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An Introduction to Safety & Security Barriers



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Temporary and permanent barriers protect:

- People
- Property
- Infrastructure
- Utilities
- Construction sites
- Public spaces
- Critical national infrastructure



Safety & Security Barrier Protection

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Effective barrier systems reduce the risk of:

- Vehicle incursions
- Site accidents
- Unauthorised access
- Terrorist attacks
- Equipment damage
- Traffic conflicts
- Flooding



Safety & Security Barriers Risk

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Barrier systems generally fall into three categories:

Safety Barriers

- Protect road users
- Separate traffic
- Guide vehicles

Security Barriers

- Restrict unauthorised vehicle access
- Protect people and assets
- Secure compounds

Hostile Vehicle Mitigation (HVM)

- Resist deliberate vehicle attacks
- Secure critical infrastructure

Selecting the correct barrier depends on the identified risk



Concrete barriers are widely used for:

- Highway works/Roads/Motorways
- Construction sites
- Utilities /Water treatment works
- Waste and Recycling Centres
- Airports
- Ports
- Rail Infrastructure
- Renewable Energy products
- Defence facilities
- Smart cities/Data centres
- Public events
- Quarries/Industrial sites



Typical Applications

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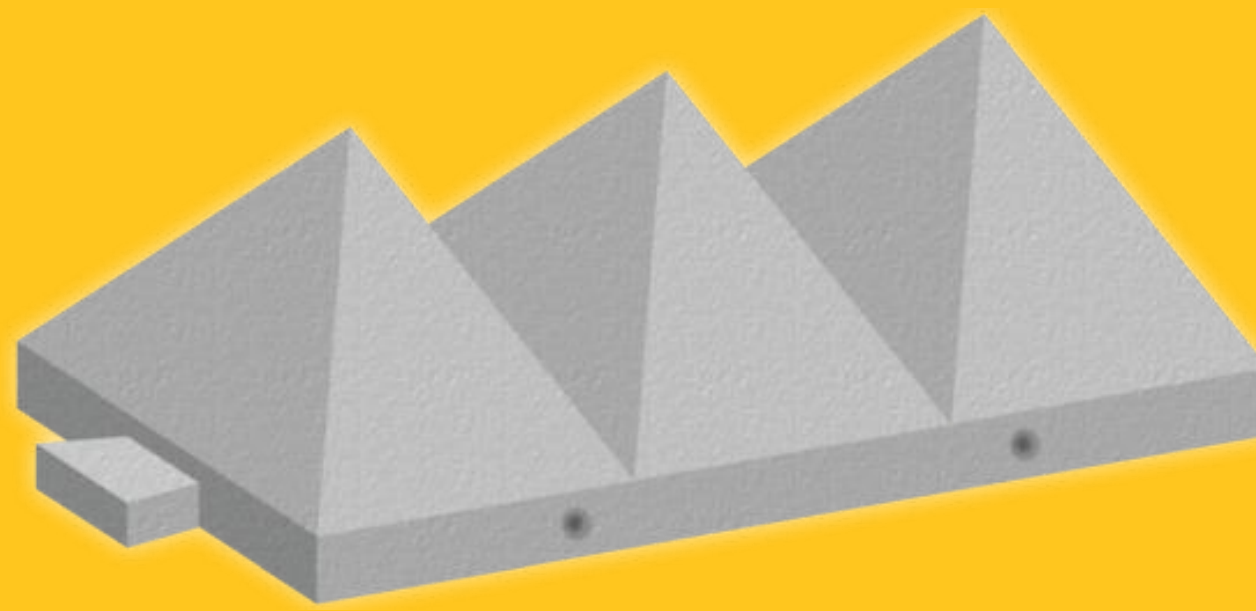
Key legislation and guidance includes:

- Health & Safety at Work Act 1974
- CDM Regulations 2015
- Traffic Signs Manual
- National Highways Sector Schemes
- Manual for Street
- PAS 68 (Vehicle Security Barriers)
- IWA 14
- BS EB 1317 – Road Restraint Systems
- ISO 22343 (Protective Security)



Benefits include:

- High strength
- Immediate installation
- Factory-controlled quality
- Durable and weather resistance
- Minimal maintenance
- Reusable and relocatable
- Sustainable whole-life performance
- No curing time



Why Choose Precast Concrete?

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Elite Precast manufactures:

- TVCB (Temporary Vertical Concrete Barriers)
- Jersey Barriers
- Jersey-Lite® Barriers
- TTPB (Tank Trap Pyramid Barriers – Dragon's Teeth)
- Concrete Security Blocks
- Concrete Bollards
- Minion-Bollards®
- Security Planters



Elite Safety & Security Range

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Designed for:

- Highway traffic management
- Roadworks
- Contraflow systems
- Temporary lane separation
- Construction projects
- Security
- Event management

Features

- Interlocking design
- Bolting connecting system
- Rapid deployment
- Compatible with National Highways requirements



Temporary Vertical Concrete Barriers (TVCBs)



Applications:

- Construction sites
- Events
- Traffic management
- Industrial facilities
- Pedestrian segregation

Benefits

- Rapid installation
- Robust protection
- Forklift handling
- Modular configuration
- Suitable for temporary or permanent use



Jersey Barriers

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Elite Jersey-Lite® barriers provide:

- Reduced unit weight
- Easier logistics
- Forklift handling
- Interlocking connections
- Cable management channels
- Signage and lighting provision

Ideal for projects requiring frequent relocation



Jersey-Lite® Barriers

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Concrete security blocks provide:

- Vehicle access control
- Perimeter protection
- Temporary security
- Site compound protection
- Critical infrastructure security

Typical applications include:

- Construction compounds
- Utility sites
- Renewable energy developments
- Distribution centres



Security Blocks

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Concrete bollards help protect:

- Buildings
- Pedestrian areas
- Utilities
- Retail developments
- Public spaces
- Vehicle access points



Benefits include:

- High durability
- Low maintenance
- Long design life



Concrete Bollards

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Minion-Bollards® provide compact solutions:

- Quarries
- Warehouses
- Construction sites
- Car parks
- Industrial estates
- Traffic management
- Leisure facilities

They help define safe vehicle routes while protecting infrastructure and improving site safety



Minion-Bollards®

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Applications include

- Security zones
- Defence systems
- Temporary road closures
- Vehicle denial
- Industrial security

Benefits

- High mass
- Rapid deployment
- No permanent foundations
- Highly visible deterrent



Tank Trap Pyramid Barriers – Dragon's Teeth

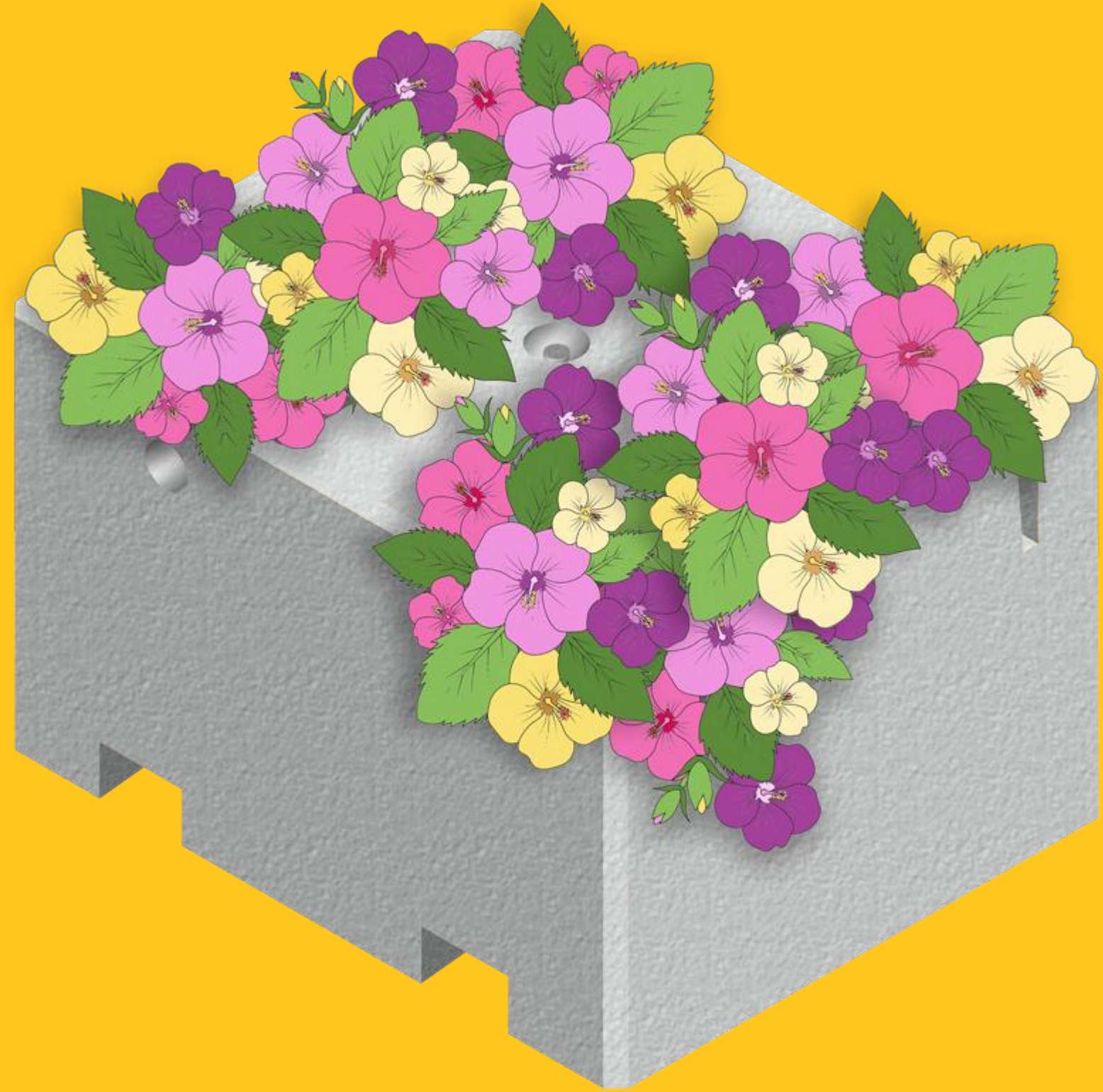
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Security planters combine:

- Physical protection
- Landscape enhancement
- Public realm improvements
- Vehicle access control

Ideal for:

- Urban environments
- Schools
- Hospitals
- Commercial developments
- Public squares



Security Planters

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Barrier systems help:

- Separate plant and pedestrians
- Define work zones
- Protect excavations
- Secure compounds
- Reduce vehicle conflict
- Improve traffic flow

Effective segregation is a key component of safe site management



Barriers protect:

- Solar farms
- Battery Energy Storage Systems (BESS)
- Wind farms
- Grid substations
- EV charging hubs

Benefits include securing high-value Equipment while allowing flexible site layouts



Renewable Energy Applications

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Barrier systems are used around:

- Water treatment works
- Pumping stations
- Chemical storage
- Reservoirs
- Access roads
- Construction compounds



Water Industry Applications

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Applications include:

- Track possessions
- Temporary compounds
- Equipment storage
- Deport security
- Level crossing works
- Maintenance projects
- Passenger safety

Precast barriers offer quick deployment and reliable protection in operational rail environments



Rail Infrastructure

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Concrete barriers protect:

- Data centres
- Electrical substations
- Telecommunication hubs
- Government facilities
- Emergency services
- Defence installation

The combination of durability, modularity and security make precast barriers well suited for critical infrastructure



Data Centres & Critical Infrastructure

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Precast concrete barriers contribute through:

- Long service life
- Reuse across multiple projects
- Minimal maintenance
- Recyclable materials
- Reduced waste
- Lower whole-life costs
- UK manufacturing



Sustainability

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Avoid:

- Selecting the wrong barrier type
- Ignoring impact performance requirements
- Incorrect lifting methods
- Poor ground preparation
- Inadequate barrier connections
- Failure to consider vehicle movements
- Poor maintenance of temporary layouts



Common Mistakes

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Precast concrete barrier solutions provide:

- Improved public safety
- Enhanced site security
- Rapid deployment
- Flexible installation
- Excellent durability
- Low maintenance
- Sustainable whole-life performance



Whether protecting highways, infrastructure, construction sites or critical assets, precast concrete barriers offer dependable, adaptable solutions for modern safety and security challenges

Barrier Protection

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Want to know more?

- BS EN 1317 – Road Restraint Systems
- PAS 68 – Impact Test Specification for Vehicle Security Barriers
- IWA 14 – Vehicle Security Barrier Performance Requirements
- CDM Regulations 2015
- Health & Safety at Work 1974
- National Highways Design Manual for Roads and Bridges (DMRB)
- Traffic Signs Manual (Depart for Transport)
- Centre for the Protection of National Infrastructure (CPNI) guidance or Protective Security Authority, NPSA)
- ISO 22343 – Security and Resilience: Protective Security

Suggested Further Reading

