

Understanding the British Standard for Gaps Gates and Stiles

BS5709:2006 explained

The Standard covers gaps, pedestrian gates, bridle gates, kissing gates, dog gates (dog traps or latches) horse stiles, kent carriage gaps, wide (swing leg-over) and narrow (step over) pedestrian stiles. It does not explicitly cover stiles with moving parts nor vee stiles nor ladder stiles, though these and other structures had been considered for inclusion during the writing of the standard.

These explanatory pages cover eight ‘rules’ applicable to all compliant structures. Examples are then given of a gap, a bridle/pedestrian gate, three kissing gates and two stiles. Rules specific to each structure type are shown beside them. Examples are not given of horse stiles (motorbike inhibitors), stone stiles, dog gates or the kent carriage gap. All of these are detailed in the standard itself.

**The full Standard
BS5709:2006**
(ISBN 0 580 48107 7)
is available from
libraries, bookshops and
BSi British Standards
389 Chiswick High Road
London W4 4AL
www.bsi-global.com

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Produced to assist anyone involved with gaps gates or stiles: highways officer, path order maker, land owner, contractor, gate and stile manufacturer, path user and user group.

by

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(a PDF version of this paper, which may include later updates, is at www.pittcrofttrust.org.uk)

INTRODUCTION

BS5709, 2006 version, is performance based. The act of choosing which structure is suitable for a given situation is itself a requirement of the standard. Having made those choices the structural requirements are functional, and so long as the specified functional requirements are met then no matter what material is used in construction or what size or shape it is, the conformance with the standard will be satisfied.

History of this British Standard:

1. First published for 'stiles and gates' in 1979. This version was just for stiles and gates, and so long as the designs were met, it didn't matter if a stile or a gate was used.
2. The 2001 version was a major update. It was renamed for gaps, gates, and stiles, and the order of those words mattered. And even more significantly it was not, as the earlier version was, a bunch of fixed designs that, if erected, would comply. Instead it was a set of functional and mostly field measurable requirements, not requiring any particular design. Countryside Commission, landowners, highway officers, user groups, manufacturers, all worked together on it.
3. The 2006 version was basically a fairly minor revision of the 2001 version. Mostly clarification and small revisions following the major 2001 changes. In view of the interest in restricted byways it also now includes the kent carriage gap.

DIMENSIONS The standard is concerned only with the functionally relevant dimensions of the structures. So for example the maximum step height and the step surface area is specified but not the thickness or material.

EXPLANATION OF 'GAP' This new concept has sometimes caused difficulty and warrants explanation. A gap in BS5709 is not just a hole in the fence, but is the hole plus any structure defining it. The standard requires certain characteristics of that structure to conform to functional rules, so for example barbed wire within 1 metre of the actual gap would mean non-compliance.

Eight key rules are described on the following pages, these 'rules' are not referred to as such in the standard but are used here as a checklist of the main requirements of the standard.

Note: in rare cases it may not be practicable to keep to all of the BS5709 requirements. The Standard can still be cited but with the exception spelled out. This action is likely to be both better and simpler than not citing the BS at all and/or relying on some other local standard.

This document is aimed at enhancing understanding of the principles and salient features of the standard, for the full and authoritative details the official document, BS5709:2006 ISBN 0 580 48107 7, should be consulted.

Square brackets [] are used to refer to sections of BS5709:2006.

RULE 1: LEAST RESTRICTIVE OPTION.

Least restrictive option must be chosen. The standard's words are:

*The selection of a gap, gate or stile, which permits people to use a path crossing a field boundary such as a hedge fence or stone wall, **shall result in as little restriction as possible for potential users**, while meeting the actual agricultural needs of the landowners (principle of least restrictive option). [3.1][3.1.3]*

Notice **potential users**. On public footpaths that must mean all legitimate users including the mildly or seriously disabled, the elderly, children, mobility vehicles (pushchairs, wheelchairs) dogs. There will be some paths on which some of these users could not reasonably be expected ever to be able to travel, but they will be very few indeed. Just because other parts of the path are impassable to mobility vehicles (push chairs or wheelchairs) for example because of stiles, does not, under this standard, allow stiles or non-mobility-vehicle-passable gates to be put elsewhere on the path. To do so would be to make it harder in future to give access for all.

This is especially true of structures at the start of paths, where they leave a road. Some people with disabilities may get no further than the first field in the short term, but that is so much better than not getting anywhere at all.

The standard says that in the absence of explicitly identified counter reasons the following structures should be used in this order of preference [3.2]:

Gap, Gate, Kissing Gate, Stile.

Note the word 'explicitly'. Where a structure is being authorised under statute, for example under Highways Act 1980 sections 147 or 66 by a highway authority or their agent, it would be entirely reasonable to expect them to hold publicly available explicit reasons for not choosing a less restrictive structure.

Where something beyond a gap is needed then a two-way-opening self-closing gate is the preferred option (except adjoining roads where safety and vehicle exclusion may indicate a kissing gate).

Stiles. The Standard also says **new structures shall not be stiles unless exceptional circumstances require them** [3.1.3] [4.5.1].

RULE 2: REASONABLENESS.

Except where a gap is chosen, an **assessment of reasonableness** of putting a structure across a path must be made [3.1.2]. That assessment must include certain things being considered including whether there might be some other measure that would remove the need for any structure. An example would be where some side fencing or rerouting of cattle paths might allow elimination of the need for any cattle barriers at all on the path. As in Rule 1 it would be entirely reasonable to expect a highway authority to hold, publicly available, their assessment of reasonableness.

Square brackets [] are used to refer to sections of BS5709:2006.

RULE 3: MANOEUVRING SPACE. [4.3.e , 4.4.e, 4.5.d]

This is the space needed to be kept clear so as to allow users to get into position to open, pass through, and close a gate or to negotiate a fixed structure. This is something that is a requirement of the standard but was found difficult by the writers of that standard to specify clearly. A great deal more space is needed than is commonly assumed. One-way-opening gates need more manoeuvring space than two-way opening ones and some horses and mobility vehicles (wheel or push chairs) may need a three metre diameter space. It is desirable that those involved have some training involving actual people with wheelchairs, pushchairs or horses as appropriate. Best to get it right before installation, since just one or two potential users who are unable to manoeuvre through the structure would probably serve to prove non-compliance.

RULE 4: LOCATION OF STRUCTURES.

At vehicular roads, structures must be set back at least four metres from the (usually metalled) carriageway. Except that when on a footpath which is unlikely to be used by groups of walkers and which does not continue on the opposite side of the road, the structure need only be set back two metres from the carriageway edge [4.1.6].

RULE 5: ONGOING.

The standard requires **continuous and ongoing satisfaction.** That is even if at installation the structure is fully compliant, as soon as any of the functional requirements are no longer satisfied (for example by the placing of barbed wire on it) it is no longer compliant to the BS and must be repaired or replaced to comply [4.1.8].

RULE 6: GROUND. [4.1.5]

Ground within two metres of the structure to be free of surface water and provide a firm surface. Except immediately after rain.

RULE 7: BARBED WIRE ETC. [4.1.1]

No barbed wire, electric fence etc within one metre of the structure or the manoeuvring space.

RULE 8: PROTRUSIONS. [4.1.2 *et al*]

No protrusions likely to catch clothes or cause injury, edges radiused to 2mm or chamfered to 3mm minimum.

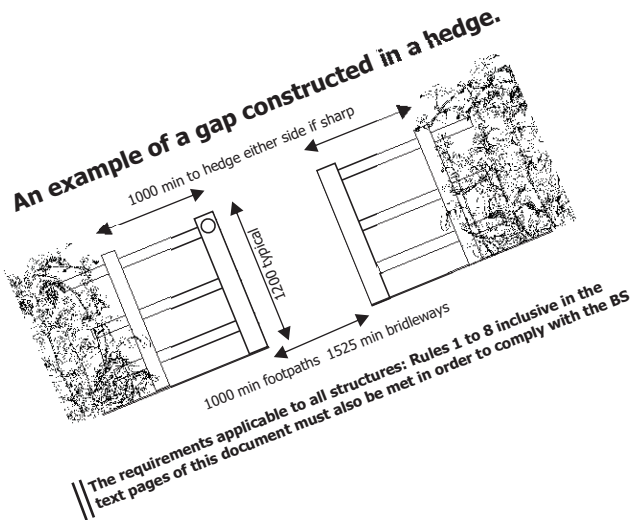
And certain other requirements about protruding direction posts [4.1.4], trapping of fingers by moving parts [4.1.3].

Examples of Gap and Gates compliant with BS5709:2006

Notes with double lines (||) are mandatory. Dimensions in millimetres.

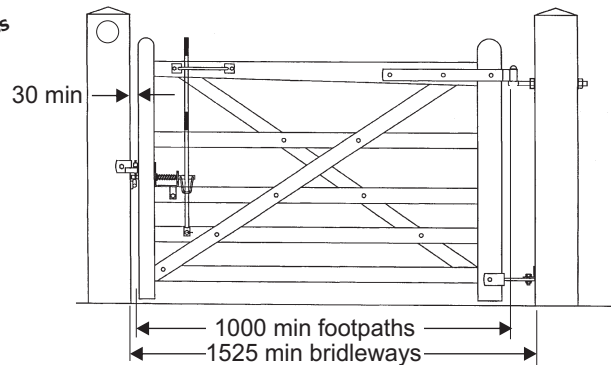
|| Dimensions marked max or min are mandatory.

These designs are examples of BS compliant structures, many different designs or constructions will also meet the BS5709's requirements.



An example of a two way bridle/pedestrian gate.

- # Latches if fitted (as here) to be visible, accessible and operable from both sides of the gate.
- # Not more than 50N (5kg on spring balance) force to fully open.
- # Gates, except off roads, if self closing must be two way.
- # For public paths a notice saying Public Footpath/Bridleway on both sides and within 2 m of the gate, is required.
- ## The requirements applicable to all structures: Rules 1 to 8 inclusive must also be met in order to comply with the BS



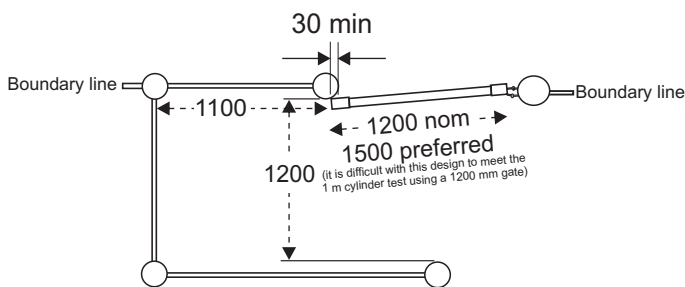
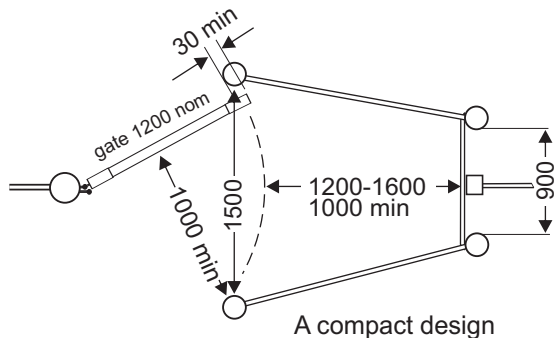
Three examples of kissing gates.

For all of these:

- # A 1 m cylinder, with axis vertical, must be able to pass through.
- # Latches, if any, must be easily accessible from either side by all users.
- # The gate must swing freely.
- # For public paths a notice 'Public Footpath' must be clearly visible to path users from both directions of approach and to be within 2 m of the structure.
- # Where the use of mobility vehicles (wheelchair or child's push-chair) is practicable at or near the structure the surface must be level or on a slope all in one plane and less than 1 in 10.

The requirements applicable to all structures: Rules 1 to 8 inclusive (in the text pages of this document) must also be met in order to comply with the BS

Height of all gates and top rails typically 1200 mm
Infill with wire mesh or other material to suit stock requirements



A design fitting neatly all on one side of a boundary

1650 mm ID typical



These designs are examples of BS compliant structures, many different designs or constructions will also meet the BS's requirements.
BS5709:2006 has structure examples similar to these as well as: horse stile (motorbike dissuader), stone stile, dog gate, Kent carriage gap.

Examples of Stiles compliant with BS5709:2006

Notes with double lines (||) are mandatory. Dimensions in millimetres.

|| Dimensions marked max or min are mandatory.

|| BS5709:2006 says New Structures (that is new where nothing was before) shall not be stiles unless exceptional circumstances require them.

|| In order to comply with BS5709, the 8 RULES in the text pages of this document must also be met.

Whilst these stile diagrams may be useful where stiles are historically lawful structures and just need repair or upgrade, they are unlikely to be fully compliant with the BS because of Rule 1, the least restrictive option rule.

For both wide and narrow stiles:

|| Step width 200 min

|| Hand posts 70 to 100 mm diameter or across faces

|| Posts not to be used as straining posts for fencing

|| Steps level in all directions to 1 in 30

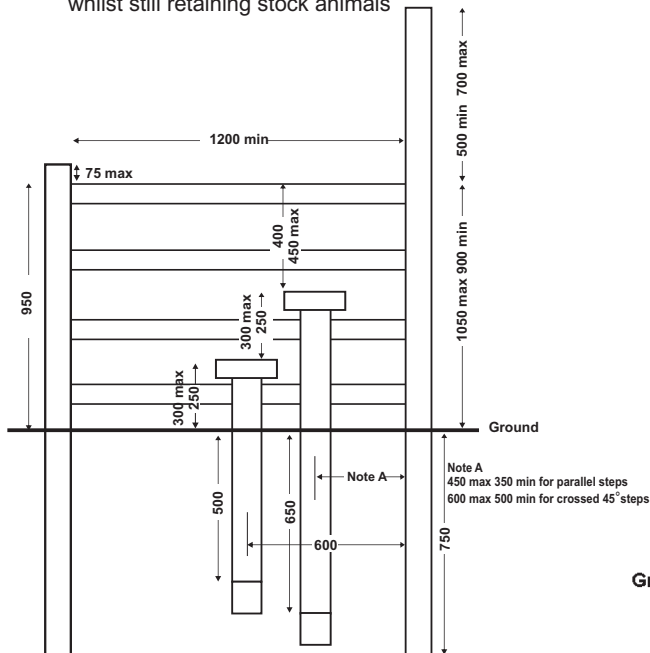
|| Posts vertical to 1 in 30

An example of a narrow stile

Good stockproofness with two steps, but when stockproofness is less important this stile can have a single step, not more than 300 mm from the ground, making it easier to use especially if the top cross bar is omitted.

An example of a wide stile

Showing typical and max and min dimensions
This is a well known design updated by this Standard to make more convenient whilst still retaining stock animals

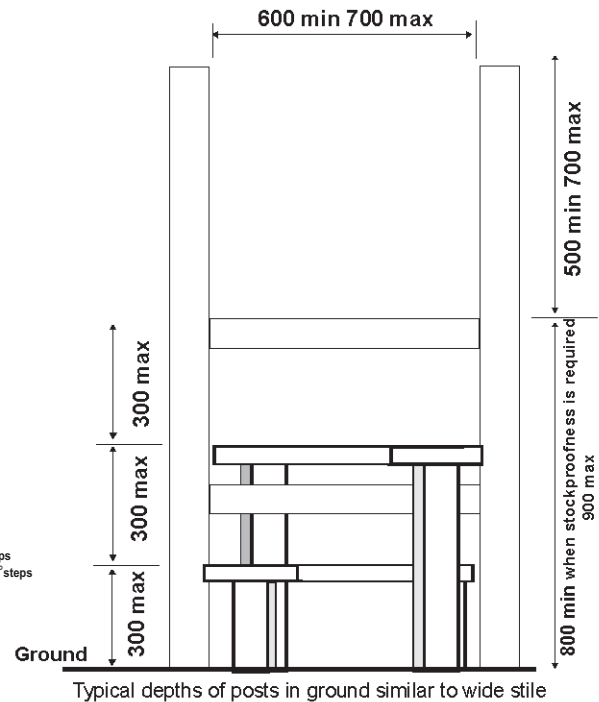


Specific to the wide stile:

|| Steps either 90° +/- 10° to the stile rails or crossed over at 45° +/- 10° to them

|| Step length 900 min

|| Step width 200 min



Specific to the narrow stile:

|| Steps to be crossed over at 45° +/- 10° to the stile rails

|| Step length 1000 min

|| Step width 200 min

|| Two extended posts are required

Note where the stile route is on a steep slope the downhill side may have a third step.
|| This step must be twice the width of a standard step and the 300 mm step height rule applies.

These designs are examples of BS compliant structures, many different designs or constructions will also meet the BS's requirements.

BS5709:2006 has structure examples similar to these as well as: stone stile, horse stile (motorbike dissuader), dog gate, Kent carriage gap.