devices, instruments and other relevant equipment were calibrated
and are traceable to National Standards.**

General Arrangement of a Typical Test Assembly



3. TEST PROCEDURES

3.1 SEQUENCE OF TESTING

1. Line Loading
2. Point Loading

3.1.1 Line Loading

Various uniformly distributed line loads were applied to the barrier at a height of 1.1 m above datum level. Deflection measurements were taken at each of the loads.

3.1.2 Point Loading

Various point loads were applied to the centre of the barrier infill and any observations noted.

4.4 Results

Product Description	Glass Description	Line Load Applied (kN/m)	Measured Deflection (mm)	Point Load Applied (kN)	Observations
Easy Glass Top Mounting Profile with 12/50SK fixings (with a wedge either side of the glass)	19 mm Toughened 1100 mm high x 1200 mm wide	0.36	13.93		
		0.74	31.49		
		1.50	63.13		

NOTE: All model numbers are as per the Q-Railing catalogue – Program 01.06.2008

Barriers during Testing



Photograph 1
Easy Glass Top Mounting Profile during line load test

Photograph 2
Extra Strong system during line load test



Photograph 3
Extra Strong system during point load test



Photograph 4
Easy Glass Side Mounting during line load test

Photograph 5
Post model 0914 during point load test



Photograph 6
Quickrail system during setup