

SUMMARY OF RESULTS

Test Agency

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Product

Designation
Drawings Supplied
Installation of Foundation (Date)
Installation of Product (Date)

ER:1407 Fixed Bollard
7th October 2009
29th June 2009
7th October 2009

Test Vehicle

Make/Type
VIN
Kerb Weight
GVW

Toyota Hilux 4x4 Single Cab pick-up
JTFKP6267000323315
1622
2515

Impact Specification

Mass (kg)
Speed (km/h)
Angle (deg)
Energy (kJ)

Target

2500
64
90
395

Achieved

2501
63.7
90.8
392

Product Result

Vehicle halted by bollard. Bollard deflected to 71.1deg. Small crack in outer shell at bottom of rear face. No foundation displacement.

Penetration

Dynamic Vehicle Load-bed Penetration (m)
Static Vehicle Load-bed Penetration (m)
Dispersion of Debris (m)

-0.414
-0.625
No debris ejected

Manufacturer

Marshalls Mono Ltd, Birkby Grange,
Birkby Hall Road, Huddersfield HD2 2YA

PAS68:2007 Performance Classification – Vehicle impact Test

Performance Classification:

V/2500/64/90:0.0/0.0

Note: not given for load-bed penetration > 25m

Product Type

Fixed Bollard

Test Mass (kg)

2501

Test Speed (km/h)

63.7

Vehicle Penetration (m)

0.0

Dispersion of Debris (m)

0.0

Engine Running post test

No

Vehicle Driveable Post test

No

Follow-on vehicle could pass barrier

No