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LOAD TESTING OF GRATE

Description:	Powder Coated Grate - Series 125 Shoe Guard
Manufacture Date:	May 2016
Place of manufacture:	China
Metal Type:	Ductile Iron
Clear Opening Size:	125 x 500 mm (125mm CO)
Testing Standard:	AS3996-2006 - Appendix C – Class E
Test Block Size/Shape:	75 x 240 mm Rectangle
Testing Equipment:	Shimadzu REH100TV Universal Testing Machine Complying with Class 1 of International Standard EN ISO 7500-1:2004.
Test Results:	Testing carried out at Opus International Consultants Albany Laboratory on 25/11/16. Refer to Page 2 of 2 for notes.

Permanent set measured	**= 0.36mm**
Permanent set permissible	**= CO/100 (1mm max) = 1.00mm**
Max def. at serviceability load	**= 2.24mm**
Max def. permissible at serviceability load	**= CO/45 = 125/45 = 2.78mm**
Load Reduction Factor	**= 125/250 = 0.5**
Class E: Serviceability load	**= 267 x 0.5 = 133.5 kN**
Class E: Ultimate Design Load	**= 400 x 0.5 = 200 kN**
Ultimate Load Applied	**= 298.5 kN (Failure in grate)**

Notes:

- Due to the impracticalities of testing the grate installed in support frame, the frame was simulated in the universal testing machine by supporting each long side of the grate with steel to allow bending of the grate under the test area.
- Due to the test block being made of plywood which deforms under load, it was loaded to the serviceability load once to embed the plywood into the test grate prior to the 5 test cycles for serviceability design load. The deformations (def.) and permanent set shown on page 1 include any further deformation in the plywood test block.

Conclusion:

Product as tested complies with the design Classification requirements of the standard AS3996-2006 – Appendix C – Class E.

Tested by: Ben Richardson, Laboratory Quality Manager; Joshua Burton, Engineering Technician

Date tested: 25/11/2016

Approved by: Ben Richardson
Laboratory Quality Manager

Date approved: 01/12/2016