

## TEST REPORT

**Lucideon Reference:** UK223187 (QT-68860)/Ref. 2

**Project Title:** Testing of Pure Vista Aluminium Handrail in Accordance with BS 6180:2011

**Client:** Pure Vista  
Pendewey  
Stony Lane  
Bodmin  
Cornwall  
PL31 2QX

**For the Attention of:** Mr Adam Oakes

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**Purchase Order No.:** 3160

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**Work Location:** Lucideon UK

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## 1 INTRODUCTION

Lucideon Limited was commissioned by the client Pure Vista to carry out load testing based on BS 6180:2011 Barriers In and About Buildings, to allow their handrail system to be classified for use in accordance with the Code of Practice included within the Standard.

The testing was carried out at Lucideon's facilities at Queens Road, Penkhull, Stoke-on-Trent on 22 August 2022.

This report summarises the test results obtained during the test programme and does not provide interpretation of those results.

## 2 TEST SAMPLES

A single system was tested designated as follows:

- Aluminium handrail.

The system was installed by Pure Vista Personnel.

## 3 TEST PROGRAMME

A point and line load test was undertaken on a single handrail designated as:

- Pure Vista aluminium handrail.

## 4 TEST EQUIPMENT

- 50 kN load cell FOR033.
- Linear Displacement Voltage Transducers (LVDT) A4.
- 15 Tonne capacity hydraulic ram.
- Daisy Lab data logger.

## 5 TEST PREPARATION

The aluminium handrail system was bolted in between a pair of steel uprights. The uprights were welded to the floor of the test facility.



## 6 TEST METHOD

### 6.1 Point Load

A point load was applied to the centre point of the aluminium handrail. The Standard deems that the point load should be applied to the position most likely to cause the most deflection, and the centre point was deemed to be the worst-case scenario. The load was applied via a hydraulic ram and 40 mm diameter steel indenter. Deflection was measured at the centre of the handrail using a linear voltage displacement transducer. Plate 1 shows the test setup.

### 6.2 Line Load

A uniformly distributed line load was applied using a hydraulic ram to the handrail using a 50 mm x 75 mm timber spreader beam. The deflection was recorded using a linear voltage displacement transducer at the horizontal mid-span of the handrail.

## 7 RESULTS

The loads achieved by the aluminium handrail are given in Tables 1 and 2. All figures quoted in the Table contain no safety factors and are direct loads as achieved by the system under test conditions.



**TABLES**

**Table 1 - Working Load Deflections for Pure Vista Aluminium Handrail System Tested**

<b>System</b>	<b>Test Type</b>	<b>Imposed Load at 25 mm (kN)</b>	<b>Working Load for System (kN)</b>	<b>Deflection at Working Load for System (mm)</b>
Pure Vista Aluminium Handrail	Point Load	2.63	1.5	12.01

**Table 2 - Working Load Deflections for Pure Vista Aluminium Handrail System Tested**

<b>System</b>	<b>Test Type</b>	<b>Working Load for System (kN)</b>	<b>Deflection at Working Load for System (mm)</b>
Pure Vista Aluminium Handrail	Horizontal Line Load	0.74	3.57

**NOTE: The results given in this report apply only to the samples that have been tested.**

**END OF REPORT**

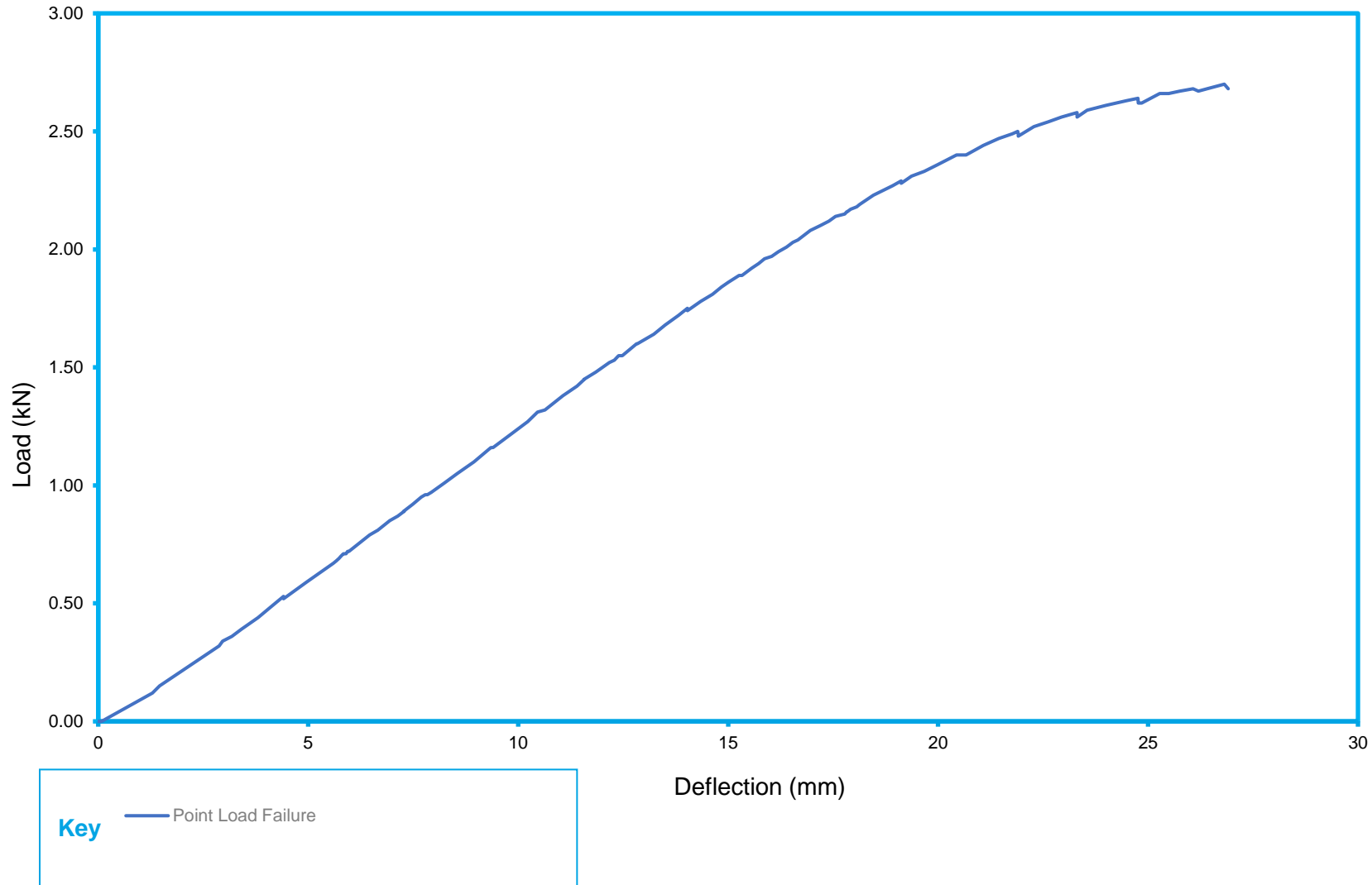
**PLATE**



**Plate 1 - Test Configuration**

**Chart 1 - Load Deflection Curve for Point Load of Pure Vista Aluminium Handrail System**

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**Chart 2 - Load Deflection Curve for Horizontal Line Load of Pure Vista PosiGlaze Aluminium Handrail System**

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