

Seated accommodation

Why rail seating ticks all the boxes



Bristol, April 2014

Introduction

The Football Spectators Act (1989), described at the time in the Queen's Speech as an Act *"to counter hooliganism"*, gives the Secretary of State powers to impose unspecified *"requirements as respects the seating of spectators"* at association football matches played at a list of football grounds he or she may draw up and maintain. Since 1994 it has been the practice of successive Secretaries of State to make use of these powers to require that at a list of specified grounds spectators be provided *"only seated accommodation"*.

Ashton Gate Stadium

Ashton Gate is one such ground. It provides *"only seated accommodation"*.

Between now and August 2016 the stadium is to undergo major redevelopment, increasing capacity to around 27,000 seats and making the entire facility fit for the modern era, as illustrated below.



In August 2015, phases 1 and 2 of the redevelopment will reach completion.

By that time the ground will be hosting both association football games played by Bristol City FC and rugby union games played by Bristol Rugby Club. The latter will have moved to Ashton Gate from their current home 5 miles away. That stadium, which also hosts association football matches played by Bristol Rovers, has a capacity of 12,000, over 75% of which is standing accommodation. As Bristol Rugby Club's supporters have expressed a strong desire to continue to watch their sport standing up, the Ashton Gate redevelopment plans provide for this through the installation of rail seating in two designated areas of the ground (both covered by phase 1 and 2 of the redevelopment and thus due to open in August 2015).

The rail seating in the two designated areas of the redeveloped Ashton Gate Stadium will make ideal accommodation for standing rugby fans, providing, as it does, a waist-high rail along every row.



The intention is to install approximately 3,770 rail seats and to accommodate in the two areas the same number of standing rugby fans. Each and every standing spectator will thus have a waist-high rail directly in front of them (as pictured on the left) and another directly behind them. Any risk of stumbling forward, pushing or crushing that might be associated even with a modern, well-managed conventional terrace is thus completely eliminated.

As indicated above, when staging association football matches Ashton Gate is required to provide "only seated accommodation". The rail seating areas will fulfil this requirement, too, by providing every single one of the football supporters accommodated in those areas with a seat (as illustrated below).



There has, however, been some doubt cast over whether rail seating can, in fact, be classified as "seated accommodation" as defined by the Football Spectators Act. This paper seeks to dispel such doubt and requests that rail seating be formally deemed compliant with the requirements of the Act and by extension with those of the licence issued pursuant to the Act by the Sports Ground Safety Authority.

The Football Spectators Act

The Football Spectators Act 1989, which dealt primarily with the setting up of a proposed National Membership Scheme for all football spectators and for the administration of that scheme by the creation of the Football Licensing Authority, now the SGSA, also gives the Secretary of State the power "*to require conditions in licences relating to seating.*" This power is set out in section 11 of the Act as follows:

- 1) *The Secretary of State may, by order, direct the licensing authority to include in any licence to admit spectators to any specified premises a condition imposing requirements as respects the seating of spectators at designated football matches at the premises; and it shall be the duty of the authority to comply with the direction.*
- 2) *The requirements imposed by a condition in pursuance of this section may relate to the accommodation to be provided at, or the arrangements to be made as respects the spectators admitted to, the premises.*
- 3) *A direction may require the licensing authority to include the condition in the licence when granting it or by way of varying the conditions of a licence.*
- 4) *Before giving a direction under this section in relation to any premises the Secretary of State shall consult the licensing authority, which may, if it thinks fit, make recommendations to him.*
- 5) *The licensing authority shall not make any recommendations under subsection (4) above without consulting the local authority in whose area the premises are situated.*
- 6) *The power to make an order containing a direction under this section is exercisable by statutory instrument, which shall be subject to annulment in pursuance of a resolution of either House of Parliament.*
- 7) *In this section "local authority" has the same meaning as in the M4Safety of Sports Grounds Act 1975.*

Pursuant to these powers, respective Secretaries of State have issued orders by statutory instrument to the effect that a list of specified grounds must provide spectators with seated accommodation only. The wording of such order is as follows:

The Secretary of State makes the following Order in exercise of the power conferred by section 11 of the Football Spectators Act 1989. In accordance with section 11 of that Act he has consulted with the Football Licensing Authority.

Citation and Commencement

1. *This Order may be cited as the Football Spectators (Seating) Order [YYYY] and shall come into force on [date].*

Direction

2. (1) *The Secretary of State directs the Football Licensing Authority as set out in paragraph (2).*

(2) *When granting any licence to admit spectators to the premises specified in column (1) of Schedule 1 and further identified in column (2) of that Schedule by the name of the football club of which they are the home ground, the Football Licensing Authority shall include in that licence a condition imposing the requirements, as respects the seating of spectators at designated football matches, specified in Schedule 2.*

SCHEDULE 2

Requirements to be imposed

- 1. Only seated accommodation shall be provided for spectators at a designated football match.*
- 2. Spectators shall only be admitted to watch a designated football match from seated accommodation.*

The Act, however, does not define what constitutes "*seated accommodation*". In practice this can be wooden seats, plastic seats, padded seats, tip-up seats, static seats, wooden bench seats, seats with armrests, seats with no armrests, seats with backs, seats with no backs... in short, all sorts of different seats are in use around the country in compliance with the Act and by extension with the terms of the ground's licence from the SGSA as there is no definition in the Act of 'seated accommodation' and no stipulation as to what style of seating is to be provided.



Wooden seats and seats with no backs – In use since 1958 & 1994 respectively

While the Act does not stipulate what a seat should look like, the '*Guide to Safety at Sports Grounds*' (also known as the 'Green Guide'), last revised for the Department of Culture, Media and Sport, by the Football Licensing Authority (now the SGSA) in 2008, does make recommendations in respect of seating design and layout.

The 'Green Guide'

In the absence of any narrower definition of 'seated accommodation' in the Act, we draw below on the contents of the Green Guide to consider whether rail seats do indeed meet the recommendations for stadium seating.

The Guide makes recommendations in a number of areas, which can be summarised as follows:

- Sightlines
- Seat width
- Row depth
- Useful seat depth
- Clearways
- Gangways
- Distance to exits
- Fixings
- Numbering
- Fire resistance
- Injuries
- Cover
- Wheelchair spectators

Sightlines

In order to ensure that seated spectators are not encouraged to stand due to having a poor view of the action, the Green Guide makes certain recommendations in respect of sightlines. The quality of a sightline is often expressed as a 'C' value. In simple terms this is a measurement of a spectator's ability to see over the head of the spectator sat in front (or over any physical obstruction, e.g. a parapet wall). The Green Guide does not recommend any specific 'C' value, but draws readers' attention to the European Standard BS EN 13200:2003 Spectator Facilities Part 1: Layout Criteria for Spectator Viewing Area. This standard recommends a 'C' value between 90 and 120.

The minimum C value from the rail seating at Ashton Gate will be **90**.

In terms of sightlines the rail seats are thus compliant with the Guide.

Seat width

In respect of seat width the Green Guide notes that *"the safety, comfort and amenity of spectators will be determined by the amount of space provided for each individual seat"*. That space is determined by a multiplication of seat width by row depth. The minimum seat width recommended by the Green Guide for a new construction is 460mm.

The rail seats at Ashton Gate will be **460mm** wide.

In terms of seat width the rail seats are thus compliant with the Guide.

Row depth

As indicated under 'Seat width' above, the Green Guide states *that "the safety, comfort and amenity of spectators will be determined by the amount of space provided for each individual seat"*. That space is determined by a multiplication of seat width by row depth. The minimum seating row depth specified in the Green Guide for a new construction is 700mm (800mm is recommended where the events to be staged are particularly lengthy or where a lot of spectator movement is expected during the events).

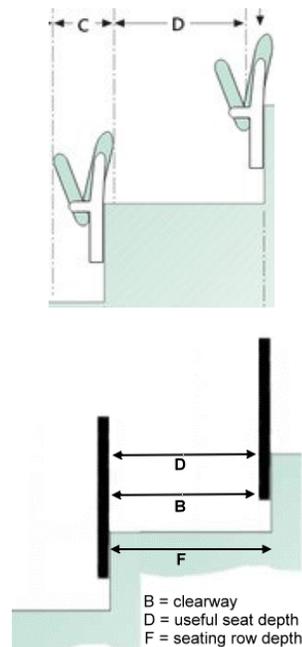
Rows in one rail seat area at Ashton Gate will be **840mm** deep.
The row depth in the other rail seat area will be **760mm**.

In terms of row depth the rail seating is thus compliant with the Guide.

It follows from the two measurements provided above that the *"amount of space provided for each individual seat"* will be 460mm x 760mm = 0.3496 sq. metres in one area and 460mm x 840mm = 0.3864 sq. metres in the other. How these figures compare with the space provided to spectators in some areas of the stadium at present is looked at later in this document.

Useful seat depth

"Another dimension which needs careful consideration," the Green Guide adds, *"is the useful seat depth. This is an important factor in the comfort and accessibility of seats. The useful seat depth is the horizontal distance between the back of the seat, measured at seat height, and the rear of the seat in front."* The Guide adds that: *"The selection of a seat with a narrower tipped dimension (C in the diagram) will result in an improved useful seat depth."* No stadium seat has a narrower tipped dimension and thus greater useful seat depth than a rail seat, where the tipped seat dimension is 50mm, as the seat and seat back fold away flush between uprights of that width.



In terms of useful seat depth rail seats thus represent the Guide's ideal!

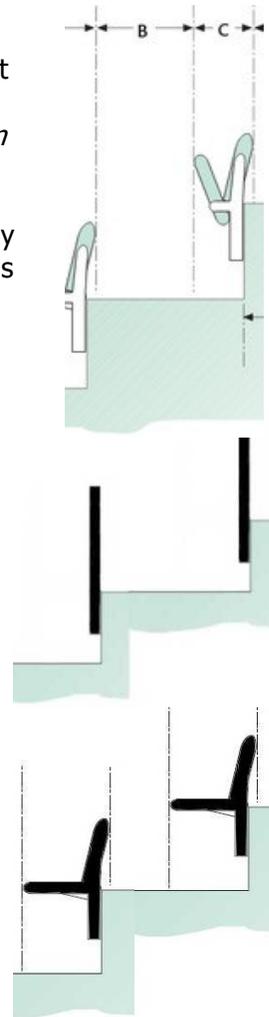
Clearways

The Green Guide goes on to make recommendations about clearways, which it defines as *"the distance between the foremost projection of one seat and the back of the seat in front of it"* (shown right as 'B').

For a new construction it recommends a minimum clearway of 400mm (this can be reduced to 305mm if no spectator is more than 7 seats from a gangway). In the two rail seat areas at Ashton Gate the clearways will measure **710mm** and **790mm** respectively.

Such clearway widths, in the latter case almost double the recommended minimum, are possible due to the fact that unlike conventional tip-up seats, a tipped up rail seat does not project at all, but folds up flush between the narrow uprights. Nor does the seat back encroach into the legroom space of the row behind. The result is that the maximum possible space remains free as the clearway, as illustrated on the right.

"A tip-up seat will provide a greater clearway than a fixed seat" says the Green Guide. Fixed seats (as shown right) clearly compromise access not only for spectators, but for paramedics as well and are thus not desirable. Therefore, as with all other tip-up seats in the stadium, spectators will be able to raise their rail seat to ease access and egress for themselves, fellow spectators, stewards and paramedics.



Perfect paramedic access



Less space with seats down

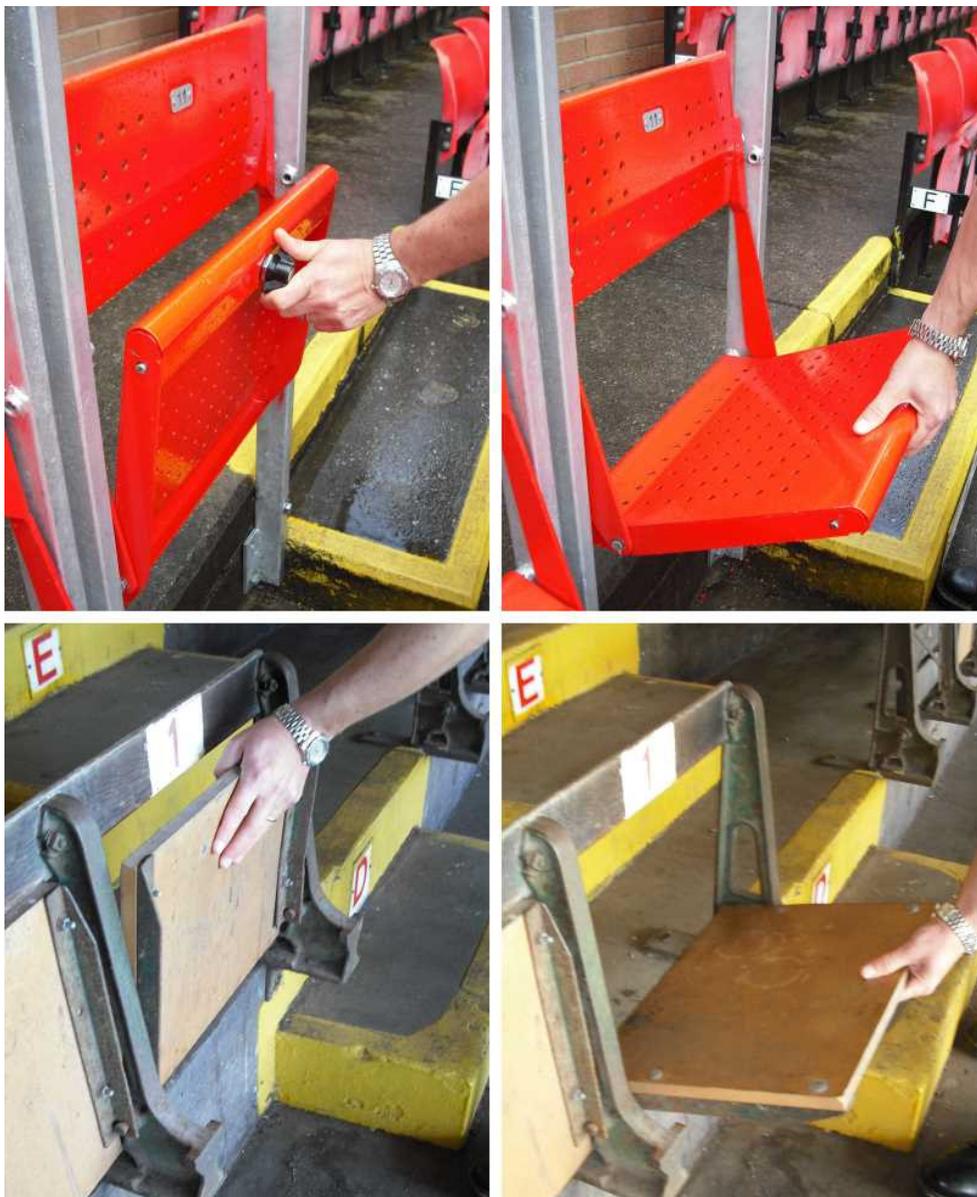
In terms of clearways rail seating thus represents the Guide's ideal.

A note on spectator use of rail seats

As noted above, the Green Guide points out that *"A tip-up seat will provide a greater clearway than a fixed seat"*. Fixed seats compromising access and egress are clearly not desirable.

The intention at Ashton Gate is to install rail seats of a style that spectators can personally lower and raise. There is no intention to lock them out of use or into the fixed down position.

Seat use for spectators will be almost identical to that for the existing wooden seats in the Williams Stand (as illustrated below), the only difference being that whereas the tipped up seats bottoms in that stand remain upright by virtue of the fact that they tip up beyond the perpendicular and thus lean backwards against the seat back, the rail seats will remain upright by virtue of a simple catch, released and engaged by the spectator. Just like all other licence-compliant seats in the stadium, the rail seats are thus tipped up out of the way when not in use and are lowered to provide seated accommodation by the arriving/returning spectator.



Gangways

The Green Guide makes certain recommendations in relation to radial and lateral gangways in areas of seated accommodation. It recommends that gangways be at least 1.1m wide and that if any lateral gangways run in front of rows of seats, thought be given to how spectators in those seats are discouraged from standing.

The radial gangway widths in the two areas of rail seating at Ashton Gate will be **1.2m** in one area and **1.8m** in the other. There will be no lateral gangways running in front of any row of rail seats.

In respect of gangways the rail seating is thus compliant with the Guide.

Distance to exits

In respect of spectator egress the Green Guide calls for no spectator to be seated more than 30 metres from an exit.

In the two areas of rail seating at Ashton Gate the maximum distance that any spectator will be seated from an exit will be **28 metres** in one area and just **14 metres** in the other (as illustrated below).

In terms of exit distances the rail seating is thus compliant with the Guide.

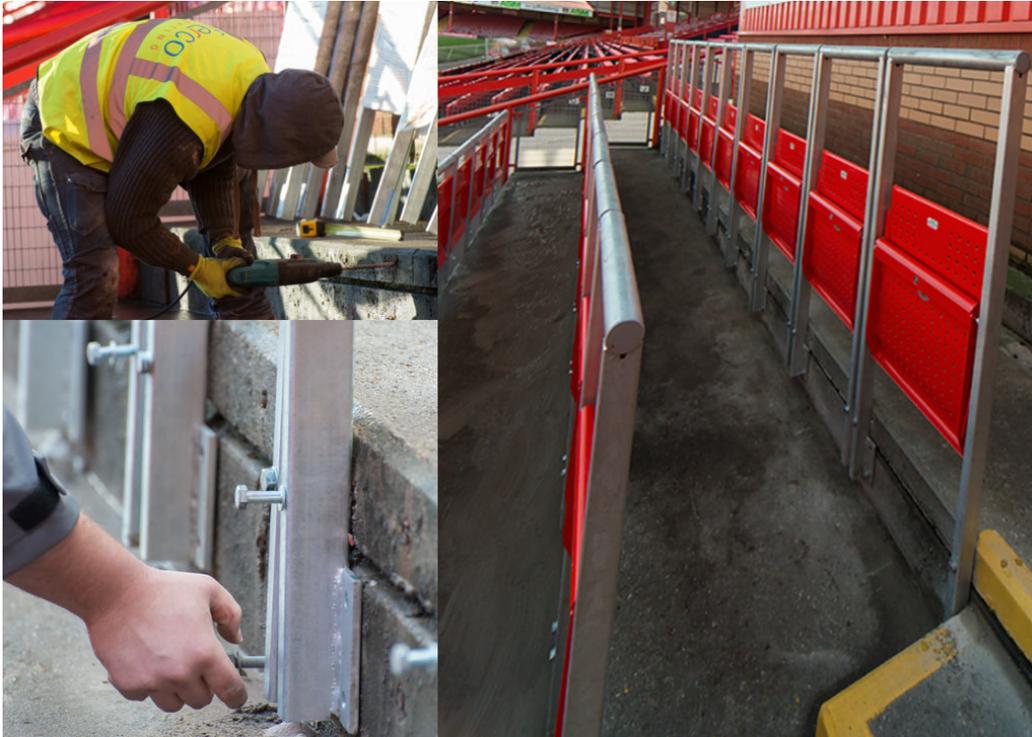


Section of the viewing bowl showing respective exit distances

Fixings

"All seats should be securely fixed in position," says the Green Guide. "The fixings should not present any trip hazards on the treads. They should be vandal proof and contain no sharp projections or edges."

The rail seats will be securely anchored to the viewing deck using appropriate, state-of-the-art fixings. The vertical uprights present no trip hazards whatsoever and unlike many other forms of seating that project from their brackets, tipped up rail seats fold away flush between the uprights, thus leaving no projections at all, let alone any that are sharp.



In terms of fixings rail seats are thus compliant with the Guide.

Numbering

A further recommendation of the Green Guide is that "Each individual seat and seat row should be clearly, neatly and accurately identified for the benefit of spectators and stewards. The seat identification marks should be fixed so as to make their removal difficult."

The Guide continues: *"To avoid congestion and confusion, where tip-up seats are installed, for ease of reading, seat identification marks should ideally be located on the front of the back rest, rather than on the underside of the seat."*

Rail seats rows at Ashton Gate will be clearly identified by number. Each seat will be clearly identified by number on the front of the backrest.

In terms of numbering rail seating is thus compliant with the Guide.

As the row numbers are affixed to the outer uprights at waist height, they are indeed significantly easier for spectators and stewards to see than numbers affixed to conventional seat brackets at ankle height.



Fire resistance

"All seats, irrespective of the material used, and whether upholstered or not, should satisfy the ignition source requirements specified in the relevant British Standards."

Unlike the wooden and plastic seats used elsewhere in the stadium, rail seats are made of metal and thus totally non-flammable. The small amount of paint on the seat element itself does not constitute an ignition source and in the event of a fire would quickly burn out in the same way as the red paint on all railings and gates throughout the stadium.

In terms of fire resistance rail seats are thus compliant with the Guide.

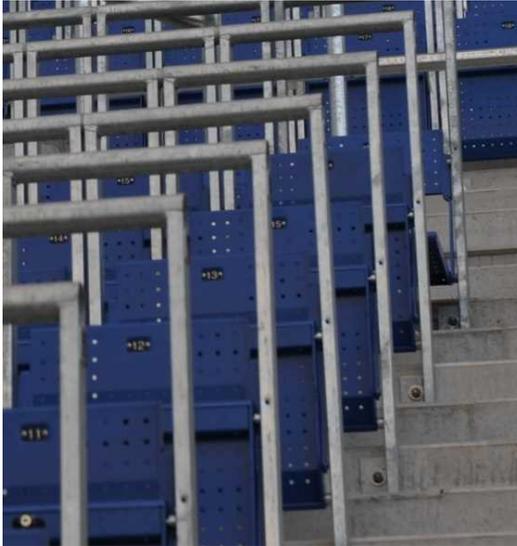
Injuries

"All seats should be designed not to cause injury to the user," says the Green Guide.

Thankfully, injuries to spectators inside modern stadia are extremely rare. Where these do, however, occur they most commonly involve slips and falls on radial stairways. Very occasionally spectators may also injure themselves falling forward from one row into the next or by getting their leg stuck between a tip-up seat and the riser, having stepped on the seat to climb into the row behind only for the seat to tip and create a gap into which the spectator's foot has then fallen.

Rail seats help to prevent falls and slips on stairways and totally eliminate the risk of trapping a leg between tip-up seat and riser.

Each row of rail seats terminates with a waist-high upright beside every second step of all radial stairways in areas of such seating, giving spectators walking up or down the steps who are not too steady on their feet a means of support that conventional plastic seating with low seat backs simply does not provide.



Handy waist-high stairway support



No stairway support

Because rail seats are hinged directly to the uprights and not, like many conventional seats, to a bracket that protrudes several inches proud of the riser, tipping the seat does not create any gap at all. There is thus no risk whatsoever of the foot of a spectator standing on the seat falling down a gap and getting jammed against the riser. What's more, the presence of the waist-high rail also prevents the practice common among many spectators of climbing over seat backs to access a seat a row or two away, thus further eliminating the risk of injury inherent in such practice.



No hazardous gap



Hazardous gap

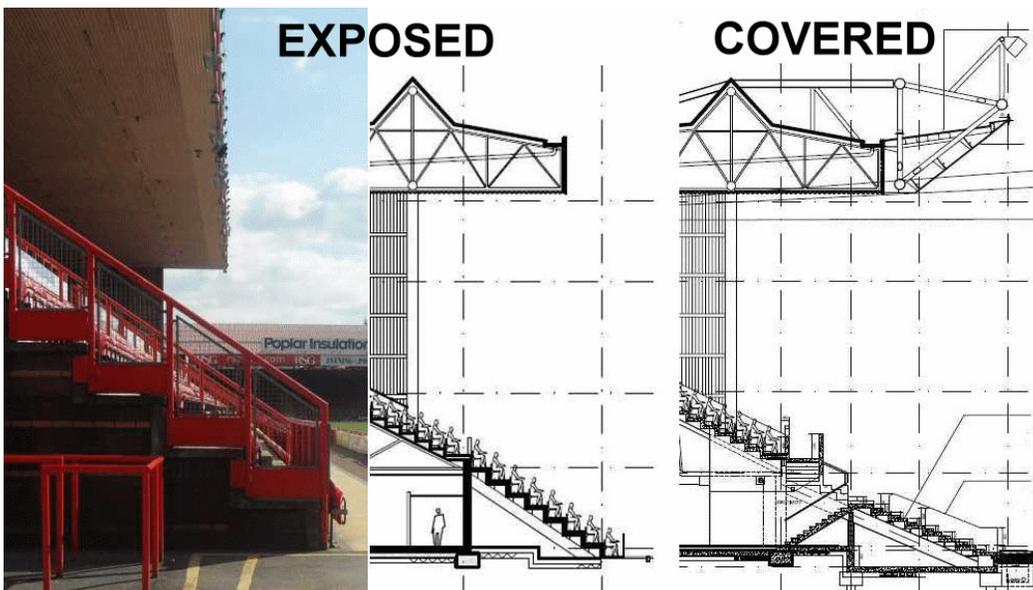
In this regard rail seats are thus far less likely to cause injury than conventional plastic seats and also help to prevent injuries not directly linked to seating, but sometimes incurred on adjacent stairways.

In terms of risk of injury rail seating is thus compliant with the Guide.

Cover

The Green Guide recommends that all seating be covered, but recognises *"that full protection from the elements is hard to achieve in all situations and in all weather conditions; for example, owing to the height of the roof or the direction of prevailing winds."* The situation at Ashton Gate is no different. All seating has notionally been covered for many years. However, the rain does occasionally blow in onto spectators in the front rows of some stands for the reasons identified in the Guide.

One of the rail seating areas at Ashton Gate will be at the back of a new stand, fully enclosed at the sides and the, and thus spectators there will be wholly protected from the rain. The second rail seating area will be at the front of an existing stand, where spectators in the first three rows have previously had no vertical roof cover (as shown in the photograph and cross-section below left and centre). In the course of the stadium redevelopment this front section of the viewing deck, which will accommodate rail seats, is being remodeled (reducing the rake) and the roof is being extended forwards. As a result, in the future every row of rail seats there will have complete vertical roof cover (as shown by the graphic below right).



In terms of cover, within the accepted limitations, both areas of rail seating are thus compliant with the Guide.

Wheelchair spectators

The Green Guide says: *"Wheelchair users should be able to manoeuvre easily to a space that allows them a clear view of the event."*

While most wheelchair users at the stadium currently have to navigate their way via an outdoor cinder track to reach rudimentary shelters, in future wheelchair users in the Dolman Stand (pictured above) will have purpose-built areas adjacent to the rail seating on the remodeled viewing deck, with fully covered, level, direct access from the concourse and a completely clear view. Further accessible wheelchair viewing points will be available around the ground. The position of the second rail seating area at the rear of the new end stand has no impact in this respect.

In terms of wheelchair fans rail seating is thus compliant with the Guide.

Lack of comfort

While, as we have seen above, rail seats comply fully with the recommendations for stadium seating contained in the Green Guide, it has been suggested that they may not comply with the "seated accommodation" requirement of the Football Spectators Act for another reason: for a perceived lack of comfort. It is suggested that forms of seating that are uncomfortable might encourage spectators to stand, which, it is argued, would run contrary to the intentions of the Act and that they should thus be deemed not licence compliant. This too we consider below.

Factors relevant to seated accommodation that contribute to spectator comfort and the absence or poor quality of which might encourage standing include:

- Sightlines
- Seat width
- Row depth
- Leg room
- Seat padding / moulding
- Seat backs

We consider each of these below, comparing the proposed rail seating with existing seating in other areas of the stadium, which throughout the period since the introduction of the Act has been deemed by the local Safety Advisory Group and thus by extension by the Football Licensing Authority / Sports Ground Safety Authority and the Department of Culture, Media and Sport as sufficiently comfortable not to encourage standing and thus compliant with the licence issued by the FLA/SGSA.

Sightlines

The rail seating at Ashton Gate will have a **minimum 'C' value of 90**, providing every spectator with a clear view. This is more than double that achieved in some parts of the ground at present, where seating is deemed licence compliant.



Seating in the Wedlock Stand with C values as low as 40 – licence compliant since 1994

Seat width

The rail seating at Ashton Gate will have a seat width of **460mm**. This conforms to Green Guide requirements and is the same width as the vast majority of football stadium seating in the UK and within the stadium at Ashton Gate. By contrast, the existing wooden seats in the Williams Stand at Ashton Gate, deemed licence compliant, have a width of just 390mm. The rail seating is thus significantly wider than this existing seating and wholly matches the width of all the remaining standard seating in the stadium, all of which is deemed licence compliant and not likely to encourage standing.

Row depth / Legroom

As indicated above, the Green Guide states that *"the safety, comfort and amenity of spectators will be determined by the amount of space provided for each individual seat"*. That space is determined by a multiplication of seat width by row depth.

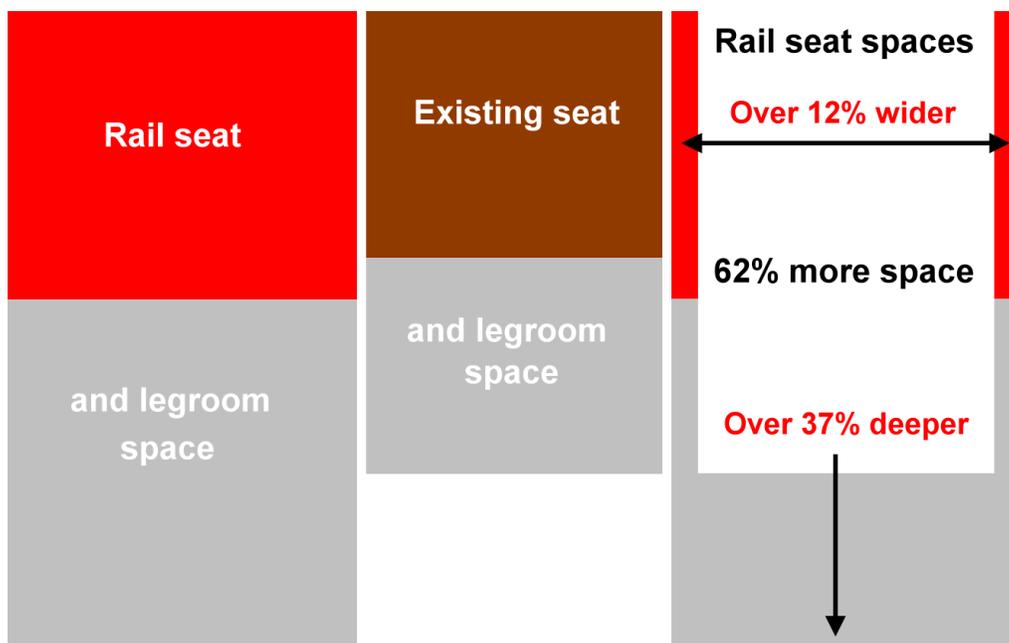
Rows in one rail seat area at Ashton Gate will be **840mm** deep.
The row depth in the other rail seat area will be **760mm**.

It follows from the two measurements provided above that the *"amount of space provided for each individual seat"* will be:

460mm x 760mm = 0.3496 sq. metres in one area; and
460mm x 840mm = 0.3864 sq. metres in the other (on the left in the graphic below)

By comparison seating rows in parts of the Williams Stand at Ashton Gate have a depth of just 610mm and the seats there a width of just 390mm. The *"amount of space provided for each individual seat"* is thus 0.2379 sq. metres (depicted in the centre of the graphic below).

The two rail seating areas thus provide **47% and 62% more space respectively**.



Looking at legroom specifically, that too will be significantly more generous in the rail seating areas than in many other parts of the existing stadium and will, indeed, offer some of the most generous legroom available in any football stadium in the UK.

Row depths, as indicated above, will be 760mm in one area of rail seating and an exceptionally generous 840mm in the other area. On the narrower rows the legroom provided (measured as the distance from the front lip of a lowered seat to the back of the seat in front) will be **380mm** and on the wider rows a spacious **460mm**.

There is no reason to conclude that this generous amount of legroom would encourage standing, as it compares very favourably with legroom on offer in other parts of the stadium.



The seating throughout the Williams Stand, for instance, which is, of course, deemed to be licence compliant, provides legroom up to 185% worse than that which the rail seats will offer, i.e. the old wooden seats at the rear of the stand provide legroom of only 285mm, the plastic seats at the front a miserly 160mm and even the padded 'premier seating' in the centre no more than 210mm (less than half the 460mm that the majority of the rail seats will provide).

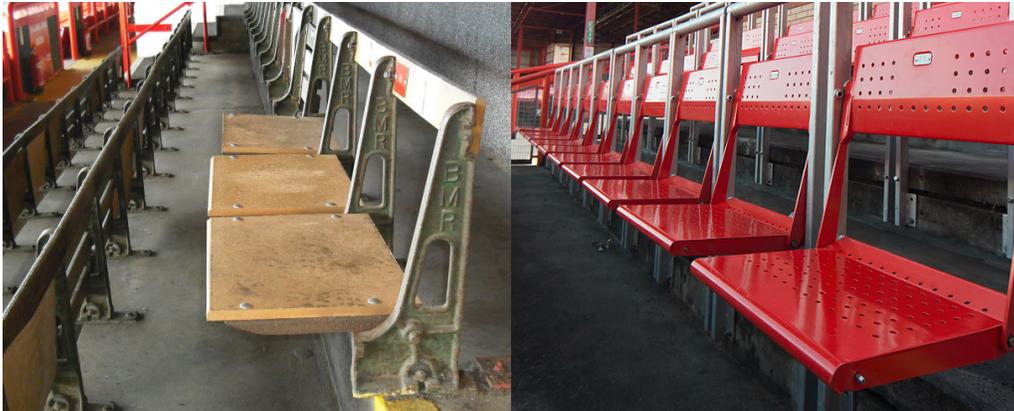


This does not, however, appear to cause the club's premier seating guests to stand.

Seat padding / moulding

While factors such as lack of legroom or a poor view of the pitch are probably those that are most likely to encourage standing, it might also be argued that a flat seat with no moulding or padding could be uncomfortable and have that effect as well.

This does not appear to be the case for spectators sitting on the flat wooden seats in the Williams Stand at Ashton Gate (pictured below left). On the face of it, with their flat seat bottoms plus limited legroom, they would appear most uncomfortable and likely to encourage standing. However, as the local Safety Advisory Group will know, there is no record of spectators sat in this area feeling the need to stand.



The rail seats currently installed at Ashton Gate for demonstration purposes have a similar flat seat bottom (pictured above right). Those to be installed in the new rail seating areas will, however, have a moulded seat bottom to provide added comfort. Combined with the significantly increased legroom, they will thus provide much more comfortable spectator accommodation than the existing, licence-compliant wooden seats. It is thus to be expected that they too will not cause spectators to stand.

For spectators who prefer not only a moulded seat, but an element of padding as well, we will be offering branded cushions.



Branded stadium cushion example

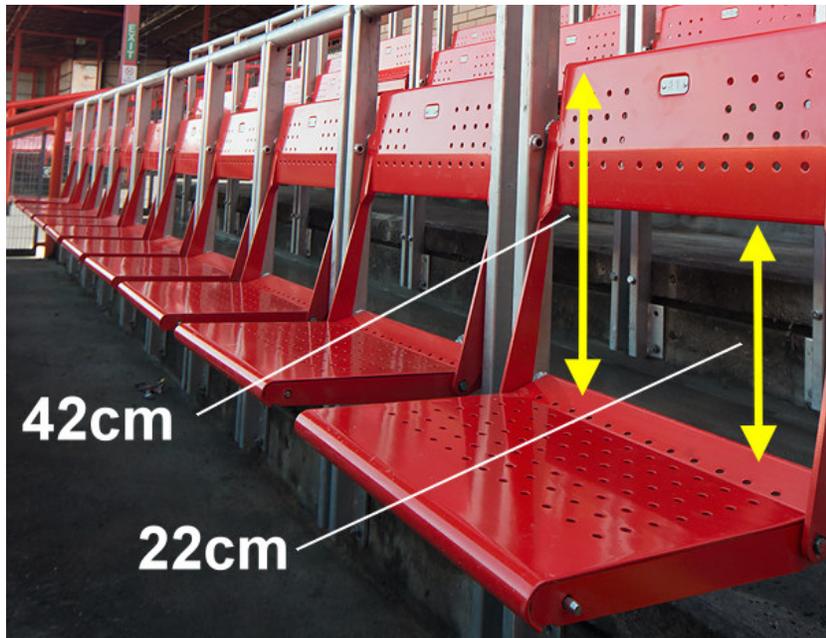
Seat backs

Other than poor legroom and a poor view, few things surely encourage standing more than the lack of a seat back. Yet even seats that lack this basic element are deemed licence compliant. Seats such as those in Ashton Gate's Wedlock Stand:



The Green Guide makes no recommendation in respect of seat backs. However, for games played under its auspices UEFA requires seats to have a back and for that back to provide support at a height of at least 30cm above the seat itself.

The rail seats at Ashton Gate will have seat backs providing support at a height of 42cm. In this respect, too, they will be more comfortable and less likely to encourage spectators to stand than many of the current, licence-compliant seats.



Conclusion

Our conclusion is that rail seats comply in all respects with the recommendations of the Green Guide and also offer levels of comfort far greater than many existing stadium seats that have been deemed licence compliant for over 20 years and that 'lack of comfort' therefore does not represent reasonable grounds for declining to classify rail seats as "seated accommodation".

Green Guide Compliance	
Sightlines	
Seat width	
Row depth	
Seat depth	
Clearways	
Gangways	
Exit distance	
Fixings	
Numbering	
Fire safety	
Injuries	
Cover	
Wheelchairs	

Greater comfort	
Sightlines	
Seat width	
Row depth	
Legroom	
Seat moulding	
Seat backs	

We therefore request that the Safety Advisory Group confirm that no objection will be raised to the use of rail seats at Ashton Gate as seated spectator accommodation for association football matches. We respectfully ask that a response to this request be provided as soon as possible and in any case within not more than 30 days.

Bristol Sport, 30th April 2014