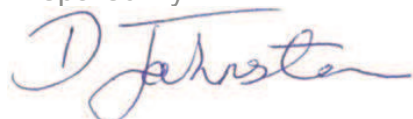


Commercial in Confidence

Test Laboratory	HORIBA MIRA Ltd
Date of Report	04/08/2017
Client	Pudsey Diamond Engineering Limited
Test Item	I-Boll Bollard
Date of Test	06/06/2017
Test Number	T0241
Report Number	1214547-003-01
Test Type	Vehicle Impact to EN12767-2007 Non-harmful Support Structures Speed Class 50 High Speed
Number of Pages	26
Test Report Language	English

Prepared By:



Dave Johnstone
Senior Engineer

Approved By:



Rachael Kennedy
Head of Test DeliveryDate: 18th August 2017

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Tel: +44 (0)24 7635 5000 · Fax: +44 (0)24 7635 8000 Registered in England No 9626352 · VAT Registration GB 100 1464 84

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5.3 Description of Test Item Damage

The reflective sleeve on the post section of the bollard showed some minor scuff and scrape marks. The sign face on the head of the bollard was shattered, exposing the electronics which appeared to be undamaged. The wire connecting the solar panel to the circuit board had become disconnected, so the sign was not illuminated post impact.

The bollard was measured to have returned to a height of 920mm, 7mm less than its original height of 927mm. This represents a 0.8% reduction in height.

5.4 Description of Test Vehicle Damage

There was no structural damage to the vehicle during the test. The only visible damage was a broken license plate screw and some minor scuffs to the bumper paint work.

5.5 Assessment of the impact severity

5.5.1 General

Graphs of vehicle accelerations, angular velocities and severities are included in Annex B

5.5.2 Impact test acceptance criteria

Assessment of Impact Severity:	
Acceleration Severity Index (ASI):	0.1
Acceleration Severity Index Rating (ASI)	A
Energy Absorption category	50 / Non-Energy Absorbing (NE) 4
Theoretical head impact velocity (THIV): (km/h)	3.2
Post-impact head deceleration (PHD): (g)	1.0

6 General statements

The test results in this report relate only to the item tested.

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7 Approval of report

See front cover.