



accessible • paving



PRECAST CONCRETE SOLUTIONS
FOR BUILDING REGULATIONS,
BS 8300, DDA AND INCLUSIVE MOBILITY

Interpave

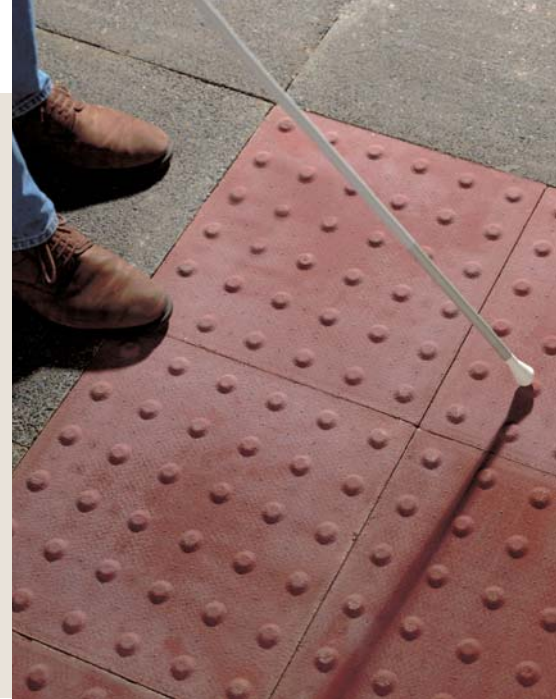
THE PRECAST CONCRETE PAVING
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Accessible Paving

Major changes in legal requirements and best practice are focusing attention on accessibility and mobility for all – particularly disabled people. This document considers the implications of these changes for the external paved environment and how precast concrete products meet the resulting challenges.



CONTEXT AND REGULATORY BACKGROUND

The latest Part M of the Building Regulations and its Approved Document (AD) 'Access to and use of Buildings' took effect on 1 May 2004. This simply replicates the previous edition for housing. For non-dwellings, the AD is substantially based on BS 8300:2001 'Design of buildings and their approaches to meet the needs of disabled people – Code of practice' which includes guidance and detail additional to Part M. BS 8300 is considered applicable to all applications including housing and existing buildings. In Scotland, the 1999 amended Technical Standards (TS) Part Q applies to housing and Part S to other buildings. In Northern Ireland, Building Regulations Part R and its Technical Booklet will be amended following introduction of the new Part M in England and Wales. Also making frequent reference to BS 8300 is the *Department of Transport's 2002 'Inclusive Mobility, a guide to best practice on access to pedestrian and transport infrastructure'* which deals with other public areas, often away from buildings.

To complete the picture, Part III of the Disability Discrimination Act 1995 (DDA) dealing with rights of access took effect in October 2004. This requires organisations or individuals providing goods, facilities or services to the public and their landlords or property managers - all known as 'service providers' - to make "reasonable adjustments" to their properties to overcome physical barriers to access.

The DDA Code of Practice does not include detailed guidance and it is generally accepted that adherence to BS 8300 will ensure compliance with the DDA, although it will be for the courts to decide on specific issues. In terms of the relationship between DDA and Building Regulations, there is a 10-year exemption for physical features built to comply with the 1992 or 1999 editions of Part M, expected to cover the 2004 edition.

In general terms, requirements can be summarised as follows:

- **New Housing** – must comply with Part M (Sections 6-10), TS Part Q (for Scotland) or Part R (for N. Ireland).
- **Housing Extensions and Alterations** - must not make the building less satisfactory in accessibility terms.
- **Non-dwellings or Mixed Use New Buildings and Extensions** – must comply with Part M (new Sections 1-5), TS Part S (for Scotland) or Part R (for N. Ireland).

- **All 'Service Provider' Buildings and Facilities** – should take reasonable steps to meet BS 8300.
- **Pedestrian and Transport Infrastructure** – should embrace the *Department of Transport's 'Inclusive Mobility'*.

In addition, guidance in BS 8300 is considered appropriate for all buildings and should be taken into account for any of the above situations. For many non-dwelling situations, an Access Statement is considered important (and referred to in Part M) to deal with the specifics of each project, which will probably develop from a similar document needed at the planning stage. An Access Statement may also be helpful in justifying alternative solutions to those found in AD Part M, TSs or Technical Booklet R, demonstrating DDA compliance or resolving conflicts with historic buildings.





Generally, accessibility requirements apply to those features outside the building – in other words the paving – needed to provide pedestrian and wheelchair access to the building entrance from the edge of the site, car parking, setting down points and (for non-housing) from other buildings on the site. Of course, the design principles involved can also be applied to other external areas to ensure accessibility for all. Specific guidelines (summarised below) are provided for the following elements, based on Part M and BS 8300, although the relevant documents should also be consulted when designing:

- On-street parking • Off-street parking • ‘Level’ approaches • Ramps • Steps

Design Implications

New Housing

The Part M AD includes the following requirements, although they fall below the recommendations of BS 8300. The approach to the dwelling can form part of a driveway if it passes clear of any parked cars.



‘Level’ Approaches – 1:20 max gradient. Min 900mm wide, 1:40 max crossfall.

Ramps – suitable where plot gradient is between 1:15 and 1:20.

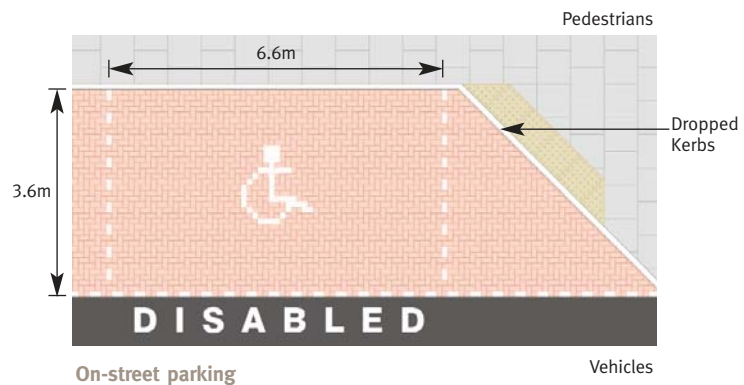
Min 900mm wide with 1200mm long unobstructed landings top and bottom. Max flight length of 10m for gradients up to 1:15 or 5m for up to 1:12.

Steps – suitable where plot gradient exceeds 1:15. Min 900mm wide with 900mm long landings top and bottom (and intermediate if needed). Max flight rise between landings of 180mm, step rise between 75mm and 150mm, min step going 280mm.

Non-dwellings and Mixed Use Buildings

On-street Parking

On-street parking is dealt with in BS 8300 (but not Part M) with the example shown, including where possible a dropped-kerb access to the pavement incorporating tactile paving. (see illustration)



Off-street Parking

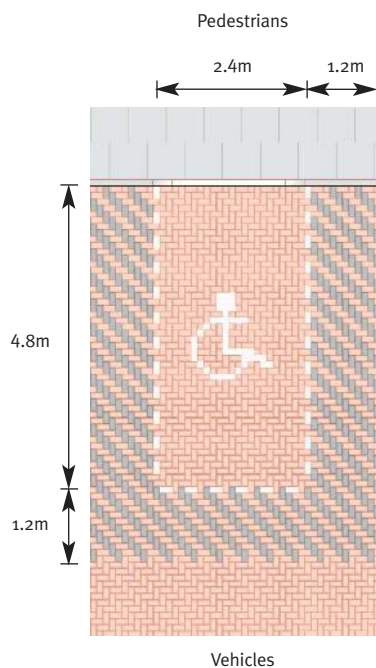
With Part M, at least one designated parking bay for disabled people (BS 8300 offers further guidance on quantity) should be provided on level ground with the dimensions and markings shown. (see illustration)

‘Level’ Approaches - 1:60 max gradient.

Min 1500mm wide with passing places 1.8m wide x 2m long within sight of each other (no greater than 50m apart), 1:40 max crossfall. Should be a distinct pedestrian route separated from vehicles and with buff tactile paving at crossing points.

Ramps – suitable for access of 1:20 or steeper. If the total rise exceeds 2m, an alternative wheelchair access (eg a lift) will be needed. There is a direct relationship between going of each flight and max rise, ranging from 2m going with 166mm rise (1:12) to 10m with the maximum allowable 500mm rise (1:20). Min clear width 1.5m with 1.2m long landings top and bottom, and any intermediate landings 1.5m long. Goings should be of a colour that contrasts visually with that of the landings but should maintain the same frictional characteristics. Note: the provisions of Part M take precedence over those for ramps in Part K.

It is recommended that additional steps should also be provided for a level change over 200mm.

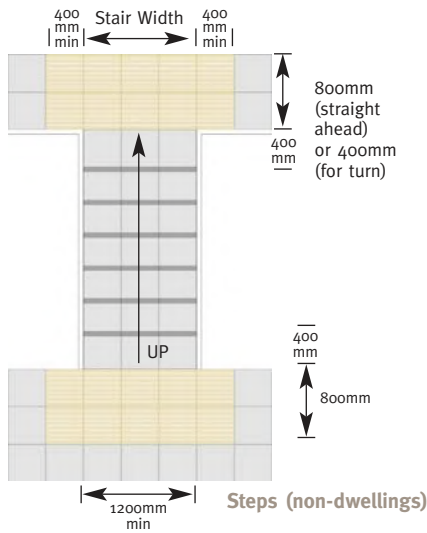


Off-street parking

Steps

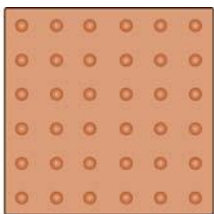
Min width, landings and corduroy hazard warning surface provision as shown and landings 1.2m long. No single steps are allowed and each flight should not exceed 12 risers (where the going is less than 350mm) or 18 risers (for 350mm or more).

The going of each step can range from 280 – 425mm and rise from 150 – 170mm. (see illustration)



Pedestrian and Transport Infrastructure and Other Applications

The *Department of Transport's* 'Inclusive Mobility' document provides extensive guidance including the use of drop-kerbs and tactile paving surfaces. These surfaces, reinforced with the use of colour, have been developed to provide blind or partially-sighted people with specific information. It is essential that the rationalised range of surfaces, summarised below, is used properly and consistently, in accordance with the *DETR* 'Guidance on the use of Tactile Paving Surfaces' and BS 7997 'Products for tactile paving surface indicators'. With precast concrete flags and paving blocks, the detailed profiles, sizes and colours specified can be produced easily and consistently.



Blister Surface

At level or ramped road crossings without a step kerb. Colours – red for controlled crossings only; other colours (preferably buff) for uncontrolled crossings giving good contrast with surrounding paving.



Platform Edge (Off-street)

For heavy rail and light rapid transit platforms not in a street environment. Colours – for good contrast (but not red).

↑ Facing railway lines



Cycle Track & Footway

Used with a central delineator raised line to define pedestrian and cycle sections of shared facilities.

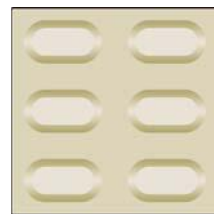
↑ Cycles
→ Pedestrians



Corduroy Hazard Warning

For specific hazards such as steps, level crossings or where a footway joins a shared route. Colours – to contrast with the surrounding area (but not red).

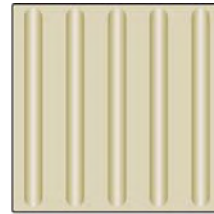
↑ Direction of travel



Platform Edge (On-street)

For light rapid transit platforms, only within a street environment. Colours – for good contrast, often buff (but not red).

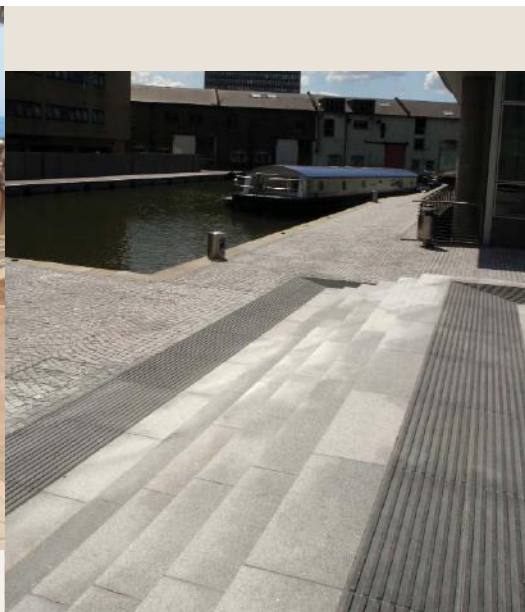
↑ Facing railway lines



Guidance Path

Used sparingly to guide people around obstacles, to specific locations or between facilities in transport terminals. Colours – for good contrast (but not red).

↑ Direction of travel



Safe and Secure Surfaces

All the guidance documents agree that for all the external situations covered, the paving surface must be:

- Firm, stable and even (not loose materials such as sand or gravel)
- Durable
- Slip resistant
- Non-reflective

Precast concrete flags and paving blocks, used in conjunction with concrete kerbs and accessories, easily meet all these criteria for car parking, level accesses, ramps, stairs and other paved areas while maximising opportunities for improved accessibility. Indeed they are specifically mentioned in both TS Parts Q and S as suitable surfaces. As fully engineered products manufactured under controlled conditions, they consistently provide:

- Accurate sizing with controlled joints to ensure an even surface
- Non-slip characteristics in dry or wet conditions (recognised in BS 8300)
- Proven long-term performance and durability
- Reinstatement without evidence, unlike insitu concrete and asphalt

- Wide variety of colours used in combinations to provide visual contrast – particularly for ramps and tactile surfaces – with uniform frictional characteristics

Members of Interpave have responded to the challenges of accessibility with product developments such as ‘fine chamfer’ block paving to minimise effective joint widths. New technologies have been adapted, such as ‘self-draining’ permeable block pavements

used for car parking bays, with standard paving for pedestrian access, to eliminate the need for cross-falls (often a problem for wheelchair users) without surface water accumulation.

New products continue to be developed, for example special kerbs to enable level access at bus stops. Finally, Interpave members work closely with designers on hard landscaping projects for the maximum enjoyment by disabled people, such as sensory gardens.





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