



# Impactapol® Material

To Help Save a Life..

..New Advances in Bollard Design  
to meet BS EN 12767:2000

Passive safety of support structures for road equipment.

**PASSED!**

*Tested by*



*UK's leading centre  
for transport  
research.*

*Renowned worldwide  
for its transport  
research work over  
the last 70 years.*



**SEE INSIDE FOR DETAILS**

## What is Impactapol?

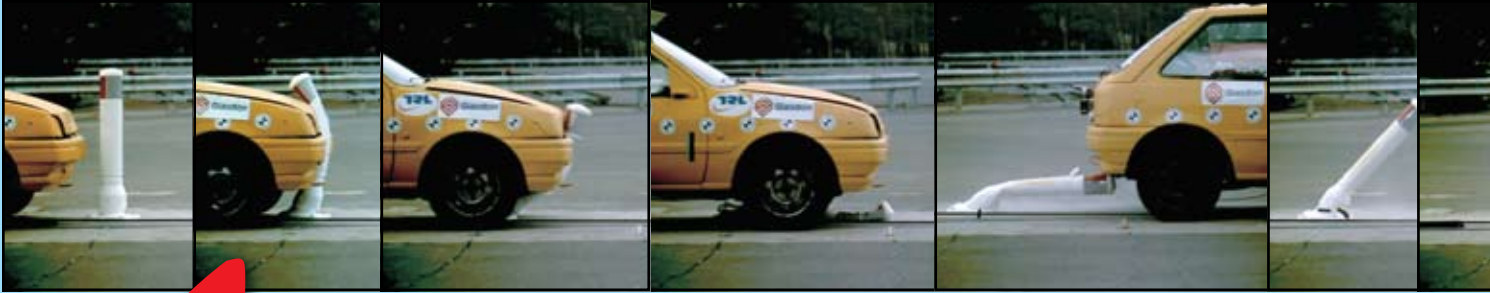
Impactapol material is a polymer specially developed with enhanced flexibility and extensibility properties offering good recovery performance after vehicular impact. Impactapol has abrasion resistance, the material will not chip or rust and never needs painting.

Impactapol can be hit, knocked down and return into place. In the case of driver error, road equipment needs to be passively safe. With Impactapol products, re-installing may not be required following a vehicle run

through as the hazard will still be highlighted by the product.

- **Passively Safe** - Ideal for vulnerable sites.
- **Best Value Performance** - Saves on replacement and reinstatement costs.
- **Drives down maintenance cost** - Quick and easy to replace - no expensive excavation needed. Never needs painting.

## Neopolitan™ 150 Rebound - Bolt Down Bollard



**✓ PASSED**  
at 100 km/h (62 mph)

Tested by  
**TRL**  
UK's leading centre  
for transport  
research.

### Dimensions

Height above ground: 1005mm  
Main stem diameter: 150mm  
Maximum diameter: 200mm  
Bollard weight (excluding fixing): 4.50kg  
Colours: Black or White.

## Neopolitan™ 150 Rebound - Below Ground Extended Base Bollard



**✓ PASSED**  
at 100 km/h (62 mph)

Tested by  
**TRL**  
UK's leading centre  
for transport  
research.

### Dimensions

Height above ground: 925mm  
Main stem diameter: 150mm  
Maximum diameter: 200mm  
Bollard weight: 5.00kg  
Colours: Black or White.

## Hazardmaster™ Marker Post



**✓ PASSED**  
at 100 km/h (62 mph)

Tested by  
**TRL**  
UK's leading centre  
for transport  
research.

### Dimensions

Height above ground: 910mm  
Depth below ground: 300mm  
Total Height of Post: 1210mm  
Post weight: 4.00kg  
Colours: Black and White.

# What is BS EN 12767:2000?

## Passive safety of support structures for road equipment.

There are 4 levels of occupant safety. Levels 1, 2 and 3 provide increasing levels of safety. Level 4 (the level that Glasdon bollards/marker posts were tested to) comprises VERY SAFE support structures. The test requires that a vehicle with a mass of 825kg + 40kg (a Ford Fiesta) complete with dummy with a mass of 78kg be driven through the product at an angle

of 20° at 100 km/h (62 mph). In order to pass, the speed of the vehicle must not be reduced more than 3% or 3 km/h and the passenger safety cell of the car should not be breached. Glasdon products not only passed at the highest level of safety (Level 4 – Very Safe) but also returned upright and continued to function as a hazard marker.

## TRL TEST RESULTS

Test Details			
Test Item	Neopolitan 150 Rebound - Bolt Down (4 fixing bolts on flange)		
Supplier	Glasdon UK Ltd		
Installation	Installed by Glasdon UK Ltd		
Test Vehicle	Ford Fiesta		
Pre-test condition of test vehicle	Damaged sustained in test 01QB01		
Impact Conditions			
	Required	Test	Compliance
Impact Angle (°)	20 (+ 2)	20	YES
Impact Speed (km/h)	100 (+ 5)	104.5	YES
Exit Speed (km/h)		103.0	N/A
THIV (km/h) EN12767:2000 Table 6 NE4	<3	1.5	YES
Evaluation Criteria EN12767:2000 Section 5.2.			Compliance
Predictable behaviour	The bollard was undamaged and returned to the upright position.		YES
Penetration of the test vehicle	There was no damage to or penetration of the passenger compartment.		YES
Test vehicle behaviour	The test vehicle continued in a straight line before and after impact.		YES
Detached elements	There was no debris generated by the test.		YES
Damage to vehicle	Slightly larger dent in bonnet, minimal damage to front valance.		N/A



See live action of this test on our interactive CD-Rom

## Bollard



See live action of this test on our interactive CD-Rom

Test Details			
Test Item	Neopolitan 150 Rebound - Below Ground Extended Base		
Supplier	Glasdon UK Ltd		
Installation	Installed by Glasdon UK Ltd		
Test Vehicle	Ford Fiesta		
Pre-test condition of test vehicle	Damage sustained in test 14PB01		
Impact Conditions			
	Required	Test	Compliance
Impact Angle (°)	20 (+ 2)	20	YES
Impact Speed (km/h)	100 (+ 5)	103.6	YES
Exit Speed (km/h)		100.7	N/A
THIV (km/h) EN12767:2000 Table 6 NE4	<3	2.9	YES
Evaluation Criteria EN12767:2000 Section 5.2.			Compliance
Predictable behaviour	The bollard was undamaged and returned to the upright position.		YES
Penetration of the test vehicle	There was no damage to or penetration of the passenger compartment.		YES
Test vehicle behaviour	The test vehicle continued in a straight line before and after impact.		YES
Detached elements	There was no debris generated by the test.		YES
Damage to vehicle	Slight dent in bonnet just above badge, slight damage to front valance caused by vehicle hitting safety net support, nearside front headlamp broken by the net support.		N/A

Test Details			
Test Item	Hazardmaster Marker Post		
Supplier	Glasdon UK Ltd		
Installation	Installed by Glasdon UK Ltd		
Test Vehicle	Ford Fiesta		
Pre-test condition of test vehicle	Slight damage to lower front valance		
Impact Conditions			
	Required	Test	Compliance
Impact Angle (°)	20 (+ 2)	20	YES
Impact Speed (km/h)	100 (+ 5)	103.3	YES
Exit Speed (km/h)		100.7	N/A
THIV (km/h) EN12767:2000 Table 6 NE4	<3	2.6	YES
Evaluation Criteria EN12767:2000 Section 5.2.			Compliance
Predictable behaviour	The bollard was undamaged and returned to the upright position.		YES
Penetration of the test vehicle	There was no damage to or penetration of the passenger compartment.		YES
Test vehicle behaviour	The test vehicle continued in a straight line before and after impact.		YES
Detached elements	There was no debris generated by the test.		YES



See live action of this test on our interactive CD-Rom

# Easy Fix 1: Bolt-Down fixing installed in under 8 minutes

- ▶ Ensures a very quick to install, strong, bolt-down fixing with minimum disruption.
- ▶ Suitable for existing concrete sub-surfaces.
- ▶ In the event of damage the bollards are easy to replace by using the existing fixing.
- ▶ Ideal for installation where below-ground fixing is not possible. For example, for use on bridges or if there are underground electricity cables or water supplies.



1) Position the bollard centrally on the intended site and orientate it correctly with regard to the site requirements.



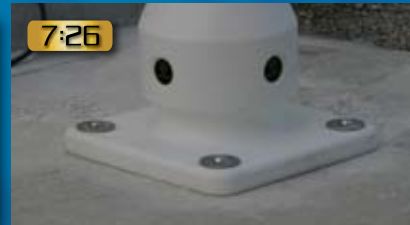
2) Using the bollard, mark out the four hole positions.



3) Drill the four holes with a 16mm diameter drill bit no less than 80mm deep.



4) Insert the Anchor Rawl Plug, Spacer, Washer and Fixing Screw into each of the four holes. Using the 6mm Allen Key provided, loosely tighten each of the Fixing Screws.



5) Fully tighten the Fixing Screws to complete the installation.



Installed in under 8 mins

# Easy Fix 2: Concrete-in fixing



- ▶ Easy to install and allows easy replacement of the bollard if required.
- ▶ Can be used where there is insufficient depth or where there is not a suitable concrete sub-surface to bolt down to.
- ▶ Easy to concrete in and once in place allows easy replacement of the bollard without the need for additional groundwork.



OTHER FIXING OPTIONS ARE ALSO AVAILABLE, PLEASE TELEPHONE 01253 600411 FOR MORE INFORMATION.

# Other products available in Impactapol material include:



Neopolitan 20 Rebound



Neopolitan Signhead™ Rebound



Mini-Ensign™ Rebound



Admiral™ Junction Marker Bollard

## Free Delivery In Mainland UK & Northern Ireland

Our national distribution network ensures prompt delivery in mainland UK and Northern Ireland. All our prices are carriage-free on the mainland and Northern Ireland for orders over £50 value, only VAT will be added.

(However, to help offset the cost of packing, administration and delivery, there is a small charge of £5 on orders below the value of £50.)

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