



PO Number: PO10031

Test Report: No. 16030368

Element Materials Technology  
56 Nursery Street  
Sheffield  
South Yorkshire  
S3 8GP UK  
info.sheffield@element.com  
element.com

P: +44 (0)114 272 6581  
F: +44 (0)114 272 3248  
Bank: HSBC  
Acc: 44517393  
Sort Code: 40-38-04  
V.A.T. No. 172 8037 62  
Company Reg. No. 76383

Customer: VR Access Solutions Limited, 1 Swan Courtyard, Charles Edward Road, Birmingham, B26 1BU

Element Materials Technology (Sheffield) were asked by VR Access Solutions Limited to perform the analysis reported below:

## Material Information

Test Date: 01/04/2016

Description of Sample: 5.5M Galvanised Steel Ladder  
Material Specification: Not Given

-  
-  
-  
-  
-  
-

## Introduction

Tested in accordance with: BS EN 131-2: 2010 + A1: 2012

The following report details tests applied to one Galvanised Steel Ladder (5.5m length) tested in accordance with relevant clauses of BSEN 131-2: 2010 + A1: 2012.

## Results

Section 5.2 Strength Test of Stiles				
Pre Load	Test Load	Deflection Measurement taken after 1 minute (mm) $f_{max} = 0.001 \times l$	Pass / Fail	
500N	1100N	2mm	Pass	

Section 5.6.2 Vertical Load on Rung				
Pre Load	Test Load	Deflection Measurement taken after 1 minute (mm) $f_{max} = 0.05\% \times l$	Deflection (%) Max 0.5%	Pass / Fail
200N	2600N	0mm	0.00%	Pass

Section 5.3 Bending Test of Stiles				
Pre Load	Test Load	Deflection Measurement taken after 1 minute (mm) $f_{max} = 0.043 \times l - 90\text{mm}$	Pass / Fail	
100N	750N	73mm	Pass	

Section 5.7 Torsion Test on Rung				
Pre Load	Test Load	Deflection Measurement (°) Max 1°	Pass / Fail	
N/A	50Nm	Zero	Pass	

Section 5.4 Lateral Deflection Test of Ladder				
Pre Load	Test Load	Deflection Measurement taken after 1 minute (mm) $f_{max} = 0.005 \times l$	Pass / Fail	
100N	250N	6mm	Pass	

Section 5.11.1 Feet Pull Test				
Pre Load	Test Load	Separation Measurement (mm) Max 4mm	Pass / Fail	
N/A	150N	Zero	Pass	

Section 5.5 Bottom Stile Ends Test				
Pre Load	Test Load	Deflection Measurement taken after 1 minute (mm) $f_{max} = 2\text{mm}$	Pass / Fail	
N/A	1100N	0mm (Top Stile end)	Pass	
N/A	1100N	0mm (Bottom Stile end)	Pass	

Section 5.15 Torsion on Ladder Length				
Direction	Pre Load	Test Load	Deflection Measurement (°) Max 18°	Pass / Fail
Clockwise	65Nm	130Nm	2°	Pass
Anti clockwise	65Nm	130Nm	2°	Pass

**Conclusion:** From the results above the ladder has Passed the requirements of BS EN 131-2: 2010 + A1: 2012

Issue Date: 22 April 2016

### Authorised Signatory

Signature:

Name:

Ben Bullen

Position:

Manager Mechanical Testing

NB: All tests marked with a \* are not on our UKAS schedule of accreditation

Where appropriate, the results reported herein provide traceability of measurement to recognised national standards, and to units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. Any opinions or interpretations given herein fall outside the scope of our schedule of accredited testing. If, upon reproduction, only part of this report is copied, Element will not bear any responsibility for content, purport and conclusions of that reproduction. Original reports issued by Element, either in electronic or physical form have legal value only when furnished with an authorised signature. Any subsequent digital or physical copies of this report have no legal value unless authorised by Element. The Terms & Conditions of Element, available upon request, are applicable on all services provided by Element. NB: Results given in this report relate only to the items received and tested.