Managed Stations Wayfinding

NetworkRail

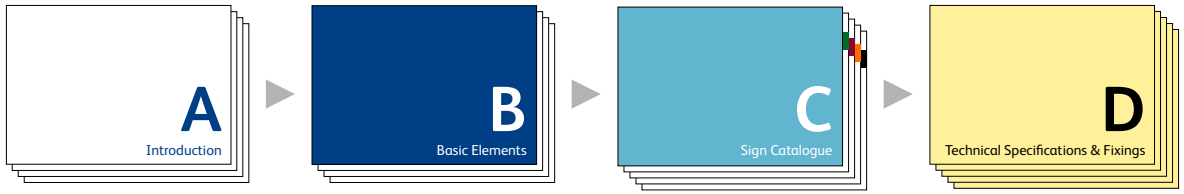
Wayfinding

About this document

The Network Rail Managed Stations Wayfinding Design Guidelines & Specifications presents Network Rail's requirements for the specification of new and updating of existing directional signs within Network Rail managed stations.

The intended audience for the Design Guidelines is Managed Station Managers, sign manufacturers and others involved in signing for Network Rail.

The Design Guidelines & Specifications are contained in a single document divided over four sections:



Section A
Introduction :
Provides background information and sets a framework for the Design Guidelines. It is essential reading for anyone involved in signing our stations, or involved in activities that may impact on station wayfinding.

Section B
Basic Elements :
Covers all graphic elements used for directional signing, and provides essential information for wayfinding strategists, designers and manufacturers.

Section C
Sign Catalogue :
*Describes all directional sign products, organised by station zone (**External**, **Concourse** and **Platform** zones) and **Miscellaneous** signs.*

Section D
Fixings and materials:
Provides details on fixings and technical specifications to be used for manufacturing and installing signs.

Ordering signs
If you wish to order new or replacement signs, please complete the form on pages XX-XX. Should you have any queries, please contact Director of Stations and Customer Service

Signing and Design Manager

Contents

A

Introduction

Design Guidelines

Design Guidelines 2010

The Managed Stations Wayfinding Design Guidelines and Specifications (hereafter Guidelines or Design Guidelines), provide design and positioning rules for the planning of passenger signing for Managed Stations. The Guidelines cover all public facing signs that provide directional and identification information to station users.

This document does not specify electronic or static customer information displays, i.e. printed timetables, notices or train departure / arrivals boards and so on. Neither does it provide detailed principles for commercial advertising or retail signing which are covered by separate guidance.
Insert reference?

The public facing signs covered by the Guidelines fulfil an essential role in a station user's experience and are the only common expression of the Network Rail brand across all managed stations. It is therefore essential that they are implemented and maintained in a consistent fashion, in full compliance with this document.

The Guidelines are to be applied when planning signing for a new station, or when refurbishing a discrete station area.

In environments with signing designed before 1/1/2011 for single sign updates, or updates to discrete parts of existing signs please refer to the 'Major Stations Wayfinding Design Guidelines and Specifications' revision 4 issue 1 16/9/2003.

The Design Guidelines have been developed with the assistance of key members of the Network Rail team and in consultation with station managers, and DPTAC's advisor for accessibility needs. Their practical concerns based on experience have been taken into account in the guidance

Queries?
Any queries regarding the design and specification of Network Rail signs should be made to the Director of Stations and Customer Service at ***xxx@networkrail.co.uk*** or ***(0)20 0000 0000***

**** This document supersedes all previous volumes of the Design Guidelines.***
Approach to Implementation needs to be agreed

What is wayfinding?

'Wayfinding' is a term used to describe how people find their way around an environment. It is a spatial problem solving process in which orienting decisions are made. These decisions are influenced by a number of factors including the information available, personal knowledge, ability and environmental factors.

Information to aid wayfinding can be provided across a range of media including signs, printed material, public announcements and staff/customer interface; as well as through the physical design of station environments and the materials, finishes, lighting and public art within them.

Signs play a key role in a wayfinding system and this document refers primarily to the medium of signing in Network Rail stations.

A signing system comprises directional and locational signs. For it to be successful, the terminology, design and fixing of these signs must be consistent. Signing to meet fire and safety regulations is also necessary to warn of dangers and to inform people of emergency procedures. These signs are known as Statutory signs and it is essential that an appropriate sign is used in each instance.

The philosophy underlying signing at Network Rail stations is that of clarity, consistency, and coherence in order to guide people through the stations in a consistent, convenient and safe manner.

Station zones

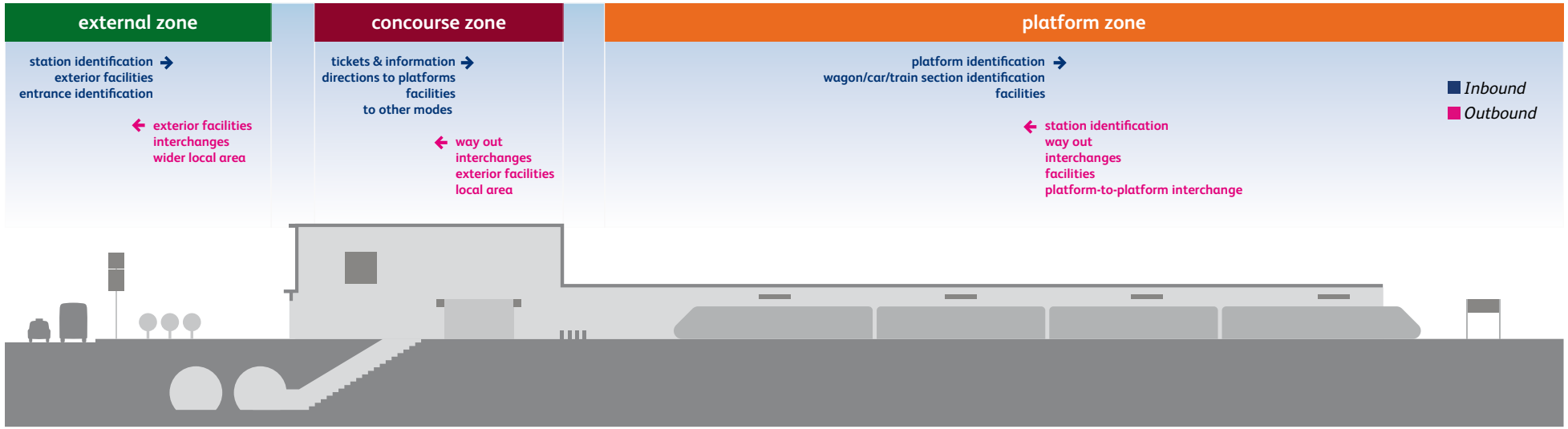
Wayfinding needs are different at various stages of a journey. The guidelines are expressed in relation to three zones to aid understanding of the varied situations faced by passengers and other stations users, and the signs required to support navigation in these zones:

- ***External zone*** – station approach and its external environs;
- ***Concourse zone*** –area between accesses and platforms (sometimes delimited by gatelines), including the concourse, internal circulation and waiting areas; and
- ***Platform zone*** –covering all platforms and connections between them such as corridors, footbridges and underpasses.

Zones and their functions are always identifiable. Passenger information needs tend to be consistent in these zones regardless of the station arrangement. Zones may extend across multiple levels.

Each zone is equivalent to a stage on a passenger journey. For this reason some information or messages require priority over others depending on whether they are aimed at inbound or outbound movements (see diagram below for a summary of main information needs).

In any case, consideration should be given to occasional or unusual movements when planning signing for each zone.



Signing strategies

Positioning signs

It is essential that signs are positioned where people need them most. These locations are generally decision points, where information on a sign influences directional choice. Decision point signs typically provide directional information to way out routes, inter-modal transport connections, platforms and key facilities.

Principal decision point signs (such as Suspended Box signs), should be positioned at right angles to the station axis. This ensures the correct relationship to platforms and facilities.

People navigating an environment typically follow a series of directional signs, before reaching their destination, which may also be signified by a sign. Long routes, or those with a changes of direction may require multiple directional signs to provide reassurance to the traveller.

Directional signs must always be positioned perpendicular to the main passenger flow, facing the direction from which they are meant to be read. Sign positions should be visible in accordance with the fixing heights and sizing rules established by these Guidelines.

Accessible routes

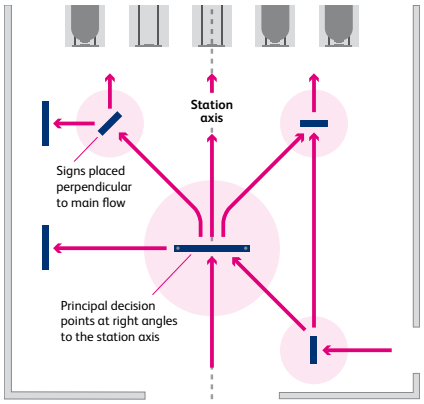
Signed routes should, wherever possible, be accessible. Where a barrier free route is not possible, an alternative accessible route must be highlighted as appropriate.

Fixing height

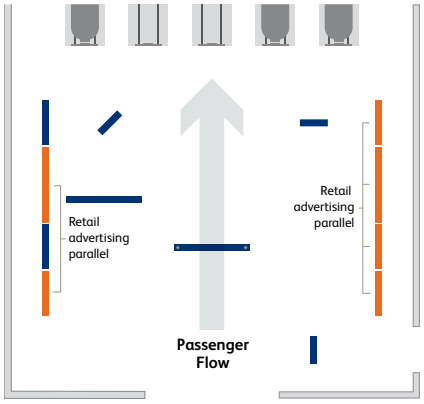
Standard fixing heights have been established for suspended or bracketed signs, to ensure optimum visibility for the station user and allow for unimpeded operational activity within the staion environment. Minimum clearances for these types of signs are:

- **External signing** and vehicle entrances: base of sign 4m
- **Concourse signing**: base of sign 3.5m
- **Platform signing**: base of sign 2.5m, (in accordance with Group standards)

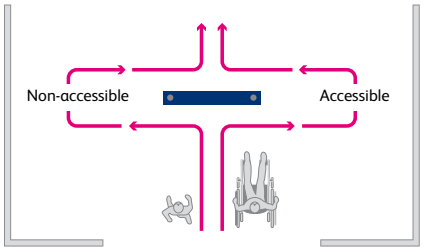
Wherever possible, signs should be installed with a common baseline height no higher than 4m. The fixing heights for other signs and notices will relate to architectural features such as facias, entrance canopies and doors..



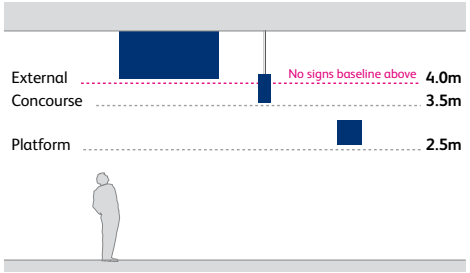
Directional signs must always be perpendicular



Wayfinding signage must always take visual priority



Alternative routes through must be highlighted



Standard fixing heights

Other Structures

The installation of any component of the wayfinding system must be sensitive to existing, or future, station equipment needs; including CCTV cameras, PIDs, clocks and signals. Installation of signs must not interfere with the operational or safety aspects of the station or of running lines, but must enhance the safe movement of people.

If necessary, a sign siting committee should be convened to ensure wayfinding signs will not cause an obstruction. All Group and Company standards must be adhered to and care should be taken to avoid, where possible, positioning signs where installation or long term maintenance could be difficult. This includes positioning where possession or isolation could be required.

**** Potential link to Station Design doc?***

Architectural heritage

Managed Stations contain many areas of considerable historical and architectural value. Most have listed building status. Great care must be taken when specifying the siting of signs and their fixing methods for these areas.

Some simple guidelines, listed alongside, should be followed in order to minimise the impact on listed structures:

- Do not fix through, or into the existing building fabric.
- Use straps and non-evasive fixing methods when attaching signs to listed columns and beams.
- Post mounting to the ground is often the best option in sensitive areas
- Do not obstruct key architectural features such as windows, decorative stone work, arches, pillastas and ironwork.
- Some key facades and entrances may require special heritage sign solutions which are not contained in the Design Guidelines, if in doubt please contact a member of the Managed Stations Architecture and Design team.
- Signs may require Local Authority Listed Building approval prior to order, if in doubt please contact a member of the Managed Stations Architecture and Design team.

Statutory signs

Statutory signs differ from wayfinding signs in that they provide warnings, details of hazards, safety information and emergency procedures. All statutory signs should be easy to understand. It is therefore important to use the standard safety colours and symbols.

Sign design, content, positioning and use must be compliant to the most up to date standards and regulations, currently BS 5499-10-2006

Statutory sign should never interfere with wayfinding

Backlit and illuminated signs

With the exception of the stations covered by the Fire Precautions (Sub-surface Railway Stations) Regulations 1989 (usually referred to as the Section 12 Regulations), all wayfinding structures must adhere to the construction specifications included in this document, i.e. stove enameled alluminium panels on metal supporting structures. Any proposed exceptions must be approved by the Signing and Design Manager.

Advertising conflicts

Retail and Advertising revenue plays a significant role in the viability of many of Britain's managed stations. The resultant advertising materials, including posters, banners, mobile units and exhibition stands, present a potential conflict with wayfinding. To ensure wayfinding is not compromised, a balance must be struck between securing station revenue and maintaining the visual clarity of concourses and related areas.

Wayfinding signage must always take visual priority over other signs, and its view must always remain unobstructed from the key intended reading directions.

Advertising panels should typically be located parallel or adjacent to passenger flows and avoid visual conflict with wayfinding signs and information. Where wayfinding signage information is displayed on floor standing pedestals, this should not be presented on the same face as other messages, not aimed at passenger information, such as advertising.

Third party signing systems

No wayfinding signing other than the Network Rail signing as described by this document is permitted on Network Rail property.

Network Rail supports integration with third party wayfinding systems in areas adjacent to Network Rail stations. Efforts to ensure a seamless transition between systems should be made, e.g. by adopting consistent place naming conventions for key destinations.

Maps from third party systems are permitted for information displays related to the local area.

Visibility of signs may be compromised by retail

Height inconsistency compromises sign identification

Further reading

Group standards

- GC/RT5161, Station design and maintenance requirements
- GK/RT0033, Lineside signs
- GM/RT1041, Warning signs and notices for electrified lines

Company standards

- RT/E/5/21151, Warning and other signs for AC and DC lines

British standards

- BS 5499-10-2006, Safety signs including fire safety signs (Parts 4, 10 and 11)
- BS 8501, Public information symbols
- BS 8300, Design of buildings and their approaches to meet the needs of disabled people

Guidelines

Network Rail Station Planning and Design Guideline, 2011

Train and station services for disabled people: A code of practice, Strategic Rail Authority

Miller C and Lewis D (1999) Wayfinding: Effective wayfinding and signing systems, Guidance for Healthcare facilities. NHS Estates, UK

Barker P and Fraser J (2000) Sign design guide, a guide to inclusive signage. Joint Mobility Unit and Sign Design Society, UK

Multi-modal interchange signs, standard for London Transport for London, 2001

The traffic regulations and general directions, 1994, HSE

Railway safety principles and guidance, part 2, section B, Guidance on stations, 1996, HSE

Code of practice for the facilitation of interchange between train services, 1999, ATOC and Railtrack

ATOC Code of practice, presentation of timetable information, 1996, ATOC

Developing modern facilities and stations, 1998, Railtrack

RSSB T321 Report ('Wayfinding at stations: a good practice guide')

B

Basic Elements

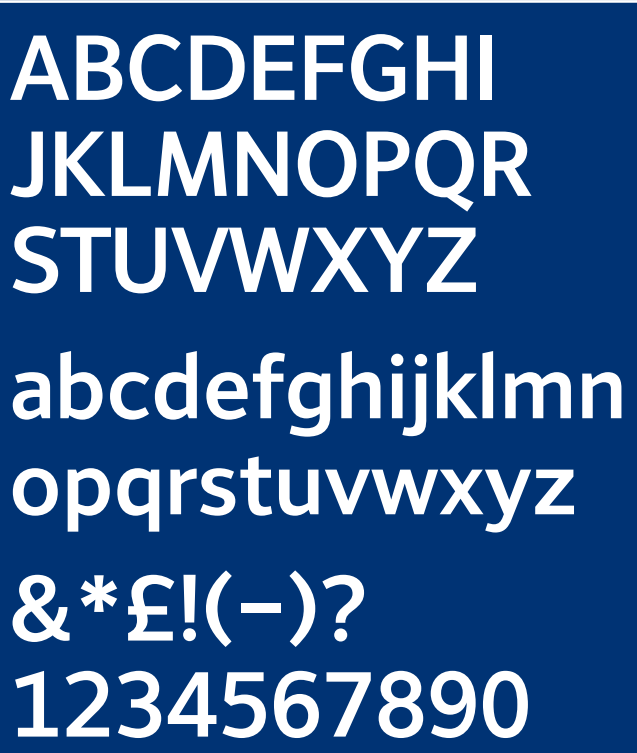
Typography

Our standard signing typeface is '***NR Brunel***'. This is the only font allowed on the signs, and it must not be digitally altered in any way.

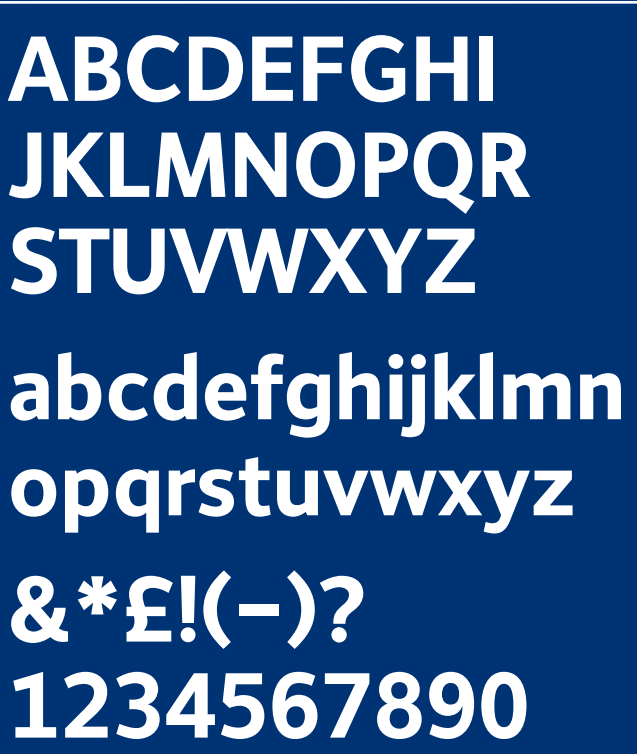
This font is an evolution of the 'Brunel' typeface, previously in use and designed specifically for wayfinding purposes.

All improvements are embedded in the digital typeface, providing a reliable tool to reduce inconsistency through the typesetting process for designers and sign manufacturers.

The signs specified in these Design Guidelines use the following fonts



NR Brunel Regular



NR Brunel Bold

Type measurement
Across these guidelines font sizes are expresed in both Capital Height (CH) and Point Size (pt). See 'Sizes and Reading Distances' on page XX for more details.

Sourcing font files
NR Brunel fonts are owned and managed by Network Rail. The font files must not be distributed to third parties such as sign manufacturers or print suppliers without Network Rail approval.

Should you require the font file, please contact Please contact the Network Rail Wayfinding Guardian at ***xxx@networkrail.co.uk*** or ***(0)20 0000 0000*** for more information.

Pictograms

The sign symbols (or pictograms) have been drawn for use in conjunction with NR Brunel.

These symbols are to be used on directional signs (see Fig.A, below). Only one symbol is allowed for each destination.

The pictograms are available as Adobe Illustrator files and have been saved as “Symbols” in the Illustrator Symbol palette for use both in Mac and PC format.

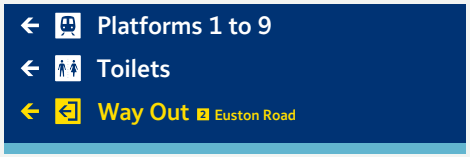


Fig. A

101 - Bus

102 - Tram

103 - Platform

104 - Taxi

105 - Cycle

106 - Cycle parking

107 - Cycle hire

108 - Tickets

109 - Car hire

110 - Luggage trolleys

111 - Luggage locker

112 - Lost property

113 - Customer lounge

114 - First class lounge

115 - Station reception

116 - Litter

117 - Pedestrian

118 - Gentleman

119 - Ladies

120 - Toilets

121 - Pushchair

122 - Baby change

123 - Accesible (wheelchair)

124 - Ramp

125 - Car park

126 - Post Office

127 - Post box

128 - Shower

129 - Food and drink

130 - Cafe

131 - Shopping

132 - Telephone

133 - Airport

134 - Ferry

135 - Hotel

136 - Travelator

137 - Stairs

138 - Escalators

139 - Footbridge

140 - Lift

141 - Information

142 - Tourist information

143 - Mobility assistance

144 - British Transport Police

145 - Meeting point

146 - Cash machine

147 - Bureau de change

Inverted

Symbols should normally be used in a box, as shown on the previous page. There are three exceptions to this rule when symbols should not be boxed (inverted):

- When a sign consists of only one text line and no arrow, see fig. B below;
- When a symbol stands alone, on a sign without text, see fig. C below.
- When a symbol supports secondary text on a directional sign. see fig. D below.

Symbols used alone can be a useful aid in locating facilities, as they can be displayed in a larger format than a sign with text would usually allow.

Fig. B

Fig. C

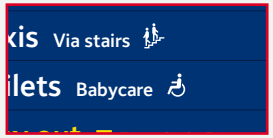
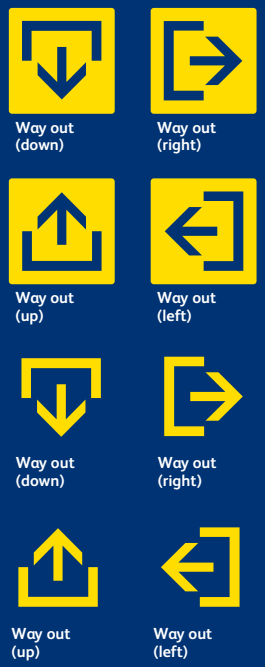


Fig. D (detail)

Other Symbols

Way Out

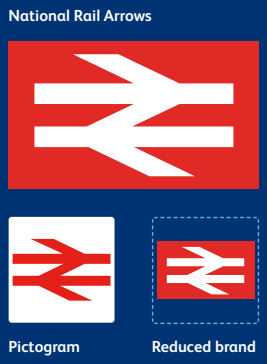
Directions towards exits are identified by the words 'Way Out' supported by one of the pictograms below with the arrow pointing towards the general direction of the exit from the station. For more specific information regarding the use of the Way Out signs please refer to the 'Information Hierarchy' section



National Rail Arrows

The National Rail Arrows symbol is the recognised symbol of Britain's railways. It is used as generic identification icon for stations.

The National Rail arrows must be used on the exterior of stations and other key access points.



Mode Brands

Rail service (TOC) brands are not permitted on directional signs. Passengers must be directed to the platforms from where such services depart or arrive, rather than to the service 'brand' names.

Mode brands are acceptable for non-rail interchange services (e.g. underground or metro services). If used, logos for these services must be enclosed in a standard blank pictogram box, and must follow the same sizing and positioning rules as any other pictogram. Colours and other graphic rules for the logos must follow the visual identity guidelines of the service. Sign contractors must be responsible for their compliance.

Network Rail Logo

The Network Rail logo is admissable on specific wayfinding signs. The version to be used on wayfinding signs is monochrome (white).

The logo must be positioned on the top right corner of signs, at a distance from the top and the side of the sign equal to half the height of the logo itself. Clearance around the logo must not be less than half the height of the logo itself.

Colours

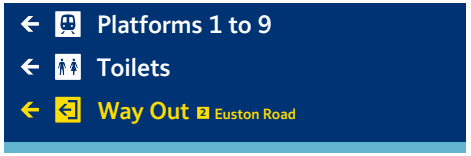
The sign colours are defined in accordance to the Reichsausschuss für Lieferbedingungen (RAL) standard for paint application. The intended finish for all signs contained in these guidelines is either stove enamelled or painted using polyester powder coating, with colours matching the appropriate RAL code.

Approximate matches for Pantone Matching System (PMS) are provided as reference only. Die cut vinyl application or inkjet printing are not acceptable on permanent signs.

CMYK (Cyan, Magenta, Yellow and Black) and RGB (Red, Green and Blue) approximate matches are provided as reference for printed (CMYK) and digital (RGB) temporary signs **only**.

RAL 5022 Night blue	RAL 1021 Rape yellow	RAL 9016 Traffic White	RAL 230 60 35
Pantone PMS 2757 C (*)	Pantone PMS 109 C (*)	White	Pantone PMS 7495 C (*)
C100 M95 Y4 K42	C0 M10 Y100 K0	C0 M0 Y0 K0	C72 M9 Y8 K13
R0 G38 B99	R254 G209 B0	R255 G255 B255	R48 G149 B180

Typical use of colours



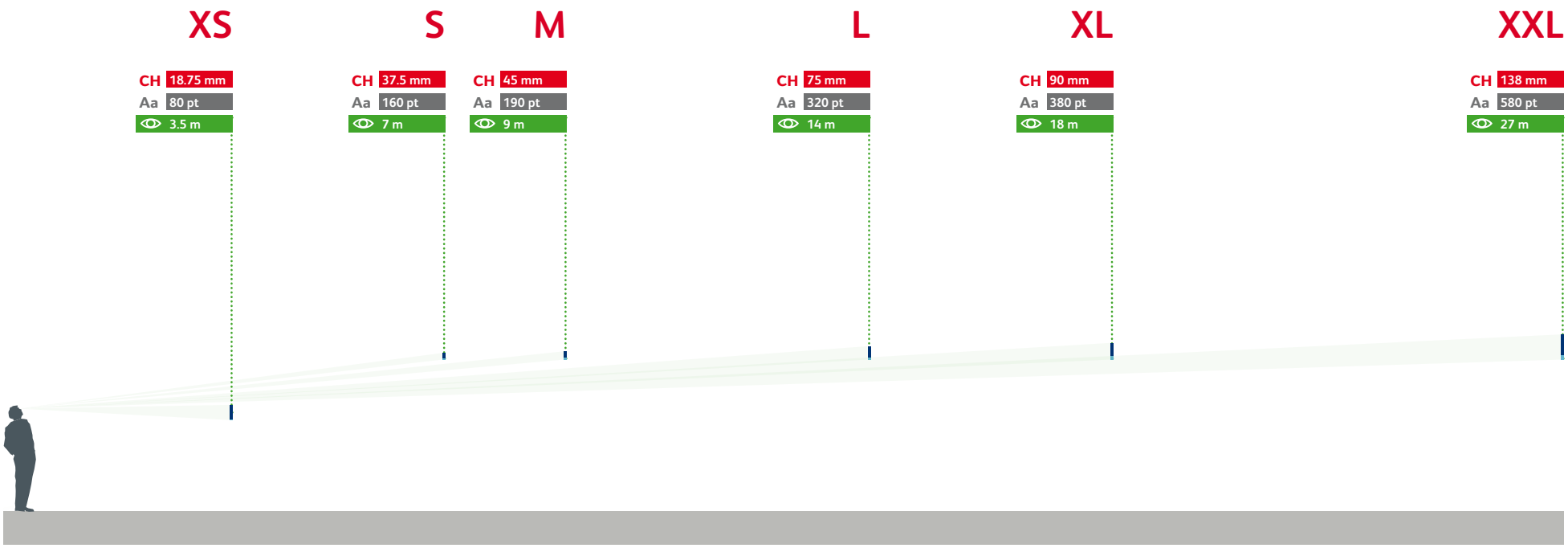
- **RAL 5022** *background*
- **RAL 9016** *general arrows, pictograms and text*
- **RAL 5022** *Way out only - arrows, pictogram and text*
- **RAL 230 60 35** *colour band*

Wayfinding only!
This colour palette is exclusive to wayfinding. This set of colours should not be used for any other purpose or applied to non-wayfinding structures within Managed Stations.

Reading distances

The size of lettering and pictograms on the signs must be established in relation to the intended reading distance. There are 4 basic sizes ranging from Small to Extra-Large for the main wayfinding signs in the stations, plus two extreme sizes for monumental lettering (XXL) and for notices (XS).

The diagram below demonstrates the relationship between intended reading distances (symbolised by the 👁 icon), height of the capital letters (symbolised by the **CH** icon) and the font size expressed in points (symbolised by the **Aa** icon).

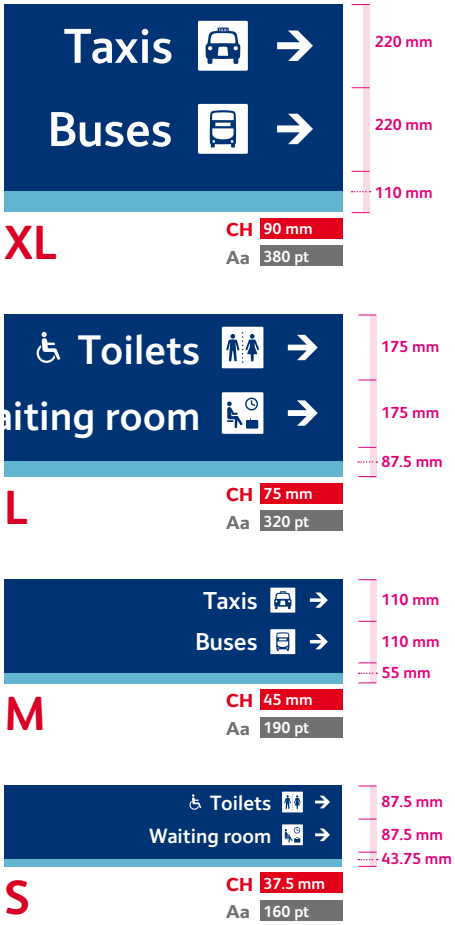


Sizes and lock-ups

Relative sizes

Each size is defined by font size –both in capital letters height (symbolised by the **CH** icon) and the font size expressed in points (symbolised by the **Aa** icon).

There is a minimum clearance around the text which is the base measurement for the finished signs. for slatted signs, the clearance dimension corresponds to the size of one slat. In other cases, the clearance is virtual. A coloured strip sized relative to the font size, is located at the bottom of all signs. Details of each sign type are described in the Sign Catalogue, starting on page XX.



Pictogram vs. Font lock-ups

Pictograms size and spacing is defined by the font and panel size.

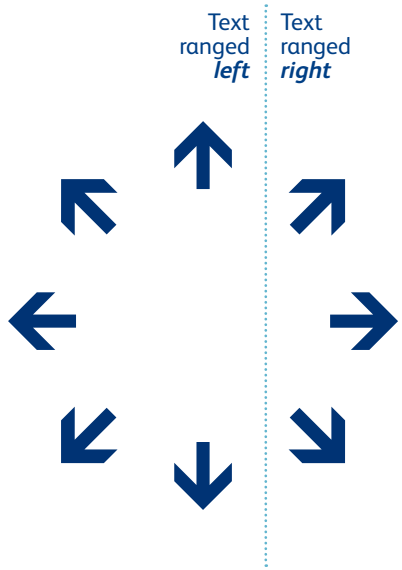
Arrows & Layout

Arrows to accompany the NR Brunel typeface are available as Adobe Illustrator Symbols and individual EPS files for use both in Mac and PC format.

Use of arrows on signs must comply with the following principals:

	To represent ***straight-ahead*** direction, or level change (up)
	For standard ***left*** / ***right*** directions
	To direct ***across a diagonal*** flat area, or to represent level change (up)
	Only to represent ***level change*** (down)
	Used only to represent a ***level change*** (down)

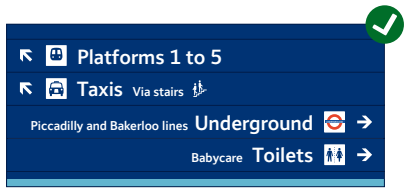
Text alignment must be consistent with the direction of the destination and the arrow:

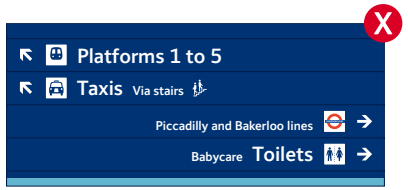


Text layout

When displaying information on our signs, the following text layout principles should be followed:

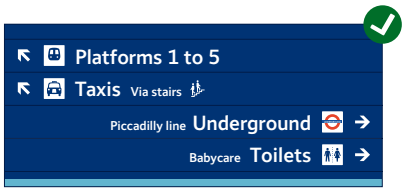
Positioning of elements in a line must always follow the same sequence: [(1) arrow, (2) symbol and (3) legend]. The sequence applies equally when ranged left-to-right or right-to-left. Secondary text (4) must always be positioned following the main legend. It must not be used without main legend.

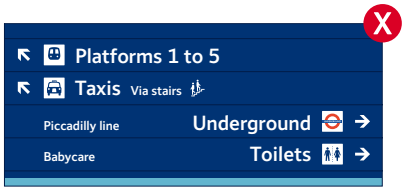




Secondary text must never be used on its own

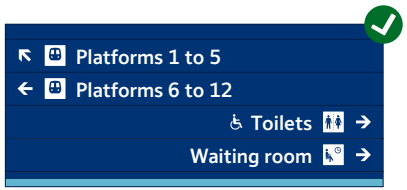
Secondary text must always be ranged to the same direction as other elements in the same line.

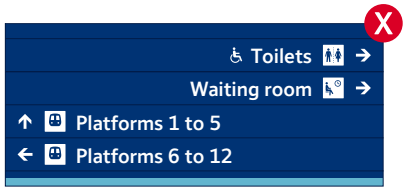




Secondary text must be ranged according to the primary text alignment

To maintain consistency, all signs are split into two text ‘zones’; (range left / range right). Where possible text ranged to the left must appear at the top of the sign while text ranged to the right appears at the bottom.





Text ranged to the left must appear at the top

Information Hierarchy

The list below shows the standard hierarchy of information for all signs. However, individual stations may have specific needs which require the use of non-standard terminology which should be agreed with Network Rail's Wayfinding Guardian and added to this hierarchy as appropriate. It is not expected that all of these categories will appear on every sign.

A maximum of 10 destinations (including Way Outs) is allowed on any sign.

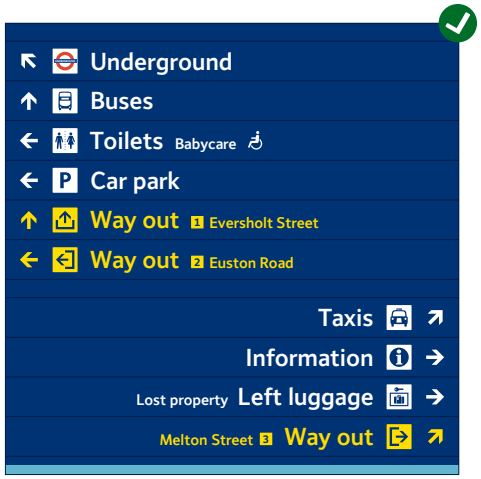
2 Transport interchanges
3 Platforms
4 Tickets
5 Toilets
6 Waiting lounges
7 Station facilities
8 Other facilities eg. Shopping
1 Way out

Any other information is then shown in order of importance specific to individual stations. See Network Rail hierarchy of services and facilities on the following page.

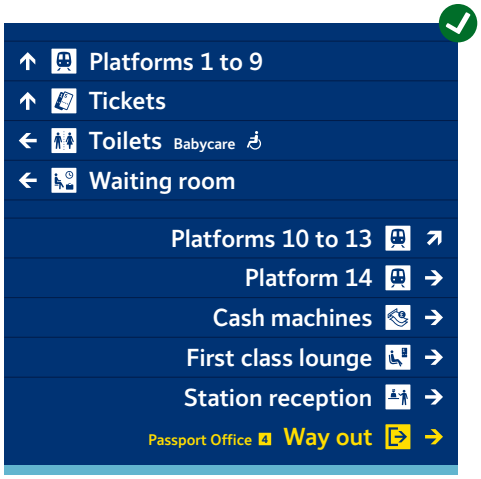
Only one facility is permitted per line, but in exceptional circumstances space constraints may mean combining two facilities on one line. This should only be done for similar or associated facilities. The secondary message, as established by the information hierarchy, should be reduced in size.

For example: **Toilets** Babycare
Left luggage Lost property

In all cases, approved word combinations, should be used (see Chapter/ section XXX).



Example of suspended box aimed to ***outbound*** passengers



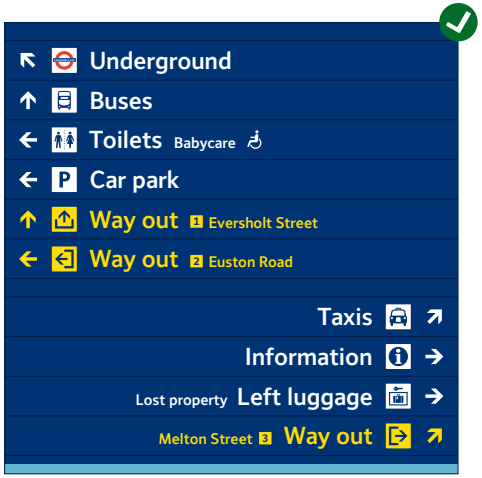
Example of suspended box aimed to ***outbound*** passengers

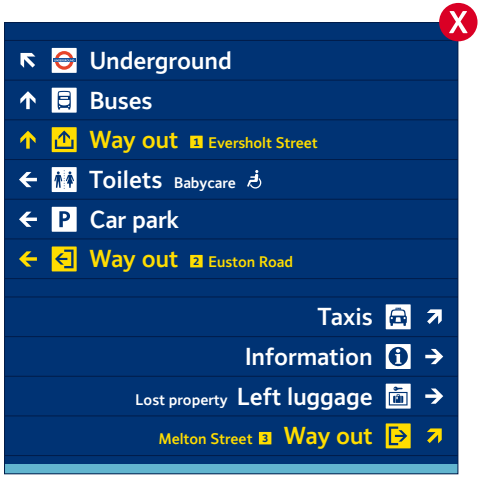
Way out Information

Way out information (shown in yellow) is treated as primary information, and therefore always appears at the bottom of its text ‘zone’.

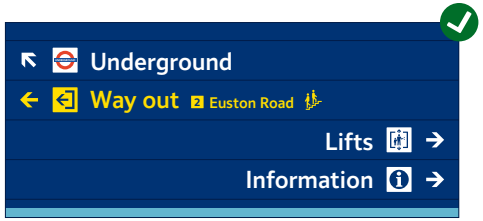
Sign pointing towards exits must always include the word Way out and the relevant pictogram. They may also include secondary information according to the principal location they serve, when this is more meaningful than the name of the street they access, e.g. ‘Southbank’ rather than ‘York Road’.

Where a particular route involves a potential restriction to some users, such as stairs or escalators, the relevant symbol must be included and the alternative route, (e.g. lift) must also be indicated.





‘Way out’ always appears at the bottom of each text zone



Alternative routes (e.g. lift) must be indicated

Accessibility

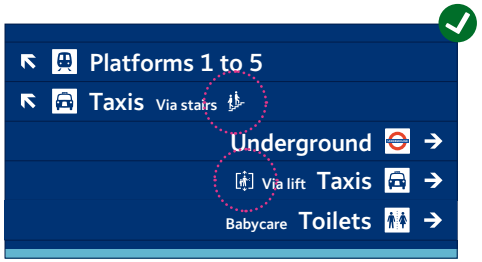
We generally direct passengers along accessible routes.

If a route includes barriers that require passengers with reduced mobility to take a detour, this alternative route should be clearly presented at the most appropriate decision point to allow a timely selection of the preferred alternative.

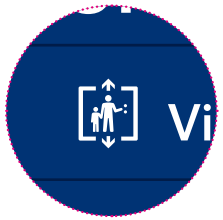
Movements requiring changes of level must always be clearly identified by using accessibility icons next to the destination, and if a route is presented as not accessible, the best possible accessible alternative must also be provided on the same sign.

Accessible toilets must be clearly identified by adding the wheelchair icon (INSERT REF NUMBER) next to the word 'Toilet'.

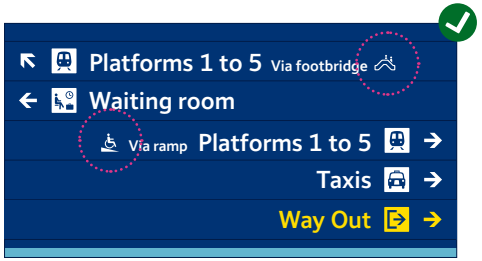
Audio loops must be clearly identified by positioning a sign with the hearing loop icon (INSERT REF NUMBER) at 2.4mt height next to the Audio loop facility.



Via stairs

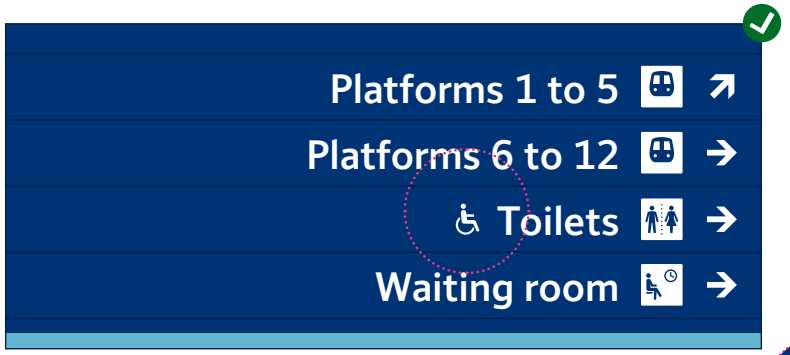


Via lift



Via footbridge

Via ramp



Accessible toilets must be clearly identified by adding the wheelchair icon

Wheelchair icon

Miscellaneous

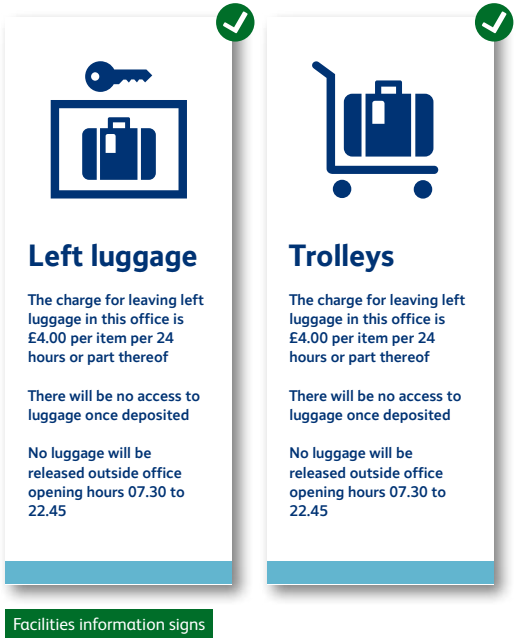
Introduction

Miscellaneous signs differ from the standard specification. Such signs include:

- CCTV signs
- luggage trolley point instructions
- escalator instruction notices
- door signs, and
- other public notices.

Typeface

The typeface to be used on miscellaneous signs is NR Brunel in white on the background colour, as specified in the Guidelines.



Queries?
Please contact Network Rail's Wayfinding Guardian at ***xxx@networkrail.co.uk*** or ***(0)20 0000 0000*** for more information.

Language

Abbreviations
This list of Network Rail abbreviations and punctuation is indicative. Any queries should be addressed to Network Rail Managed Stations Design team.

Abbreviations or contractions should only be used where space is limited. abbreviations do not include a full stop. For example: Rd - Road, Sq - Square. Saint Austell - St Austell.

Where unavoidable, the following permitted abbreviations can be used:

- N North
- E East
- S South
- W West
- Jn Junction
- Ctl Central
- Rd Road
- Sq Square
- St Saint or Street
- Pk Park

Ampersand
Avoid using the ampersand, use 'and' instead. For example: Left luggage and lost property. The exception to this is station names (see 'Station names' in this section).

Hyphenation
When used in continuous text, a character space should not be inserted either side of the hyphen. For example: self-service. A hyphen should not be used to indicate a time or day period, the term 'to' should be used instead, for example: Monday to Saturday or 18 00 to 21 00.

Dates
Dates should be displayed in the order of day, month, year. Suffixes such as 1st or 2nd should not be used. The preferred abbreviation for days and months are as follows: Mon, Tues, Wed, Thurs, Fri, Jan, Feb, March, Apr, Jun, Aug, Sep, Oct, Nov and Dec.

Money
The characters '£' and 'p' should not appear together in the same figure. For example values equal to or greater than £1 should be shown with the '£' symbol, ie. £2.00 and values less than £1 should be shown with the character 'p', i.e. 20p. The decimal point should be represented with a full point.

Numerals
The terms 'number' and 'No.' should not be used in phrases such as 'platform 5' or 'telephone 020 7123 4567'

Station names
Station names should be shown in full, as in the all line timetable, i.e. Glasgow Central. In this case the ampersand is used for joint name, e.g. Priesthill & Damley.

Telephones numbers
All telephone numbers should be stated in full, ie. 020 7123 4567, without hyphenation and preceded with the word 'telephone'.

Time
All times should be shown in the 24hour clock. A character space, rather than a punctuation mark, should be inserted between the hours and minutes, for example: 20 00.

Upper and lower case
Upper case letters (capitals) are only used for the initial letter of a sentence or line of information on a sign panel. All other text is to be displayed in lower case, with the exception of the following:

- Places, e.g. Ryedale House
- Station names, e.g. Paddington Station
- Tickets and Travel Centre

Glossary of Network Rail terms

This list includes all permitted terms for inclusion on Network Rail Managed Stations direction and location signs. These terms can be joined together with the use of the word 'and', for example, 'Tickets and information', although only one pictogram (not an arrow) can be used on any single line.

Only words included in this list are permitted.

Bracketed numbers, included as appropriate, represent the term's status in the Information Hierarchy.

2 Transport interchanges
3 Platforms
4 Tickets
5 Toilets
6 Waiting lounges
7 Station facilities
8 Other facilities eg. Shopping
1 Way out

Accessible toilets **(7)**
Airline check-in **(2)**
Airport **(2)**
Arrivals **(3)**
Assistance **(7)**
Babycare **(7)**
Bureau de change **(8)**
Buses **(2)**
Car park **(2)**
Car rental **(8)**
Cash machine(s) **(7)**
Cycles **(7)**
Cycle hire **(2)**
Departures **(3)**
Escalator(s)
Ferry **(2)**
Fire exit **(1)**
First class lounge **(7)**
Gentlemen **(5)**
Help point **(7)**
Hotel **(8)**
Information **(7)**
Ladies **(5)**
Lost property **(7)**
Left luggage **(7)**
Lift(s)
Long term parking **(2)**
Luggage Locks **(7)**
Meeting point **(7)**
Metrolink **(2)**
Mobility impaired reception **(7)**
(see section 2.2.3 for further guidance)
Motorcycles **(2)**
Moving walkway
No entry
No exit
Post box **(7)**
Platform **(3)**
Post office **(8)**
Ramp
Reservations **(7)**
Set down/pick up **(2)**
Short term parking /waiting **(2)**
Showers **(7)**
Stairs
Station reception **(7)**
Subway (2)
Taxis **(2)**
Telephones **(7)**
Textphone **(7)**
Ticket machines **(4)**
Tickets **(4)**
Toilets **(5)**
Tourist information **(8)**
Tram **(2)**
Underground (2)

C

Sign Catalogue

How to reference signs?

Sign referencing

All signs are identified with a reference number (e.g. **1.2**) where the first digit corresponds to the station zone (1=external, 2=concourse, 3=platforms, 4=miscellaneous) and the second follows the sequence of the sign catalogue. This number should be used to identify sign types for station sign schedules.

Sizes

Most sign products are available in different sizes. Sizes are identified by the letters:

- **XXL** for Extra-extra Large;
- **XL** for Extra Large;
- **L** for Large;
- **M** for Medium;
- **S** for Small; and
- **XS** for Extra Small.

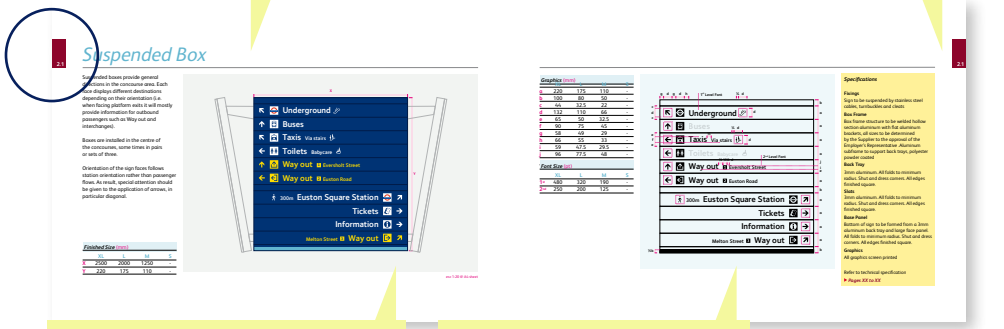
The average reading distance for of each sign type is provided in meters (look for the icon). The graphic layouts in Section 3 provide all necessary information for the artworking of signs contained in any Managed Station schedule.

Fixing referencing

Fixing methods for each sign have been given a reference letter (A, B, C, D, E, F, G, H, I, ...) to be used in conjunction with the sign reference number. Both, reference number and letter, should appear in the sign schedule for any station.
Full description of fixing methods is given in Section 4, page XX.

How to use this catalogue? Each double-page spread depicts one sign type identified by a code and a name (ie. 2.1 Suspended Box)

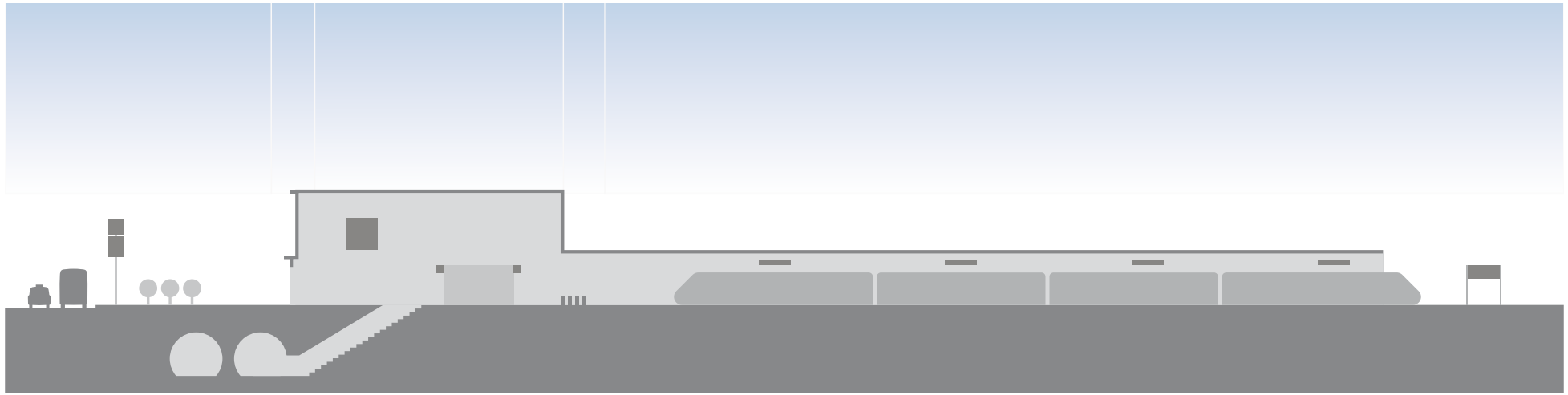
The yellow box include basic technical specifications on materials and fixings. This information is detailed in a dedicated chapter on page Xx.



The left-hand page presents an illustration of the sign, and sets out its function and measurements for each finished size option.

The right-hand page provides further detail on layout and typesetting for the sign and each size option.

Contents



1

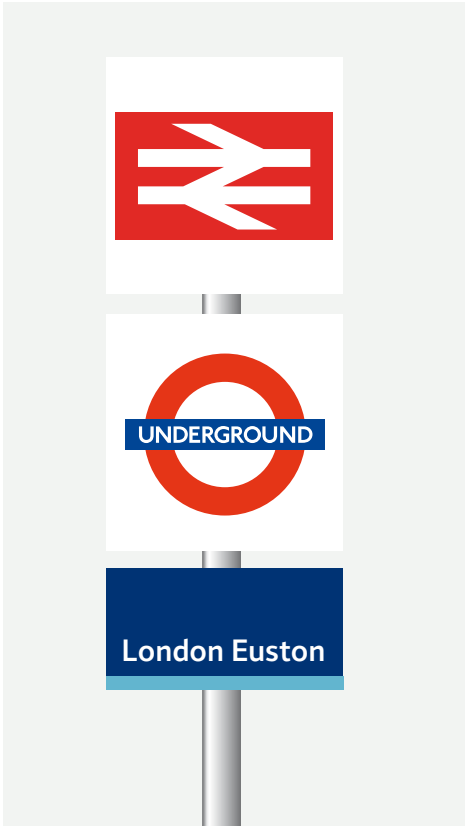
External Zone Signs

The main functions of signs positioned in the External Zone are to make the presence of the station evident, direct travellers to the station's access points, advertise passenger facilities external to the stations (e.g. cycle racks) and connect with local destinations.

The latter function may be performed by local wayfinding schemes - in which case it is important to ensure that the two system are consistent. For more information about the interaction of Network Rail's wayfinding and other systems please refer to the 'Third Party Signing Scheme' paragraph (page ?) in the 'Wayfinding Strategies' chapter of this document

Note
In external areas, wider participation from stakeholder should be sought to coordinate with local wayfinding efforts.

Queries?
Please contact Network Rail's Wayfinding Guardian at ***xxx@networkrail.co.uk*** or ***(0)20 0000 0000*** for more information.



1.1 *Station Identification*

▶ *Page XX*

1.2 *Monumental Lettering*

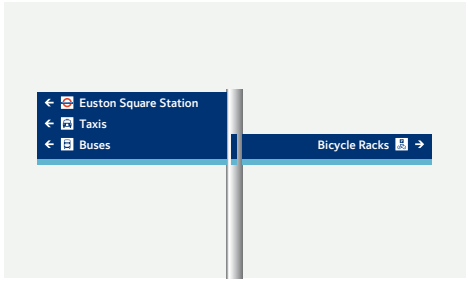
▶ *Page XX*

1.3 *Station Welcome Sign*

▶ *Page XX*

1.4 *External Facilities Cube*

▶ *Page XX*



1.5 *External Directional Sign*

▶ *Page XX*

1.1

Station Identification

This sign signifies the station's presence. It must be placed in a prominent position to allow it to be clearly seen from key pedestrian access routes to the station.

The sign is built of three cubic elements supported by a central pole. The three elements show identical graphics on all four visibile faces. The graphics correspond to the transport services available at the station, and will typically comprise; a station logo (red arrows), a logo for Network Rail or other non-rail transport service operator (e.g. London Underground) and the station name.

Finished Size (mm)

	XL	L	M	S
X	-	-	-	-
Y	-	-	-	-
Z	-	-	-	-

Graphics (mm)	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-

Specifications

Fixings
Type **E**

Base fixing and capping piece to be stainless steel, incorporating dome headed nuts and countersunk bolts as shown

Post
Post to be 140mm diameter mild steel, shop painted to BS 5493

Bracket
Tubular wall brackets to be 140mm diameter mild steel shop painted to BS 5493

Cube sign
3mm aluminum box signs. All folds to minimum radius corners welded and dressed. All edges finished square

Refer to technical specification
▶ *Pages XX to XX*

Monumental Lettering

Monumental lettering is attached permanently to the station building. As such it is as much an architectural feature as an environmental wayfinding element.

Colour, finish and technical specifications such as fittings and illumination are dependent on the station design.

The typography must comply with these guidelines, and the use of the NR Brunel font and title case lettering is compulsory.

Text must be horizontal whenever possible. If the design requires a vertical sign, this must be achieved by rotating the whole station name by 90 degrees clockwise.

Finished Size (mm)

	XL	L	M	S
X	-	-	-	-
Y	-	-	-	-
Z	-	-	-	-

Graphics (mm)

	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)

	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-

TBC

Specifications

Fixings
Type **B**

Refer to technical specification

▶ *Pages XX to XX*

1.3

Station Welcome Sign

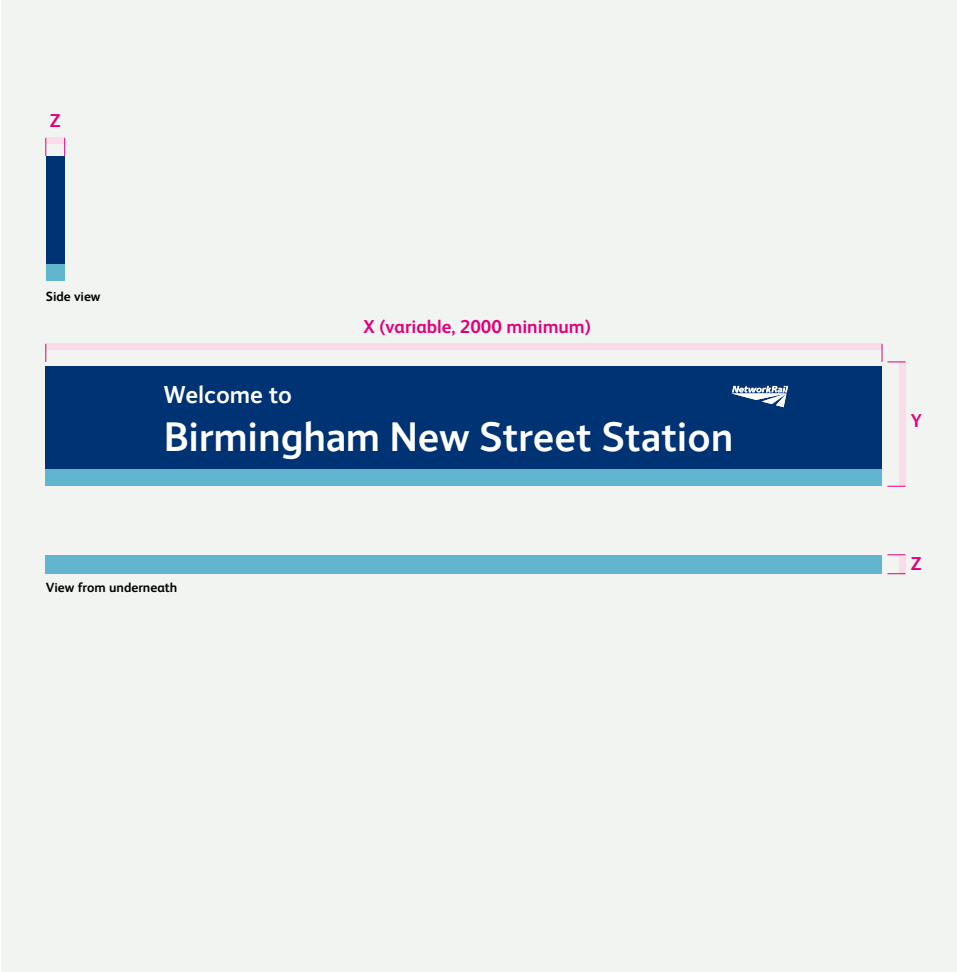
The Station Welcome Sign is designed to be positioned above the entrance doors to the station both from the street, and from other modal interchanges where these may have a dedicated entrance.

It includes the station name in 1st level font and the “Welcome to” message in 2nd level font. Network Rail’s logo must be included as shown in the example.

The whole graphic group (1st and 2nd level font plus Network Rail’s logo should be centered in relation to the sign width.

notes

Sign width (X) is variable to match station architectural features (entrance width). If the width exceeds 5000 mm the station name should be repeated.



Finished Size (mm)

	XL	L	M	S
X	+2500	+2000	-	-
Y	390	330	-	-
Z	50/100	50/100	-	-

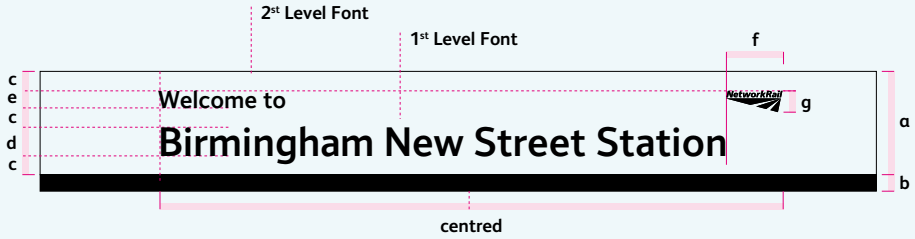
esc 1:50 @ A4 sheet

Graphics (mm)

	XL	L	M	S
a	325	273	-	-
b	55	45	-	-
c	72.5	50	-	-
d	90	75	-	-
e	53	45	-	-
f	178	150	-	-
g	67	56	-	-

Font Size (pt)

	XL	L	M	S
1st	380	320	-	-
2nd	225	190	-	-



Specifications

Fixings
Type B

Back Tray

2mm aluminium.

All folds to minimum radius, shut and dressed corners, all edges finished square.

Front Tray

2mm aluminium.

All folds to minimum radius, shut and dressed corners, all edges finished square.

Finishes

Back Tray - Polyester Powder Coated.
Face Panel - Stove Enamel Railtrack Specification 1050A.

Graphics
All graphics to be screen printed.

Refer to technical specification

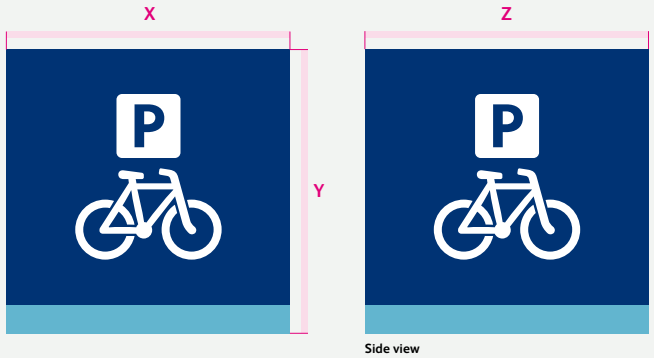
▶ *Pages XX to XX*

External Facilities Cube

External Cubes indicate the location of facilities. Their position must be visible from a long distance and from multiple angles.

Whilst a vertical pole-mounted fixing may provide flexibility on location, consideration must also be given to free passenger movements. Pole mounting provides a good solution for situations such as taxi ranks, parking entrances and trolley points.

Wall mounted or suspended fixings are prefeberable where the entrance to the facility, or the facility itself, may form part of the station building, such as bicycle racks and exterior toilets.



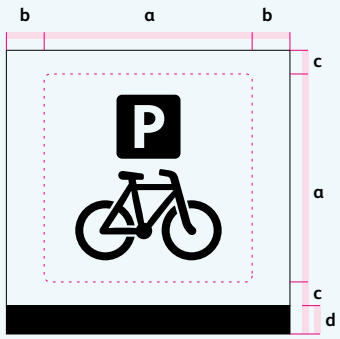
Finished Size (mm)

	XL	L	M	S
X	-	750	600	-
Y	-	750	600	-
Z	-	750	600	-

esc 1:50 @ A4 sheet

Graphics (mm)	XL	L	M	S
a	-	550	450	-
b	-	100	75	-
c	-	62.5	45	-
d	-	75	60	-

Font Size (pt)	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-



Specifications

Fixings
Types **A** **B** **E**

Wall Fixing

Tubular wall brackets to be 140mm diameter (minimum) mild steel.

Base Fixing

Base fixings and capping pieces for mild steel posts to be stainless steel with dome headed nuts and bolts where shown.

Suspended Fixing

The diameter of the mild steel tube section for suspended signs shall be determined by the supplier, shop painted.

Cube sign

3mm aluminium box sign. All folds to minimum radius corners, welded and dressed. All edges finished square.

Refer to technical specification

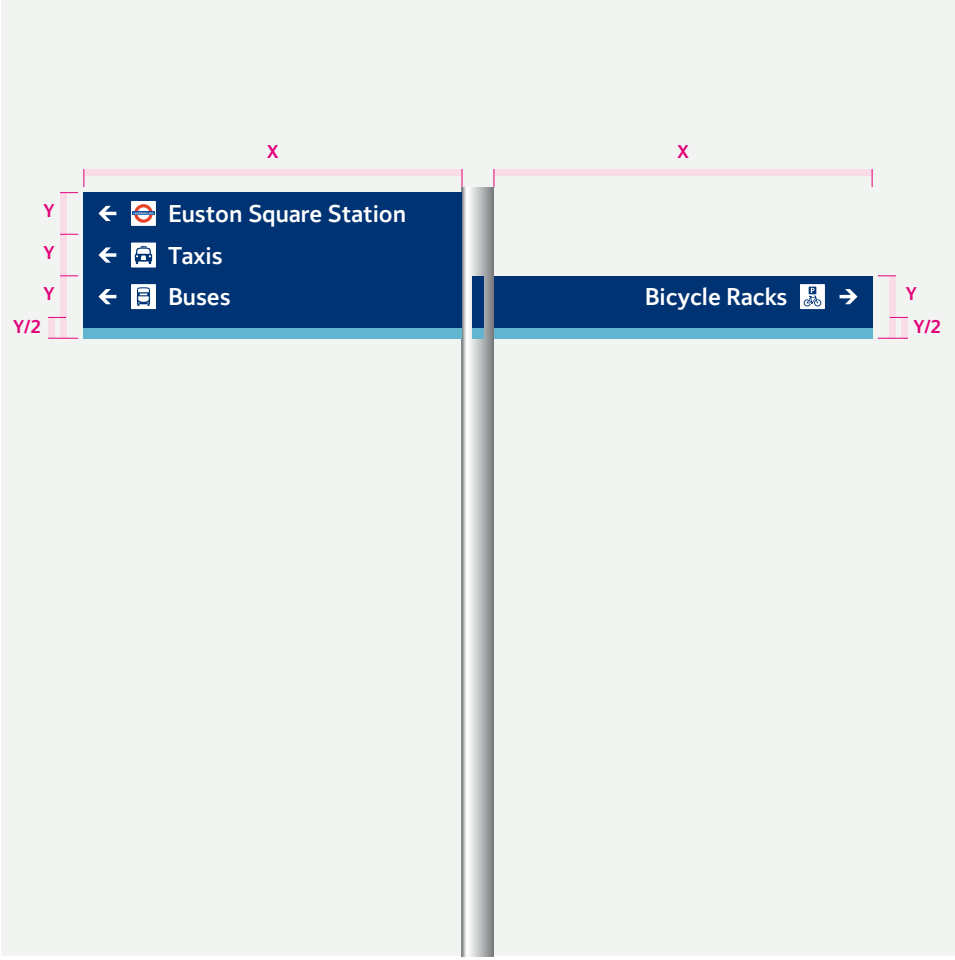
▶ *Pages XX to XX*

External Directional Sign

Directions to external facilities within the station area can be given using fingerpost structures. Directions to local area destinations other than transport interchanges must not be included.

Fingers are typically orientated in four 90˚ angles but it can also support 45˚ angle orientation if required. Consideration must be given to potential obscuring of one finger over other as result of the use of a 45˚ angle.

In all other cases the base of each set of fingers (coloured band) must have matching height. Each set can include up to 5 fingers but 3 or less in each direction is advisable. All fingers are double-sided.



esc 1:20 @ A4 sheet

Finished Size (mm)

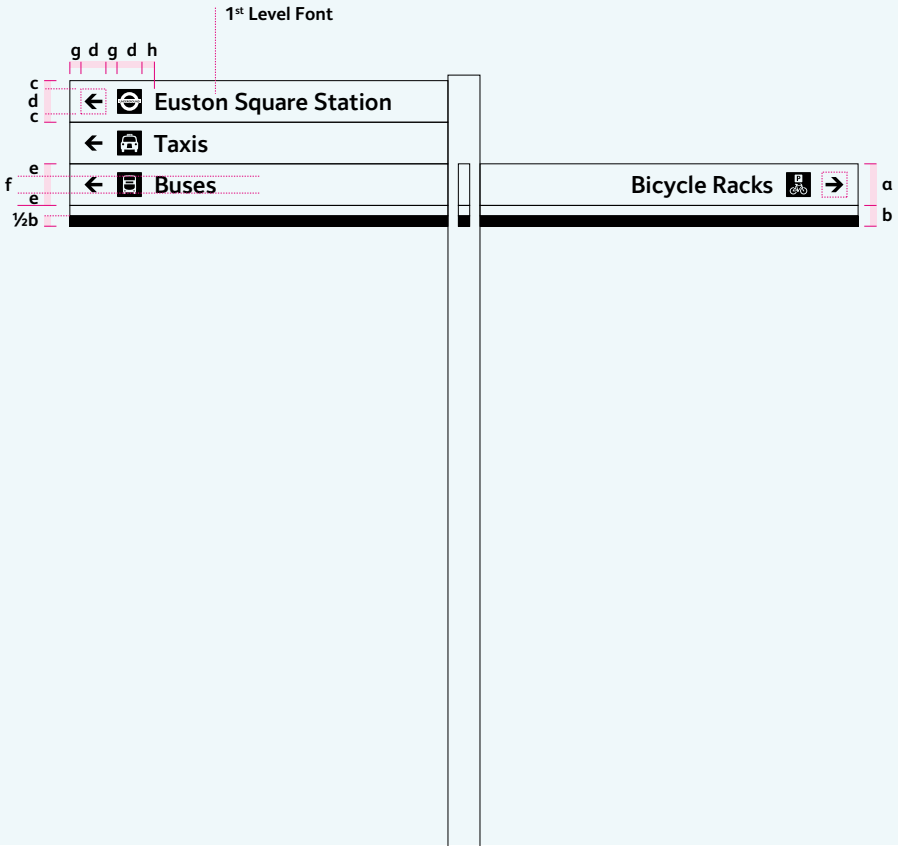
	XL	L	M	S
X	-	1600	1000	-
Y	-	175	110	-
Z	-	30/50	30/50	-

Graphics (mm)

	XL	L	M	S
a	-	175	110	-
b	-	87.5	55	-
c	-	32.5	22	-
d	-	110	66	-
e	-	50	32.5	-
f	-	75	45	-
g	-	49	29	-
h	-	55	33	-

Font Size (pt)

	XL	L	M	S
1st	-	320	190	-
2nd	-	-	-	-



Specifications

Fixings

Types **E**

Concourse Zone Signs

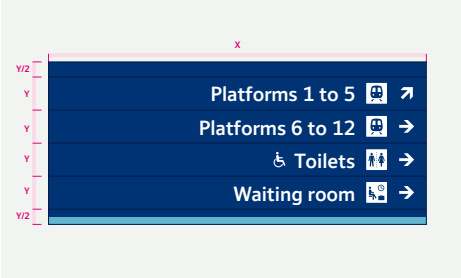
The concourse zone is where most station functions are concentrated, and where conflicting and interlaced pedestrian movement takes place.

In the concourse there is the need to provide signing towards ticketing, information and other facilities for passengers starting their journeys; towards interchange opportunities for passengers who are in the middle of their journeys; and towards exits and local destinations for passenger arriving from trains.

A number of different sign types are available to ensure the most appropriate positioning and sizing of wayfinding information, both to direct passengers and to help them identify places and functions.

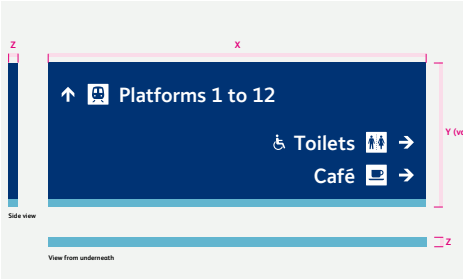
2.1 Suspended Box

▶ *Page XX*



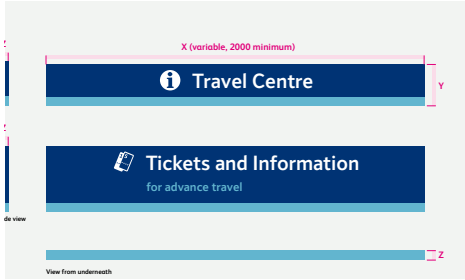
2.2 Directional Slat Sign

▶ *Page XX*



2.3 Directional Panel Sign

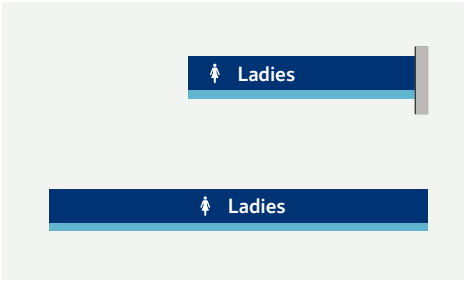
▶ *Page XX*



2.4 Tickets & Information Sign

▶ *Page XX*

Note
In external areas, wider participation from stakeholder should be sought after to coordinate local wayfinding efforts.

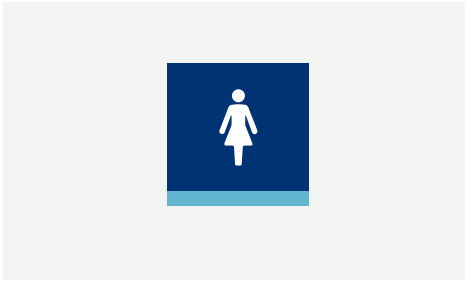


2.5 Location Panel Sign

▶ Page XX

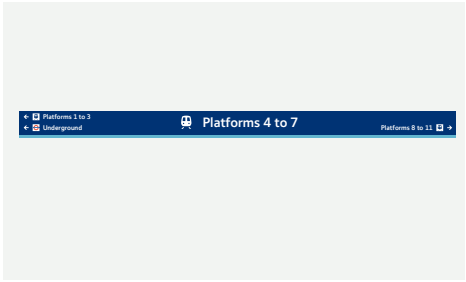
2.6 Internal Facilities Cube

▶ Page XX



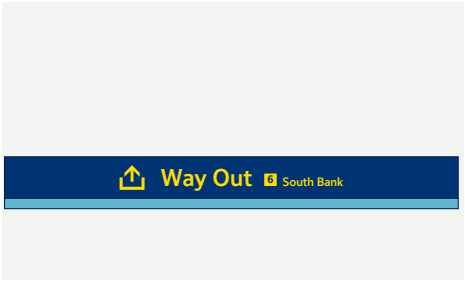
2.7 Internal Facilities Shallow Depth

▶ Page XX



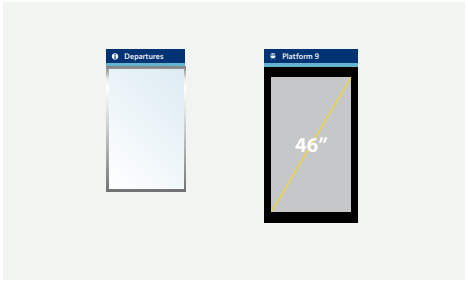
2.8 Gateline Frieze Sign

▶ Page XX



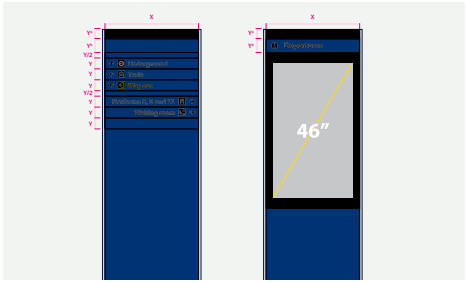
2.9 Way Out Sign

▶ Page XX



2.10 Display case frieze

▶ Page XX



2.11 Multifunctional Concourse Totem

▶ Page XX

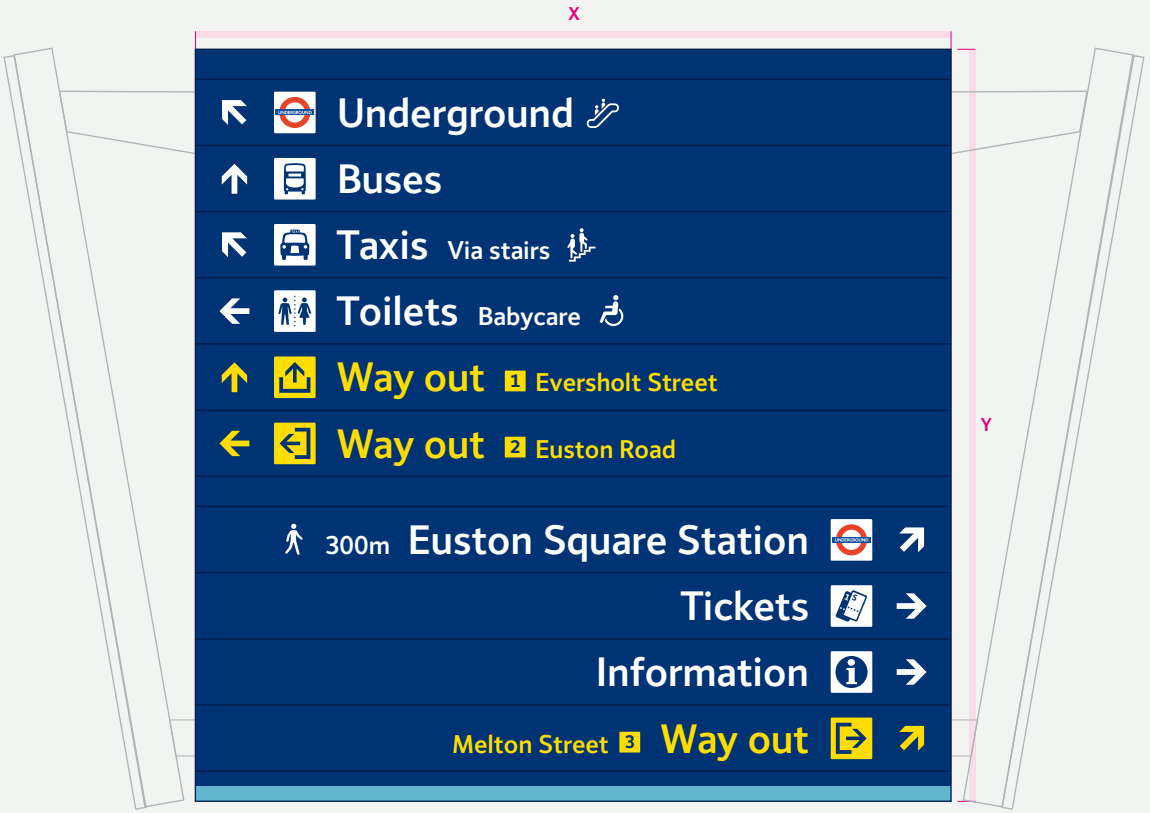
2.1

Suspended Box

Suspended boxes provide general directions in the concourse area. Each face displays different destinations depending on its orientation, i.e. when facing platform exits it will mostly provide information for outbound passengers such as Way out and interchanges.

Boxes are installed in the centre of the concourses, sometimes in pairs or sets of three.

Orientation of the sign faces follows station orientation rather than passenger flows. As result, special attention should be given to the application of arrows, in particular diagonal.

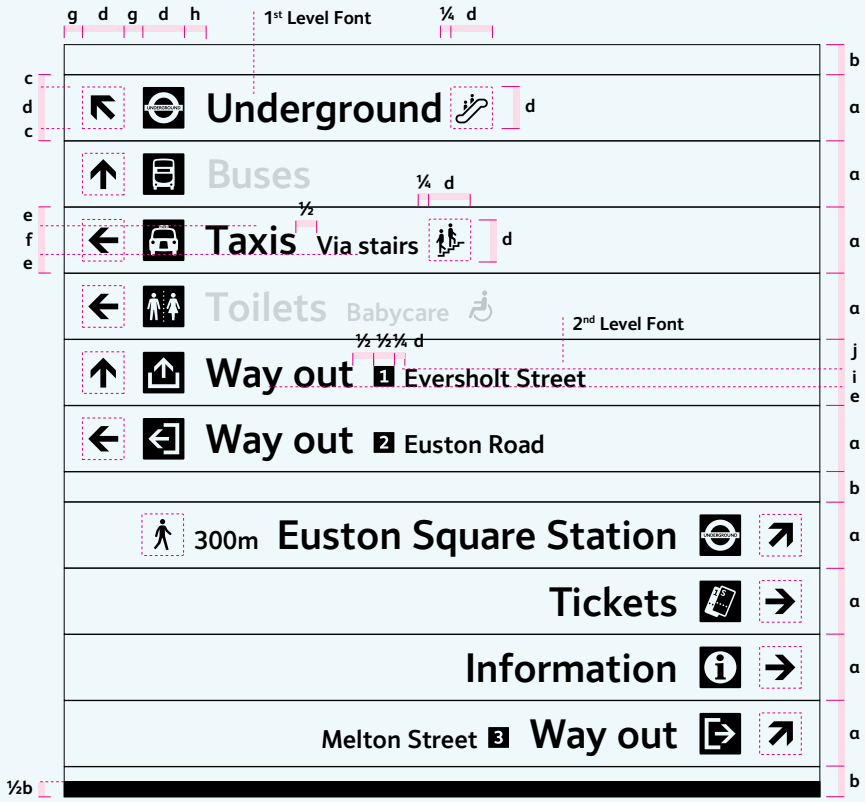


esc 1:20 @ A4 sheet

Finished Size (mm)				
	XL	L	M	S
X	2500	2000	1250	-
Y	220	175	110	-

Graphics (mm)	XL	L	M	S
a	220	175	110	-
b	100	80	50	-
c	44	32.5	22	-
d	132	110	66	-
e	65	50	32.5	-
f	90	75	45	-
g	58	49	29	-
h	66	55	33	-
i	59	47.5	29.5	-
j	96	77.5	48	-

Font Size (pt)	XL	L	M	S
1st	480	320	190	-
2nd	250	200	125	-



Specifications

Fixings

Sign to be suspended by stainless steel cables, turnbuckles and cleats

Box Frame

Box frame structure to be welded hollow section aluminum with flat aluminum brackets, all sizes to be determined by the Supplier to the approval of the Employer's Representative .Aluminum subframe to support back trays, polyester powder coated

Back Tray

3mm aluminum. All folds to minimum radius. Shut and dress corners. All edges finished square.

Slats

3mm aluminum. All folds to minimum radius. Shut and dress corners. All edges finished square.

Base Panel

Bottom of sign to be formed from a 3mm aluminum back tray and large face panel. All folds to minimum radius. Shut and dress corners. All edges finished square.

Graphics

All graphics screen printed

Refer to technical specification

▶ *Pages XX to XX*

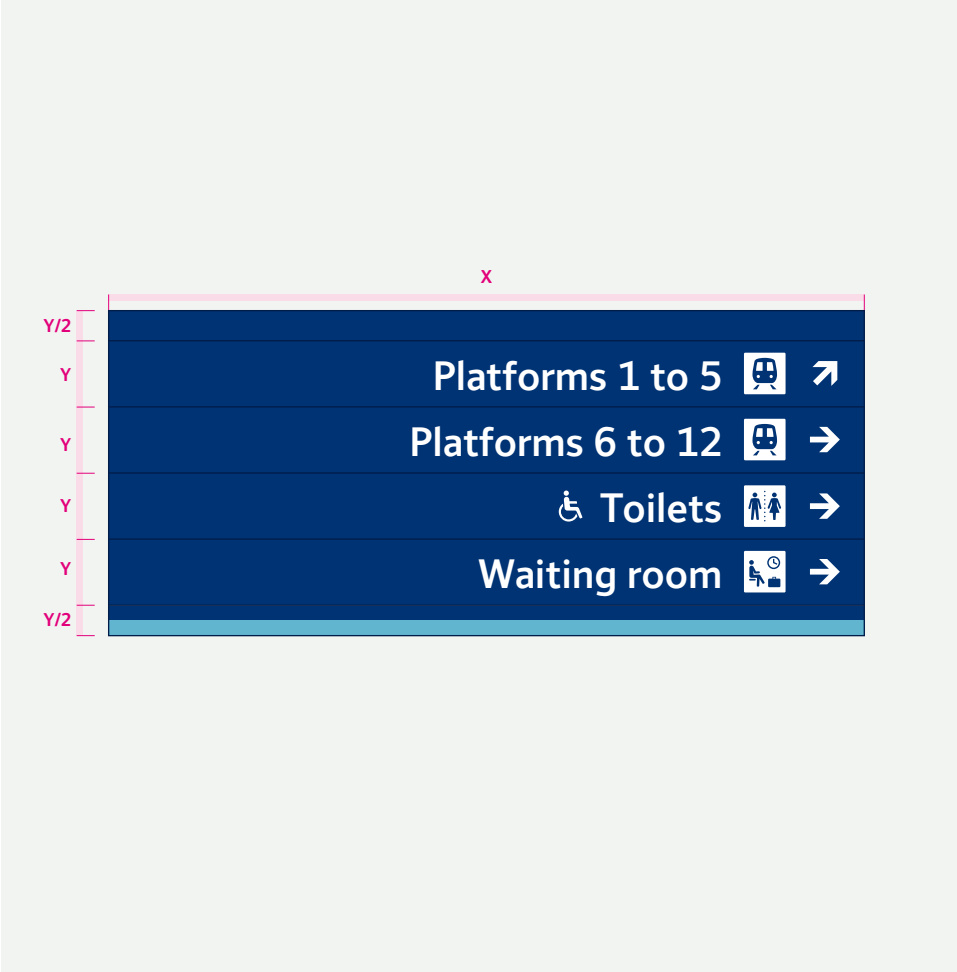
2.2

Directional Slat Sign

Directional slat signs provide key information about facilities and destinations within the station. They are usually wall mounted, but can also be ceiling and pole mounted,

Depending on the intended viewing distances, they can be sized to support local movements in conjunction with the suspended box, or to provide key strategic direction information.

For further instructions about the composition of these signs, please refer to the Information Hierarchy section in this document (P.XX).



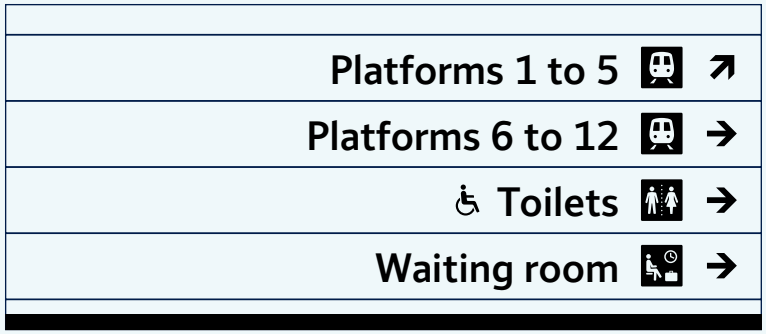
esc 1:20 @ A4 sheet

Finished Size (mm)

	XL	L	M	S
X	2500	2000	1250	900
Y	220	175	110	90

Graphics (mm)	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-



Specifications

Fixings

Types A B C D F

Back Tray

L/M -3mm aluminium

S/XS -2mm aluminium

All folds to minimum radius, shut and dressed corners, all edges finished square.

Front Tray

L/M -3mm aluminium

S/XS -2mm aluminium

All folds to minimum radius, shut and dressed corners, all edges finished square.

Finishes

Back Tray - Polyester Powder Coated

Face Panel - Stove Enamel Railtrack Specification 1050A

Graphics

All graphics to be screen printed

Refer to technical specification

▶ *Pages XX to XX*

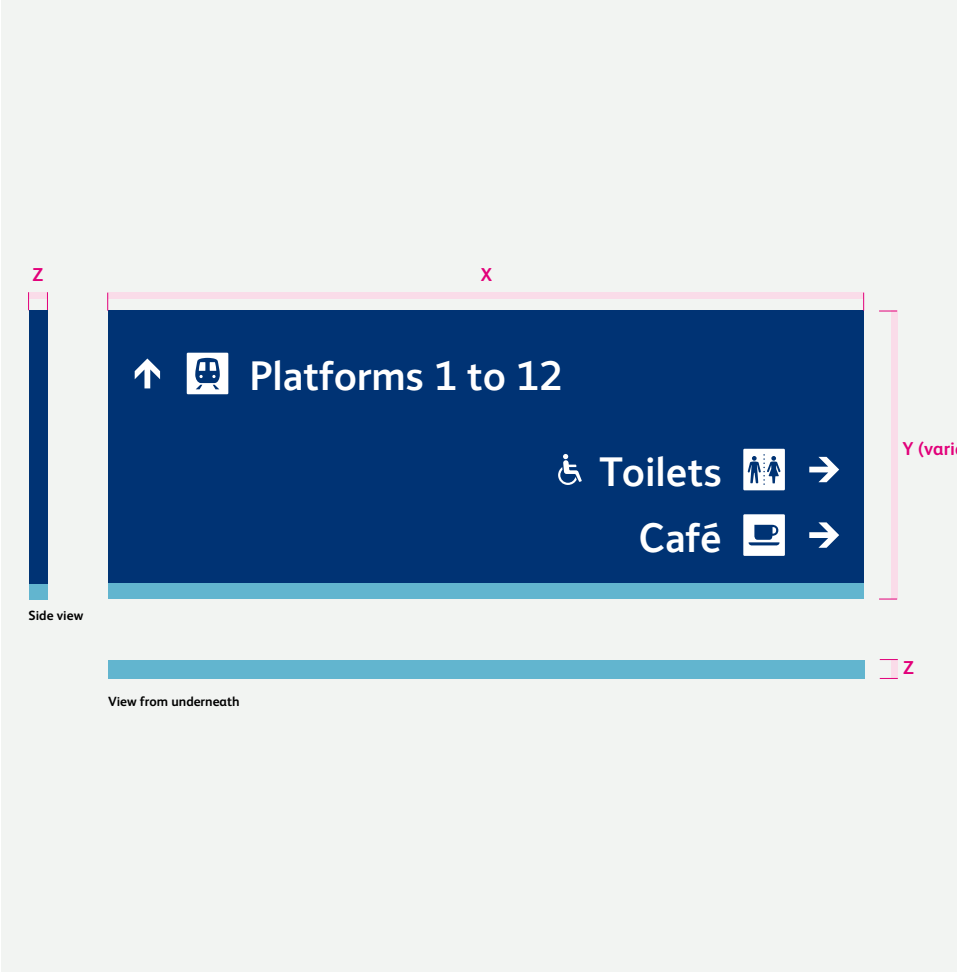
2.3

Directional Panel Sign

This sign type should only be used when the slatted version cannot be used.

It is suitable

need to add examples of use



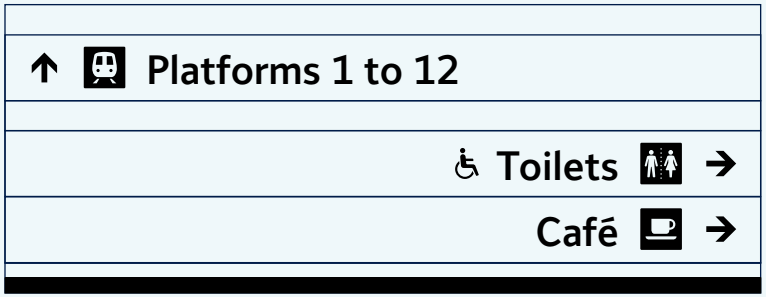
esc 1:20 @ A4 sheet

Finished Size (mm)

	XL	L	M	S
X	2500	2000	1250	900
Y	x220	x175	x110	x90

Graphics (mm)	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-



Specifications

Fixings

Types **A** **B** **C** **D**

Back Tray:

S/XS - 2mm

L/M - 3mm aluminium

All folds to minimum radius, shut and dressed corners, all edges finished square.

Front Tray:

S/XS - 2mm

L/M - 3mm aluminium

All folds to minimum radius, shut and dressed corners, all edges finished square.

Finishes

Back Tray- Polyester Powder Coated

Face Panel- Stove Enamel Railtrack Specification 1050A

Graphics

All graphics to be screen printed

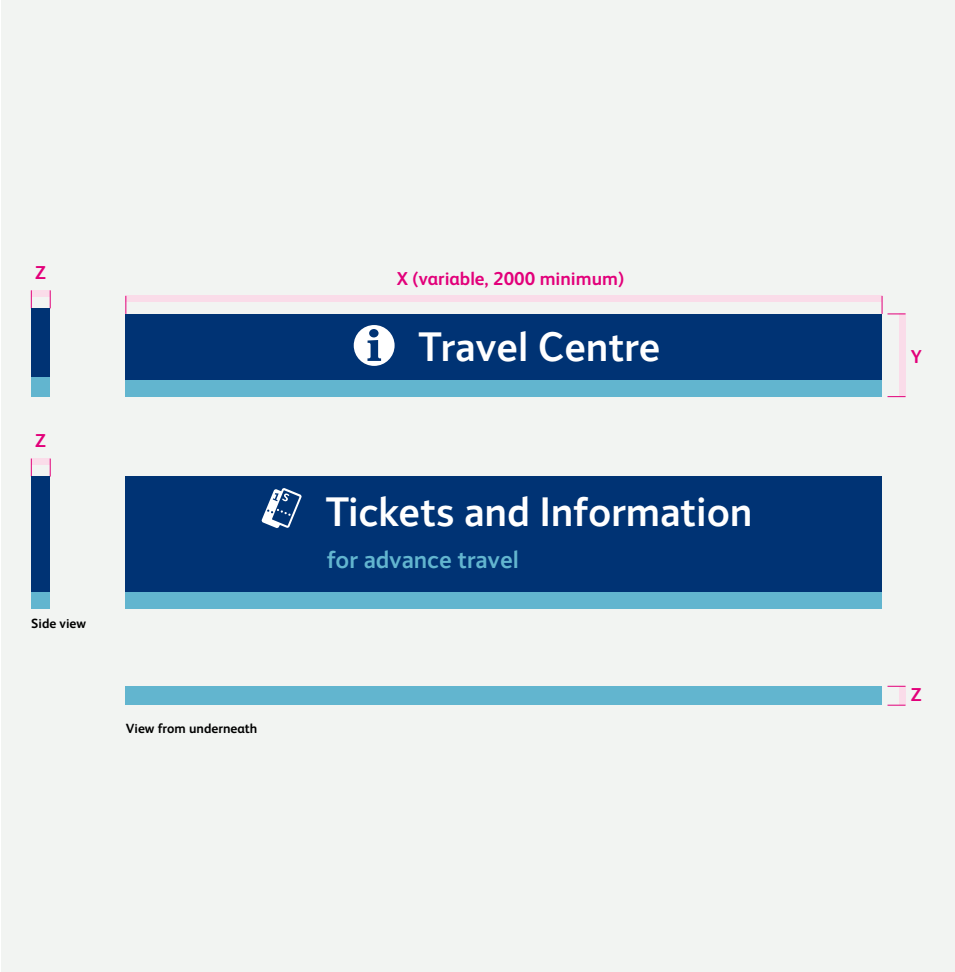
Refer to technical specification

▶ *Pages XX to XX*

Tickets & Information Sign

These signs identify key facilities in the concourse. They are typically made of a single panel with one line of text providing the facility name, but when required may also include a second line of supplementary text.

Pictograms for identification signs are white on blue background (REF P.XX)



esc 1:20 @ A4 sheet

Finished Size (mm)

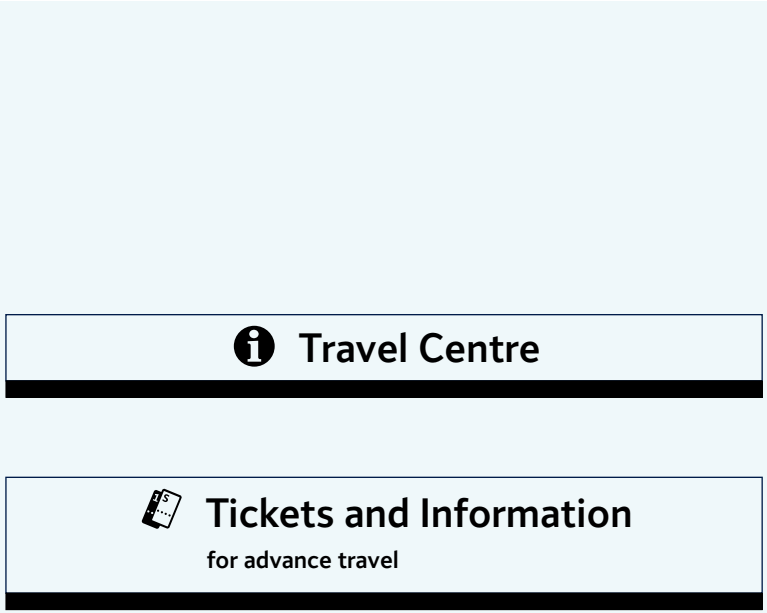
	XL	L	M	S
X	+2500	+2000	1250	-
Y	220	175	110	-

Graphics (mm)

	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)

	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-



Specifications

Fixings

Types **A** **B** **C** **D**

Back Tray

2mm aluminium

All folds to minimum radius, shut and dressed corners, all edges finished square.

Front Tray

2mm aluminium

All folds to minimum radius, shut and dressed corners, all edges finished square.

Graphics

All graphics to be screen printed

Refer to technical specification

▶ ***Pages XX to XX***

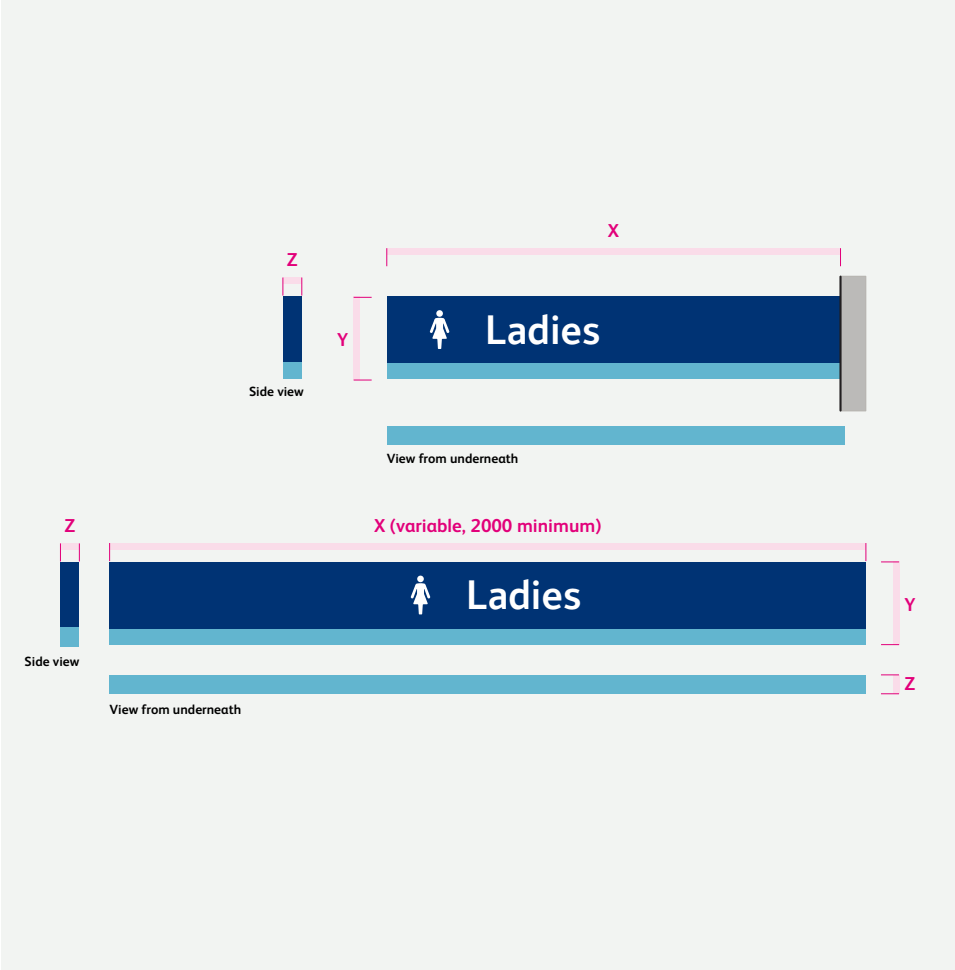
2.5

Location Panel Sign

The Location Panel Signs are used to identify all facilities in the concourse. They are usually made of a single panel with one line of text providing the facility name.

Pictograms for Location Panel signs are white on blue background (REF P.XX).

These signs can be wall mounted or projected from structures. Where appropriate, they should be used in conjunction with Internal Facility Cubes (2.7) to ensure that the facility is clearly visible from all intended viewing directions, in particular perpendicular to the main pedestrian flows.



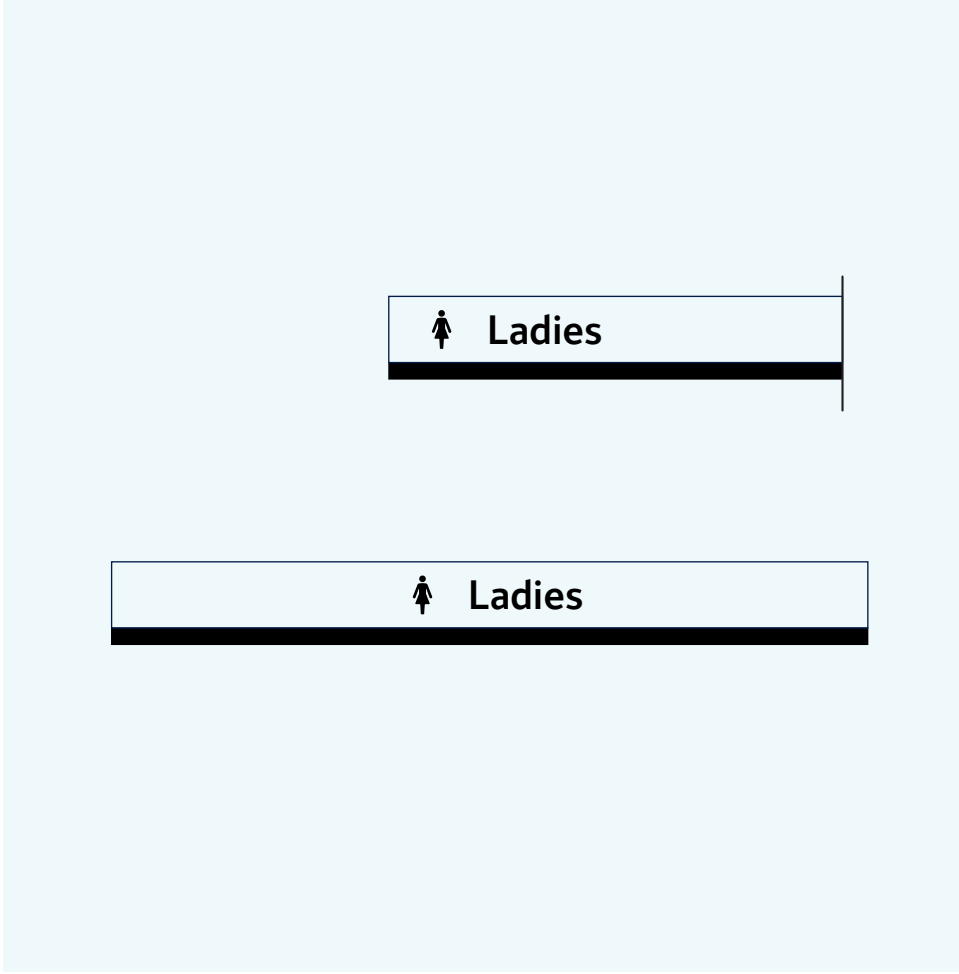
esc 1:20 @ A4 sheet

Finished Size (mm)

	XL	L	M	S
X	+2500	+2000	1250	-
Y	220	175	110	-

Graphics (mm)	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-



Specifications

Fixings

Types **B** **D**

Back Tray:

S/XS - 2mm

L/M - 3mm aluminium

All folds to minimum radius, shut and dressed corners, all edges finished square.

Front Tray:

S/XS - 2mm

L/M - 3mm aluminium

All folds to minimum radius, shut and dressed corners, all edges finished square.

Graphics

All graphics to be screen printed

Refer to technical specification

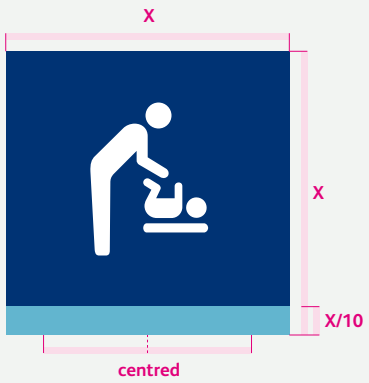
▶ *Pages XX to XX*

2.6

Internal Facilities Cube

Internal Facilities Cubes indicate the location of facilities in the Concourse Zone providing wide viewing angles in places where wall mounted signs may not provide sufficient visibility from the main pedestrian flows.

Fixed may be wall mounted or suspended.



esc 1:20 @ A4 sheet

Finished Size (mm)

	XL	L	M	S
X	-	-	600	-
Y	-	-	600	-
Z	-	-	600	-

Graphics (mm)	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-

Specifications

Fixings

Types **A** **B** **E**

Wall Fixing

Tubular wall brackets to be 140mm diameter (minimum) mild steel.

Base Fixing

Base fixings and capping pieces for mild steel posts to be stainless steel with dome headed nuts and bolts where shown.

Suspended Fixing

The diameter of the mild steel tube section for suspended signs shall be determined by the supplier, shop painted

Cube sign

3mm aluminium box sign. All folds to minimum radius corners, welded and dressed. All edges finished square.

Refer to technical specification

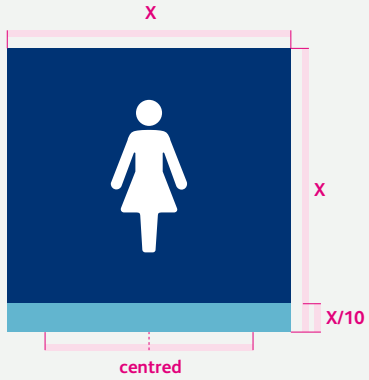
▶ *Pages XX to XX*

2.7

Internal Facilities Shallow Depth

Internal Facilities Shallow Depth are identification signs to be used when the environment doesn't allow the installation of a Facilities Cube. They indicate the location of facilities in the Concourse Zone, and may be used to reinforce information provided through the Location Panel Signs.

Fixed may be wall mounted or suspended.



esc 1:20 @ A4 sheet

Finished Size (mm)

	XL	L	M	S
X	-	-	600	-
Y	-	-	600	-
Z	-	-	20	-

Graphics (mm)	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-

Specifications

Fixings

Types **A** **B**

Wall Fixing

Tubular wall brackets to be 140mm diameter (minimum) mild steel.

Base Fixing

Base fixings and capping pieces for mild steel posts to be stainless steel with dome headed nuts and bolts where shown.

Suspended Fixing

The diameter of the mild steel tube section for suspended signs shall be determined by the supplier, shop painted

Cube sign

3mm aluminium box sign. All folds to minimum radius corners, welded and dressed. All edges finished square.

Graphics

All graphics to be screen printed

Refer to technical specification

▶ *Pages XX to XX*

Gateline Frieze Sign

This type of sign is to be used where gatelines provide access to a restricted number of platforms, or to a segregated area of a station.

It is important that these signs show secondary information towards other platforms or destinations.

These panels should be hung from the ceiling, but in some cases they can be pole-mounted - providing that the minimum clearance of 2500mm is observed.

esc 1:20 @ A4 sheet

Finished Size (mm)

	XL	L	M	S
X	+2500	+2000	1250	-
Y	220	175	110	-

Graphics (mm)	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-

Specifications

Fixings

Types A C E F

Back Tray

2mm aluminium

All folds to minimum radius, shut and dressed corners, all edges finished square.

Front Tray

2mm aluminium

All folds to minimum radius, shut and dressed corners, all edges finished square.

Graphics

All graphics to be screen printed

Refer to technical specification

▶ *Pages XX to XX*

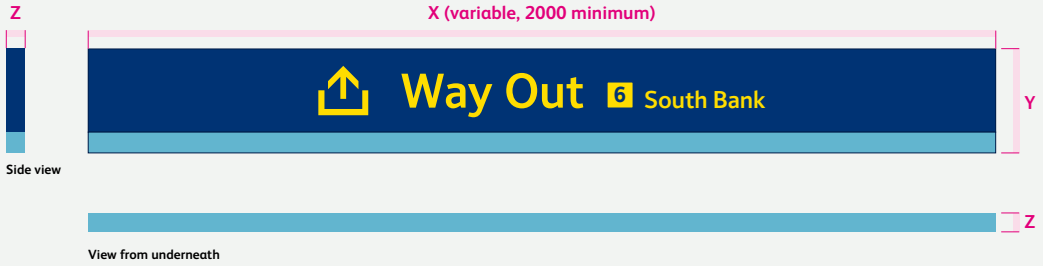
2.9

Way Out Sign

Way Out signs should be positioned overhead above the egress points of the station.

They are single panel signs including a Way Out icon, the wording 'Way Out' and secondary information typically the name of the principal location they serve. The name must be preceeded by the Way Out number in accordance with the station plan.

For more information regarding the content of Way Out signs please refer to the relevant section (page number) within the Information Hierarchy chapter.



esc 1:20 @ A4 sheet

Finished Size (mm)

	XL	L	M	S
X	2500	2000	1250	-
Y	220	175	110	-

Graphics (mm)

	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)

	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-

Specifications

Fixings

Types **A** **B** **C** **F**

Back Tray

L: 3mm aluminium

M: 2mm aluminium

All folds to minimum radius, shut and dressed corners, all edges finished square.

Front Tray

L: 3mm aluminium

M: 2mm aluminium

All folds to minimum radius, shut and dressed corners, all edges finished square.

Graphics

All graphics to be screen printed

Refer to technical specification

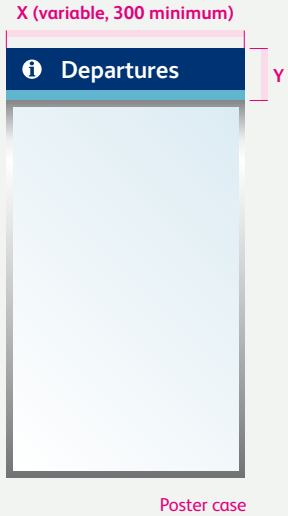
▶ ***Pages XX to XX***

2.10

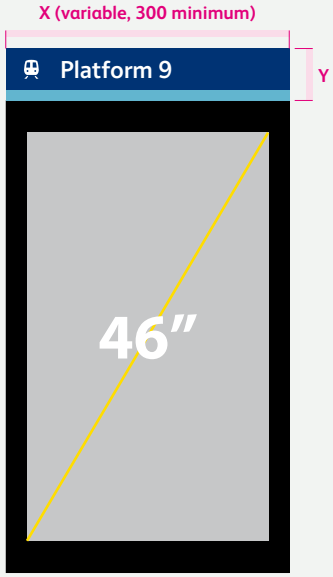
Display Case Frieze

These signs are to be mounted above Passenger Information Displays (PIDs) or poster cases in the Concourse Zone.

They must be as wide as the unit case.



Poster case



Passenger Information Display (PID)

esc 1:20 @ A4 sheet

Finished Size (mm)

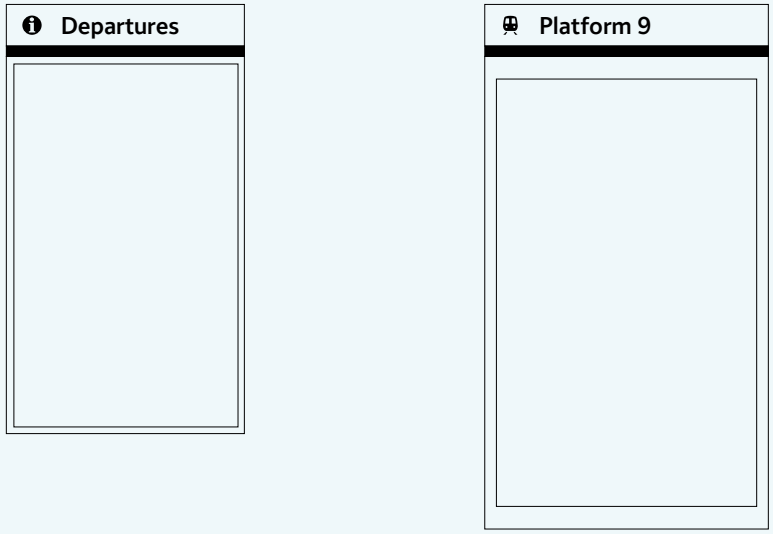
	XL	L	M	S
X	-	-	-	-
Y	-	-	-	-
Z	-	-	-	-

Graphics (mm)

	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)

	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-



Specifications

Fixings

Types A E

Plate

Edges to be machined and finished free from cutter marks (not guillotined)
3mm flat aluminium plate.

Fixings

Locate on existing firm fixing points. Colour fixings to match plate colour

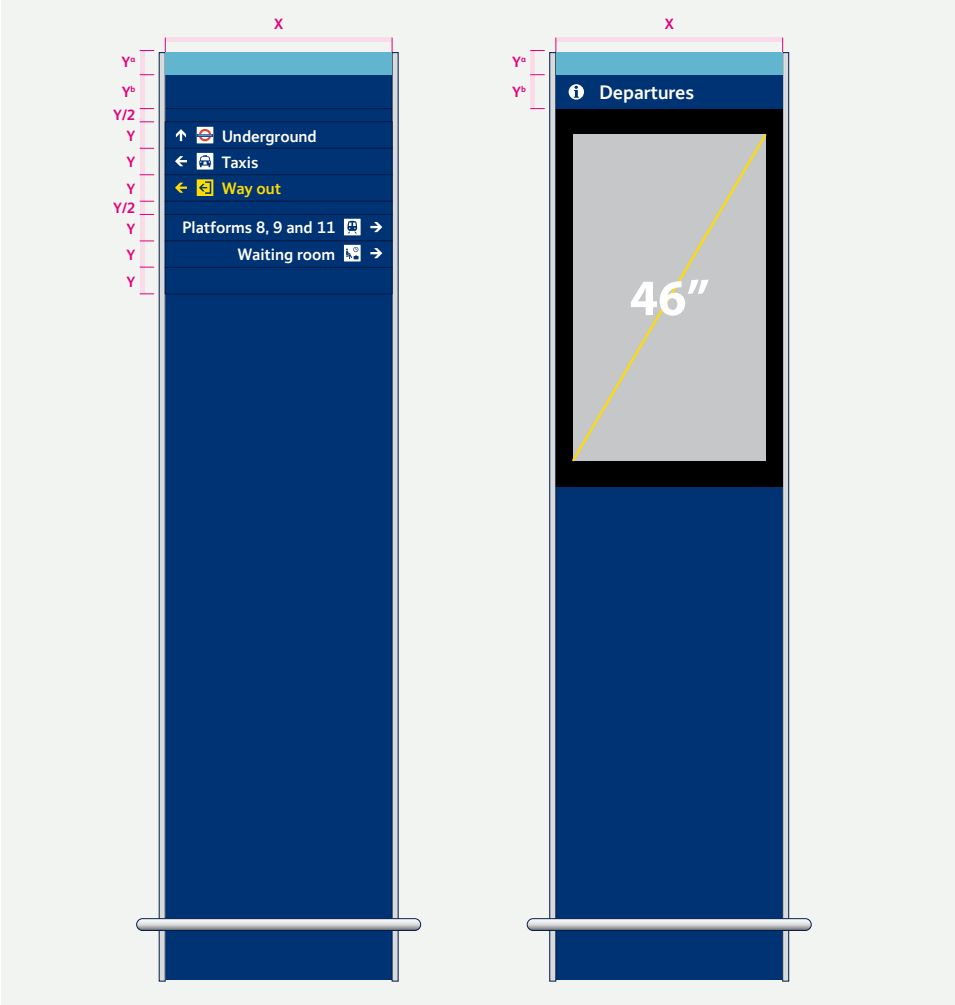
Graphics

All graphics screen printed

Refer to technical specification
▶ *Pages XX to XX*

Multifunctional Concourse Totem

Multifunctional Concourse Totems offer flexible positioning options and allow for the display of static and dynamic information. Text to be updated to include further guidance.



Finished Size (mm)

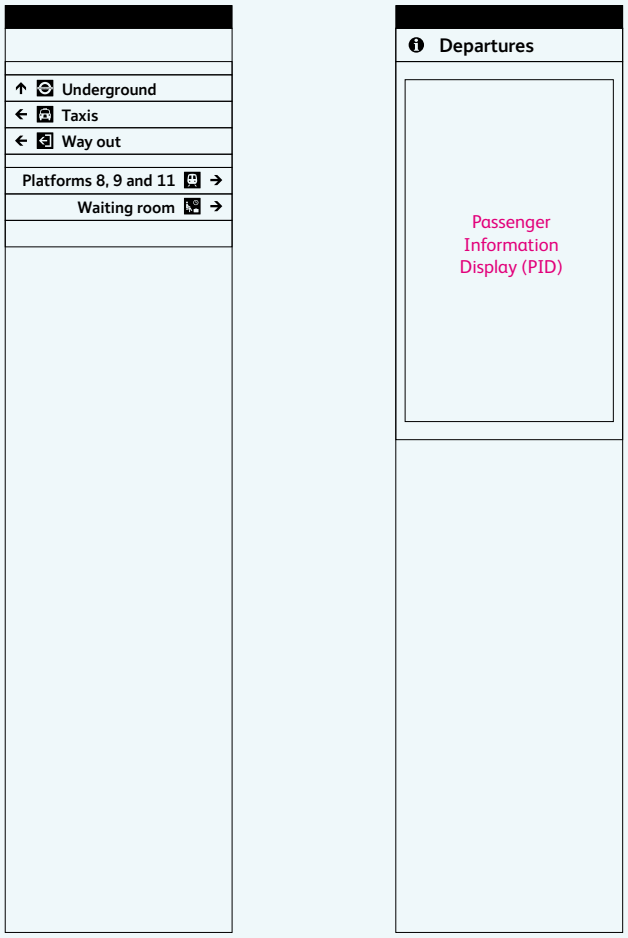
	XL	L	M	S
X	-	-	-	-
Y	-	-	-	-
Z	-	-	-	-

Graphics (mm)

	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)

	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-



Specifications

Frame

Internal framing and fixing to be determined by the Supplier

Panels

3mm aluminium tops, corners, sides, skirting sections, face panels and doors.

Fold with minimum radius corners welded and dressed

Poster panels

3mm aluminium back tray behind opening doors to incorporate a clip system for locating and attaching information posters; back tray polyester powder coated. Doors to incorporate concealed hinges and locks, and be self draining to protect information posters, window area to be 2mm clear polycarbonate sheet

Base

Stainless steel fender sections at bottom of each face on floor mounted signs

Graphics

All graphics to be screen printed

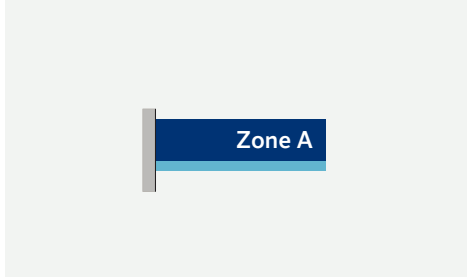
Refer to technical specification
▶ *Pages XX to XX*

Platform Zone Signs

The key messages to be provided along the platforms are platform numbers (and zones, where appropriate) for passengers departing, and station name and directions to exit and local facilities for passengers arriving.

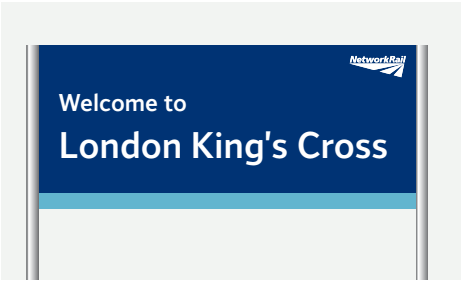
3.1 Platform number

▶ *Page XX*



3.2 Platform section

▶ *Page XX*



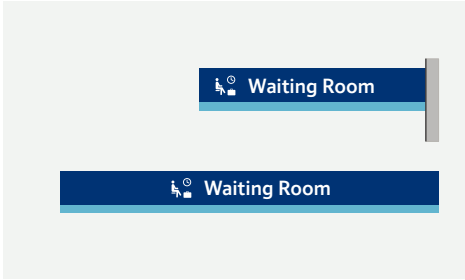
3.3 Running-in sign

▶ *Page XX*

3.4 Station Name Panel

▶ *Page XX*

Note
In external areas, wider participation from stakeholder should be sought after to coordinate local wayfinding efforts.

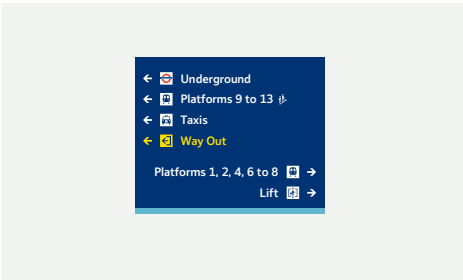


3.5 Location Panel Sign

▶ Page XX

3.6 Facilities Shallow Depth

▶ Page XX



3.7 Directional Slat Sign

▶ Page XX

3.8 Gateline Frieze Way Out Sign

▶ Page XX

3.9 PID Display Case

▶ Page XX

3.10 Platform Totem

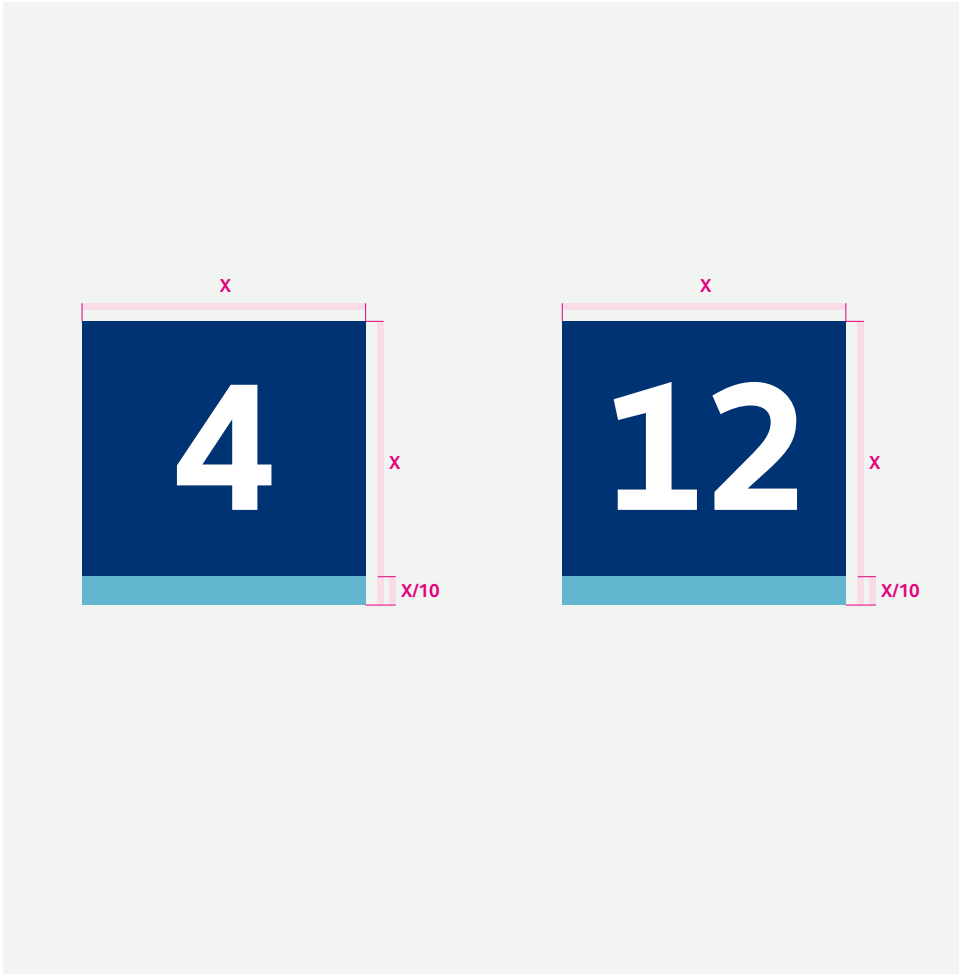
▶ Page XX

3.1

Platform number

These signs identify the platform numbers for arriving and departing passengers.

They can be wall, ceiling and pole mounted. They should be repeated at regular intervals along the platforms. The interval must be defined by platform configuration and lenght. It is essential that one sign is positioned prominently at the head of the platform and at each entrance point where multiple-entries exist.



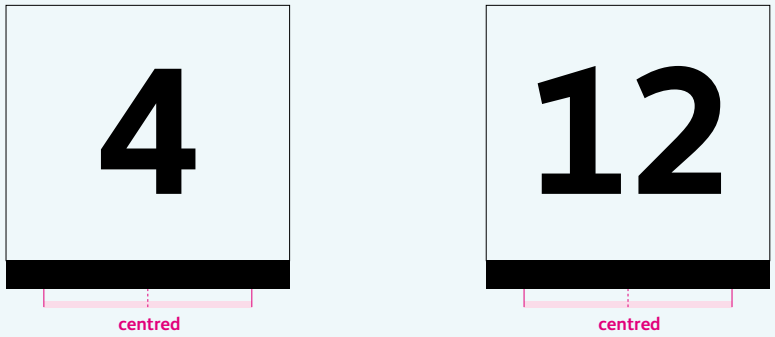
esc 1:20 @ A4 sheet

Finished Size (mm)

	XL	L	M	S
X	-	750	600	-
Y	-	750	600	-
Z	-	40	40	-

Graphics (mm)	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-



Specifications

Fixings

Types **A** **B** **E**

Wall Fixing

Tubular wall brackets to be 140mm diameter (minimum) mild steel.

Base Fixing

Base fixings and capping pieces for mild steel posts to be stainless steel with dome headed nuts and bolts where shown.

Suspended Fixing

The diameter of the mild steel tube section for suspended signs shall be determined by the supplier, shop painted

Cube sign

3mm aluminium box sign. All folds to minimum radius corners, welded and dressed. All edges finished square.

Refer to technical specification

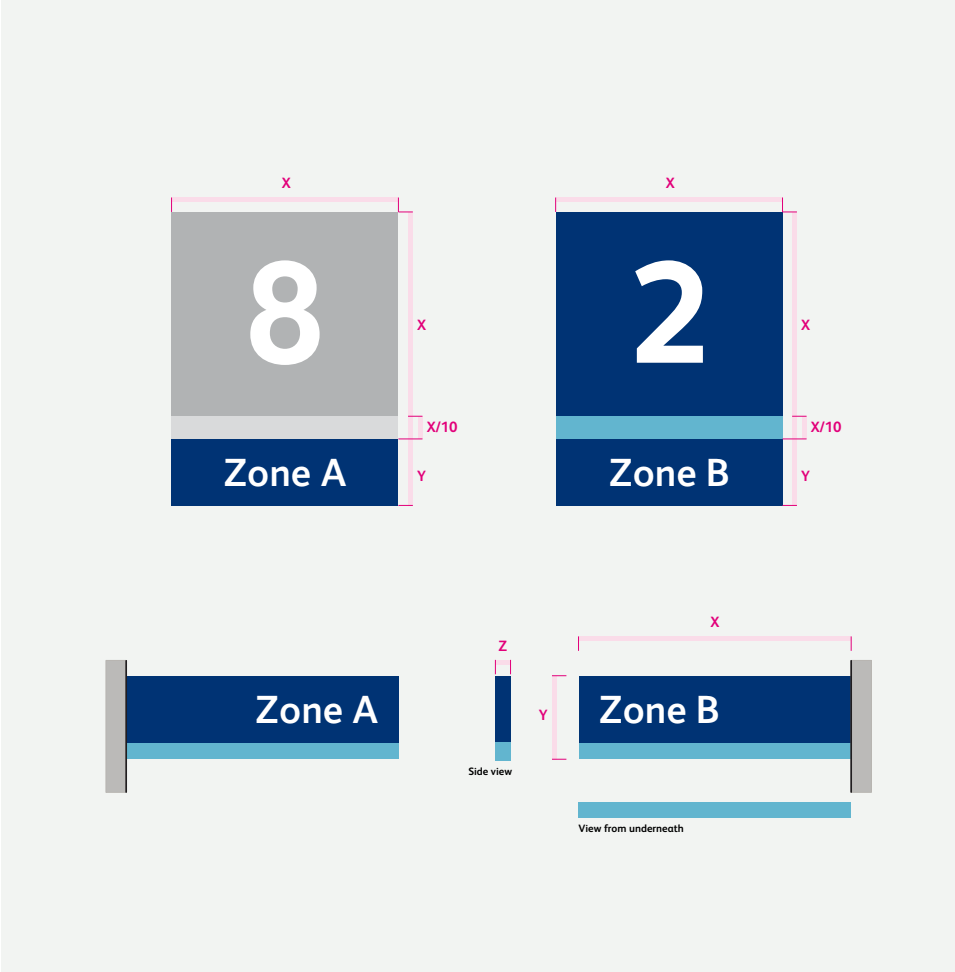
▶ *Pages XX to XX*

3.2

Platform section

These signs identify waiting zones within platforms.

These signs can be used in isolation, wall or ceiling mounted, or in conjunction with Platform Number signs.

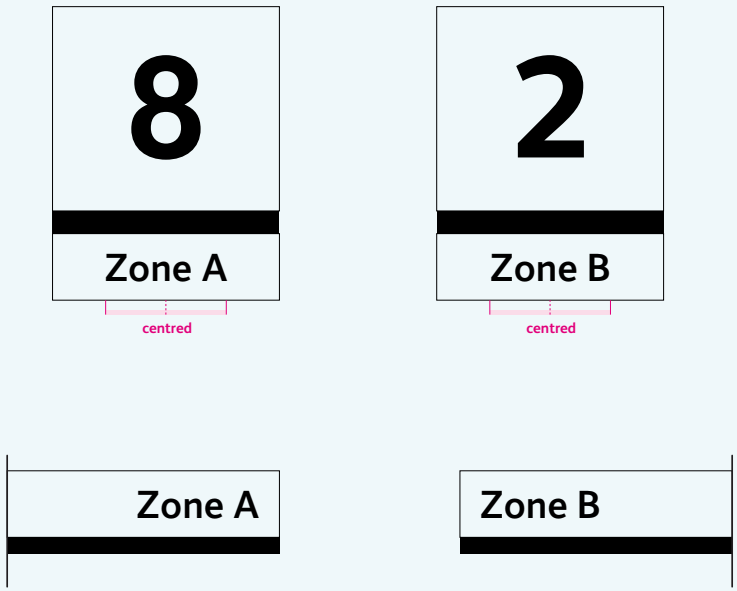


Finished Size (mm)

	XL	L	M	S
X	-	750	600	-
Y	-	110	90	-

Graphics (mm)	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-



Specifications

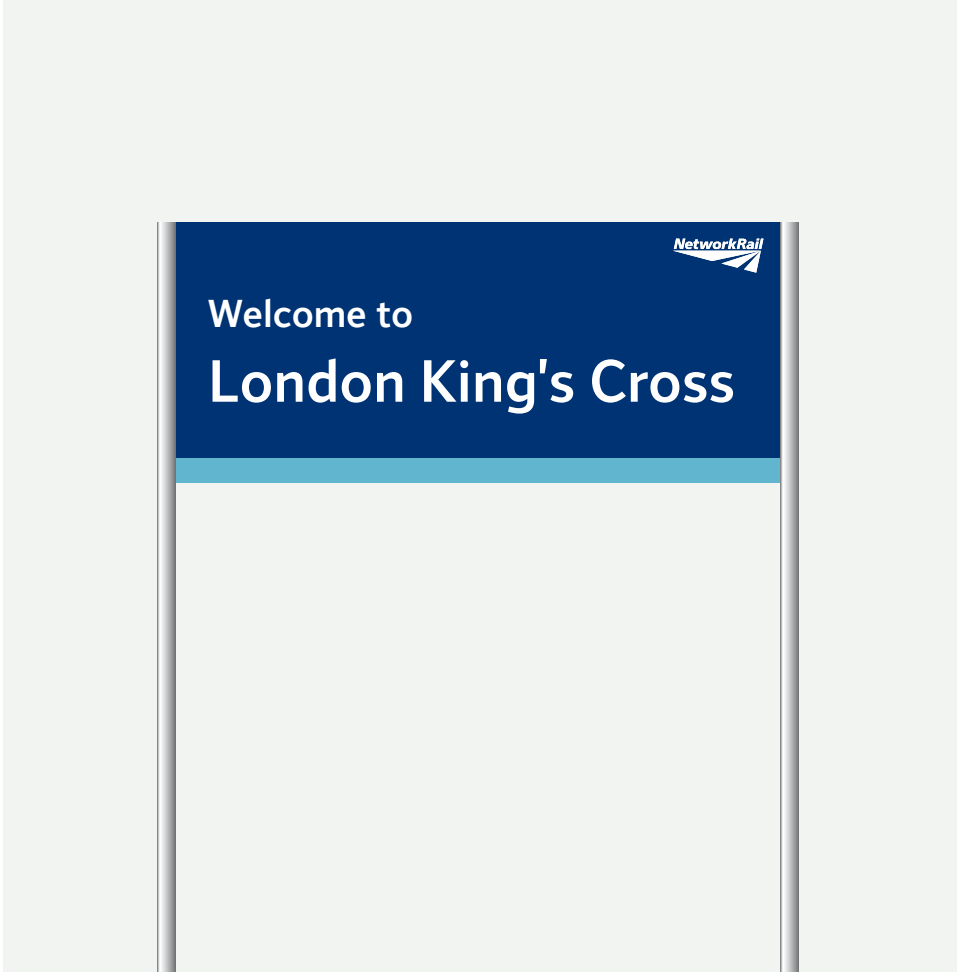
Fixings

Types **A** **B** **C** **E**

3.3

Running-in sign

This signs are to be used at the head of the platforms. They are Network Rail Branded.



Finished Size (mm)

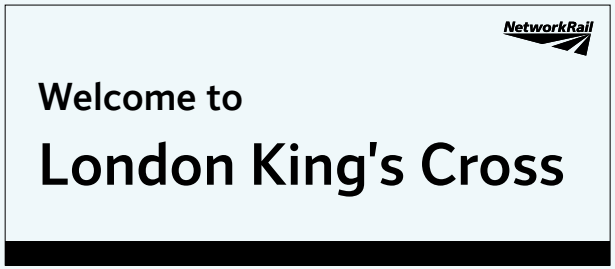
	XL	L	M	S
X	-	-	-	-
Y	-	-	-	-
Z	-	-	-	-

Graphics (mm)

	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)

	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-



Specifications

Fixings

Types D E

Back Tray

3mm aluminium. All folds to minimum radius. Shut and dress corners. All edges finished square.

Face Panels - 700mm x 159mm

2mm aluminium. All folds to minimum radius. Shut and dress corners. All edges finished square.

Graphics

All graphics screen printed

Refer to technical specification

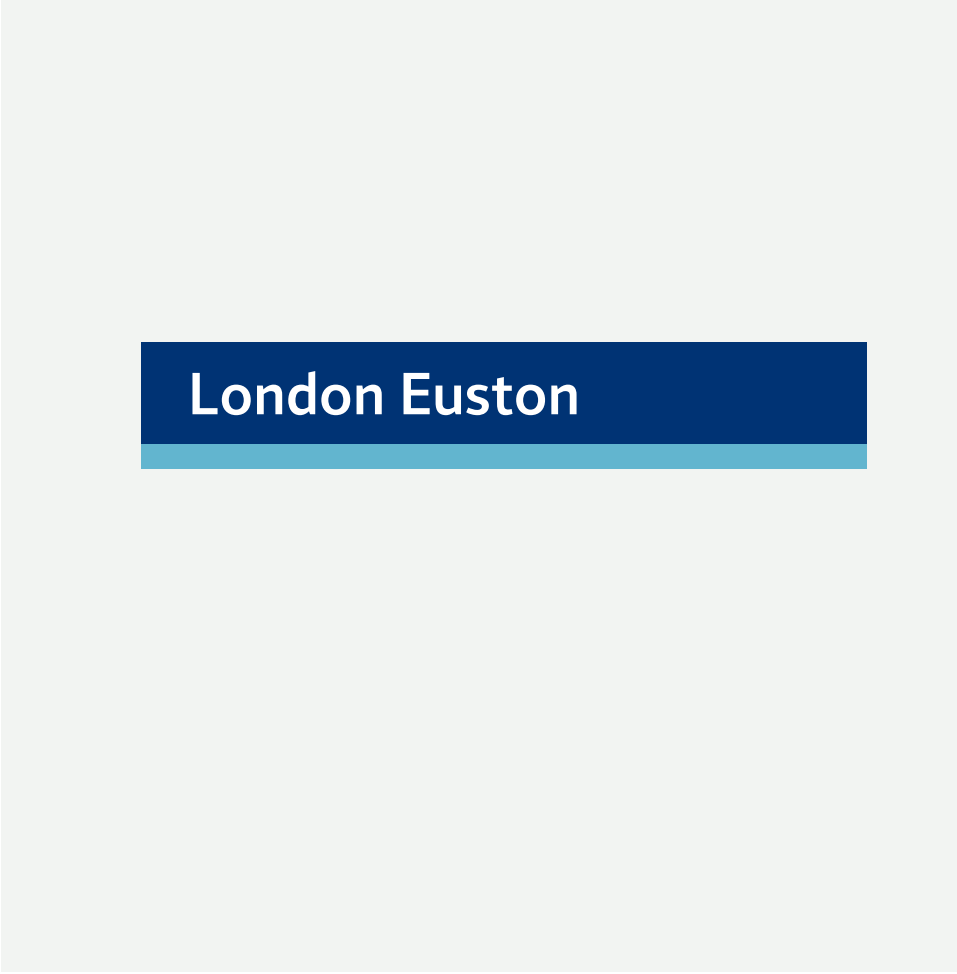
▶ *Pages XX to XX*

Station Name Panel

Station Name Panel signs are to be used along the platforms at regular intervals.

The interval will be defined by platform function, length and configuration, with signs spaced on through platforms such that they can be visible from any position on a train.

They can be wall, ceiling and pole mounted.



Finished Size (mm)

	XL	L	M	S
X	-	-	-	-
Y	-	-	-	-
Z	-	-	-	-

Graphics (mm)

	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)

	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-

Specifications

Fixings

Types **E**

Back Tray

3mm aluminium. All folds to minimum radius. Shut and dress corners. All edges finished square.

Face Panels - 700mm x 159mm

2mm aluminium. All folds to minimum radius. Shut and dress corners. All edges finished square.

Graphics

All graphics screen printed

Refer to technical specification

▶ ***Pages XX to XX***

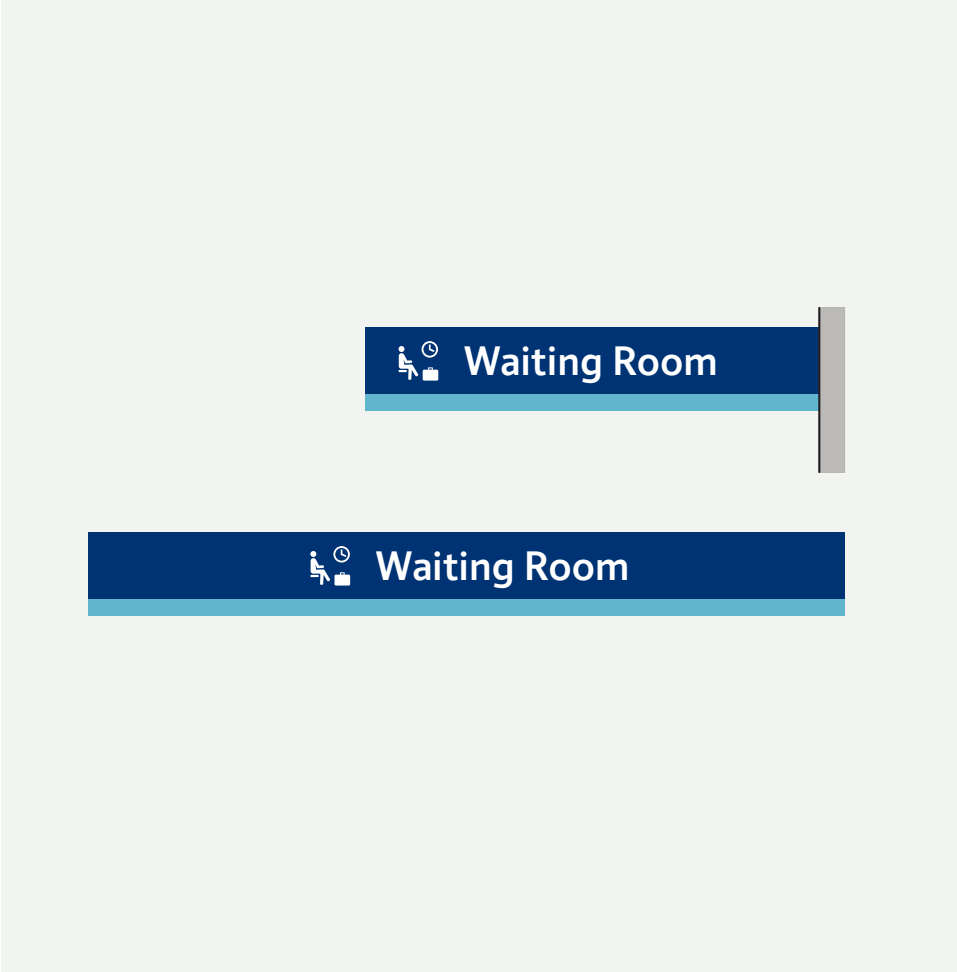
3.5

Location Panel Sign

The Location Panel Signs are used to identify all facilities along the platforms. They are usually made of a single panel with one line of text providing the facility name.

Pictograms for Location Panel signs are white on blue background (REF P.XX).

These signs can be wall mounted or projecting from structures. Where appropriate, they should be used in conjunction with Internal Facility Cubes (2.7) to ensure that the facility is clearly visible from all intended viewing directions, in particular perpendicular to the main pedestrian flows.



esc 1:20 @ A4 sheet

Finished Size (mm)

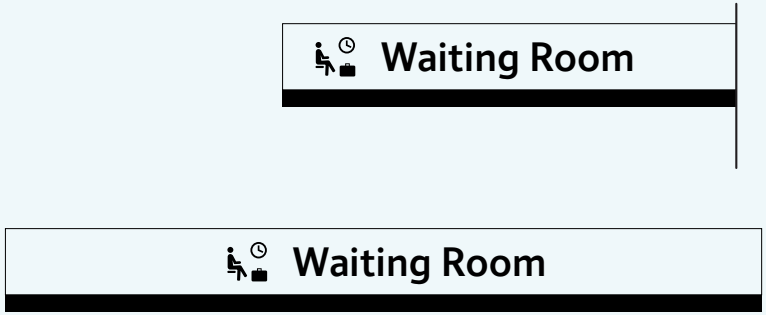
	XL	L	M	S
X	-	-	-	-
Y	-	-	-	-
Z	-	-	-	-

Graphics (mm)

	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)

	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-



Specifications

Fixings

Types **B** **E**

Back Tray

2mm aluminium

All folds to minimum radius, shut and dressed corners, all edges finished square.

Front Tray

2mm aluminium

All folds to minimum radius, shut and dressed corners, all edges finished square.

Graphics

All graphics to be screen printed

Refer to technical specification

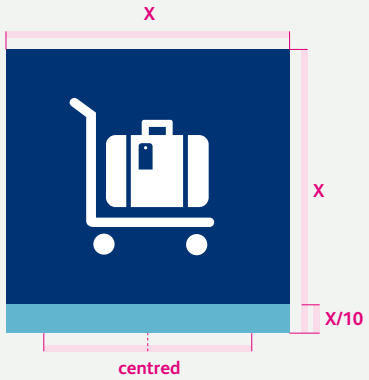
▶ ***Pages XX to XX***

3.6

Facilities Shallow Depth

Facilities Shallow Depth signs are identification signs to be used when the environment doesn't allow the installation of a Facilities Cube. They indicate the location of facilities along the platforms, and may be used to reinforce information provided through the Location Panel Signs.

Fixings may be wall mounted or suspended.



esc 1:20 @ A4 sheet

Finished Size (mm)

	XL	L	M	S
X	-	-	-	-
Y	-	-	-	-
Z	-	-	-	-

Graphics (mm)	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-

Specifications

Fixings

Types **A** **B**

Wall Fixing

Tubular wall brackets to be 140mm diameter (minimum) mild steel.

Base Fixing

Base fixings and capping pieces for mild steel posts to be stainless steel with dome headed nuts and bolts where shown.

Suspended Fixing

The diameter of the mild steel tube section for suspended signs shall be determined by the supplier, shop painted

Cube sign

3mm aluminium box sign. All folds to minimum radius corners, welded and dressed. All edges finished square.

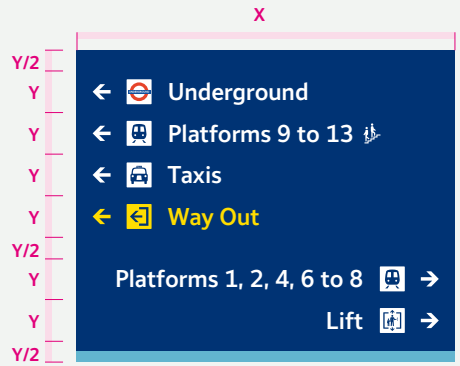
Refer to technical specification

▶ *Pages XX to XX*

Directional Slat Sign

Directional Slat Signs provide key information about facilities and destinations within the station. They are usually wall mounted, but can also be ceiling and pole mounted.

For further instructions about the composition of these signs, please refer to the Information Hierarchy section in this document (P.XX).



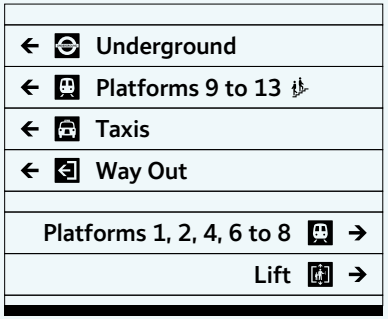
esc 1:20 @ A4 sheet

Finished Size (mm)

	XL	L	M	S
X	-	2000	1250	900
Y	-	175	110	90

Graphics (mm)	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-



Specifications

Fixings

Types A B C E F

Back Tray

2mm aluminium
All folds to minimum radius, shut and dressed corners, all edges finished square.

Front Tray

2mm aluminium
All folds to minimum radius, shut and dressed corners, all edges finished square.

Graphics

All graphics to be screen printed

Refer to technical specification

▶ *Pages XX to XX*

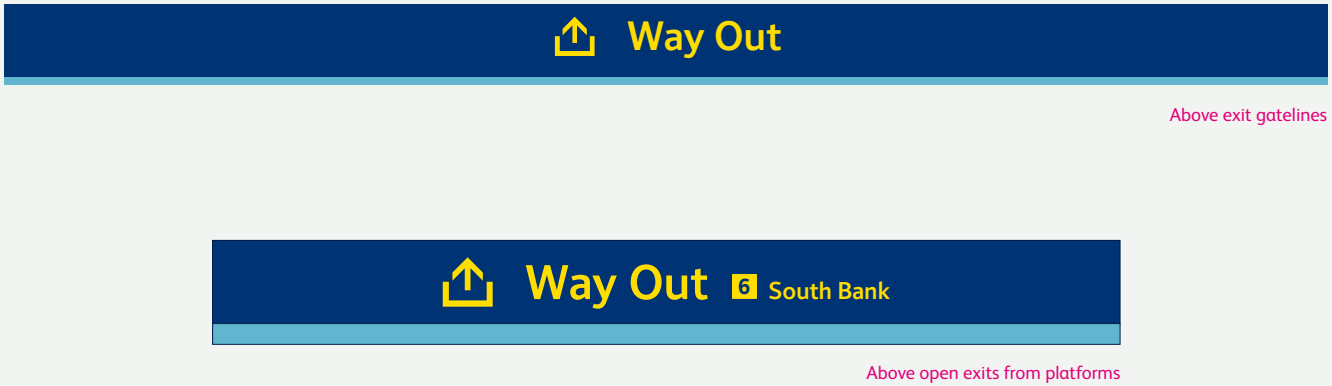
3.8

Plataform Way Out Sign

This type of sign can either be used at open exit points or when there are gatelines allowing egress only to a specific exit, or only towards specific facilities in the station.

These panels should be suspended from the ceiling, but in some cases they can be pole-mounted - providing the minimum clearance of 2500mm is observed.

Where appropriate, these signs may include secondary information towards other exits or destinations.



Above exit gatelines

Above open exits from platforms

Finished Size (mm)

	XL	L	M	S
X	-	-	-	-
Y	-	-	-	-
Z	-	-	-	-

esc 1:20 @ A4 sheet

Graphics (mm)	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-

Above exit gatelines

Above open exits from platforms

Specifications

Fixings

Types A C E F

Back Tray

2mm aluminium

All folds to minimum radius, shut and dressed corners, all edges finished square.

Front Tray

2mm aluminium

All folds to minimum radius, shut and dressed corners, all edges finished square.

Graphics

All graphics to be screen printed

Refer to technical specification

▶ *Pages XX to XX*

3.9

PID Display Case

These signs are to be mounted above Passenger Information Displays (PIDs) in the Platform Zone. They must be as wide as the unit case.

esc 1:20 @ A4 sheet

Finished Size (mm)

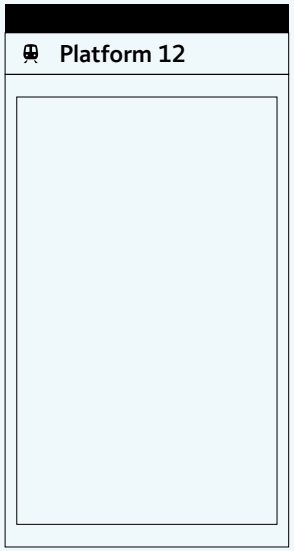
	XL	L	M	S
X	-	-	-	-
Y	-	-	-	-
Z	-	-	-	-

Graphics (mm)

	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)

	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-



Specifications

Fixings

Types **A** **E**

3.10

Platform Totem

Platform Totems offer flexible positioning options and allow for the display of static and dynamic information. They can also effectively combine platform identification and wayfinding.

When positioned on the platform consideration must be given to their impact on the pedestrian flows. They may not be suitable in situations where the available space is constricted.

Text to be updated to include further guidance.

Finished Size (mm)

	XL	L	M	S
X	-	-	-	-
Y	-	-	-	-
Z	-	-	-	-

Graphics (mm)

	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)

	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-

Specifications

Frame

Internal framing and fixing to be determined by the Supplier

Panels

3mm aluminium tops, corners, sides, skirting sections, face panels and doors.

Fold with minimum radius corners welded and dressed

Poster panels

3mm aluminium back tray behind opening doors to incorporate a clip system for locating and attaching information posters; back tray polyester powder coated. Doors to incorporate concealed hinges and locks, and be self draining to protect information posters, window area to be 2mm clear polycarbonate sheet

Base

Stainless steel fender sections at bottom of each face on floor mounted signs

Refer to technical specification

▶ ***Pages XX to XX***

Miscellaneous Signs

Miscellaneous signs differ from the standard specification. Such signs include:

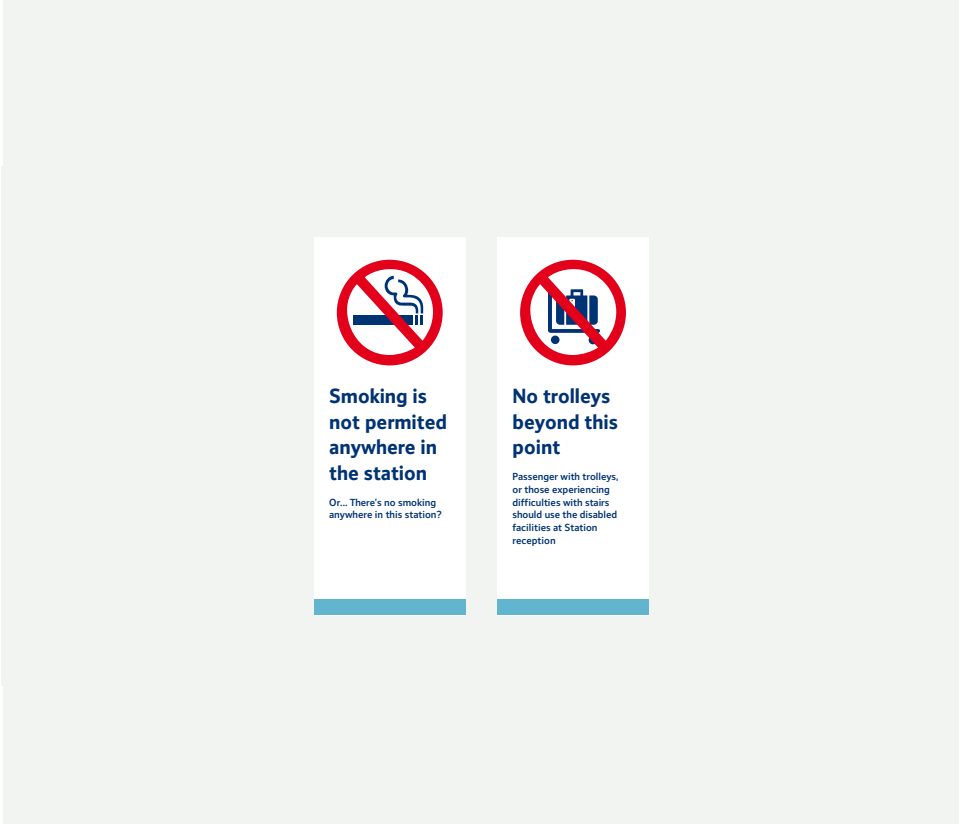
- CCTV signs
- luggage trolley point instructions
- escalator instruction notices
- door signs, and
- other public notices.

Typeface

The typeface to be used on miscellaneous signs is NR Brunel in white on the background colour, as specified in the Guidelines.

4.1 *Facilities Information Signs*

▶ ***Page XX***



4.2 *Mandatory Signs*

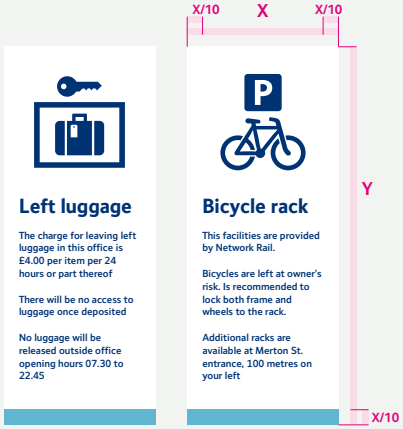
▶ ***Page XX***

4.1

Facilities Information Signs

These signs are to be used to provide general behavioural information, and to advertise passenger facilities. They perform a supplementary function to the station wayfinding system, and the white background with blue type helps to distinguish them from primary directional and identification information.

THESE SHOULD HAVE FIXED WIDTH, FIXED PICTOGRAM SIZE AND FIXED FONT SIZE BUT VARIABLE HEIGHT.



Finished Size (mm)

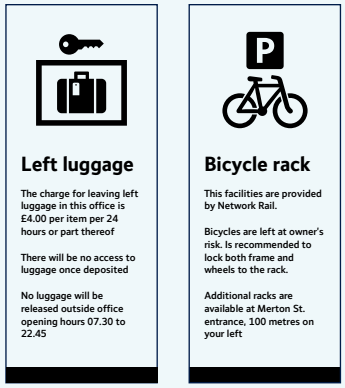
	XL	L	M	S
X	-	-	-	-
Y	-	-	-	-
Z	-	-	-	-

Graphics (mm)

	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)

	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-



Specifications

Fixings

Types A B E

Back Tray

3mm aluminium. All folds to minimum radius. Shut and dress corners. All edges finished square.

Face Panels

2mm aluminium. All folds to minimum radius. Shut and dress corners. All edges finished square.

Finishes

Back tray - polyester powder coated

Face Panels and slats - Stove enamel to Railtrack Specification 1050A

Graphics

All graphics screen printed

Refer to technical specification

▶ *Pages XX to XX*

4.2

Mandatory Signs

These signs are to be used to provide general behavioural information, and to advertise passenger facilities. They perform a supplementary function to the station wayfinding system, and the white background with blue type helps to distinguish them from primary directional and identification information.

THESE SHOULD HAVE FIXED WIDTH, FIXED PICTOGRAM SIZE AND FIXED FONT SIZE BUT VARIABLE HEIGHT.

Finished Size (mm)

	XL	L	M	S
X	-	-	-	-
Y	-	-	-	-
Z	-	-	-	-

Graphics (mm)

	XL	L	M	S
a	-	-	-	-
b	-	-	-	-
c	-	-	-	-
d	-	-	-	-
e	-	-	-	-
f	-	-	-	-
g	-	-	-	-

Font Size (pt)

	XL	L	M	S
1st	-	-	-	-
2nd	-	-	-	-

Specifications

Fixings

Types **A** **B** **E**

Back Tray

3mm aluminium. All folds to minimum radius. Shut and dress corners. All edges finished square.

Face Panels

2mm aluminium. All folds to minimum radius. Shut and dress corners. All edges finished square.

Finishes

Back tray - polyester powder coated

Face Panels and slats - Stove enamel to Railtrack Specification 1050A

Graphics

All graphics screen printed

Refer to technical specification

▶ *Pages XX to XX*

Product Matrix

			Sizes						Fixing Type							Page
Zone	**Sign ID**	**Sign Name**	**XXL**	**XL**	**L**	**M**	**S**	**XS**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	
External	1.1	Station Identification Totem	•										•			
	1.2	Monumental Lettering	•							•						
	1.3	Station Entrance Sign		•						•						
	1.4	External Information Sign				•	•		•	•			•			
	1.5	External Destination Sign			•	•	•						•			
Concourse	2.1	Suspended box			•	•	•									
	2.2	Tickets & Information Frieze sign		•	•				•	•	•	•				
	2.3	Way Out Sign			•	•			•	•	•			•		
	2.4	Directional Slat Sign			•	•	•	•	•	•	•	•		•		
	2.5	Directional Panel Sign			•	•	•	•	•	•	•	•				
	2.6	Location Panel Sign			•	•	•	•		•		•				
	2.7	Internal Facilities Cube				•	•		•	•			•			
	2.8	Facilities Information Sign				•	•			•			•			
	2.9	Timetable Display Sign					•			•						
	2.10	Information Point				•	•			•			•			
	2.11	Internal Facilities Shallow Depth				•	•		•	•						
	2.12	Gateline Frieze Sign				•	•		•		•		•	•		
	2.13					•			•				•			
	2.14	Multifuncional Concourse Totem				•	•									
Platform	3.1	Platform number				•	•		•	•			•			
	3.2	Directional Slat Sign					•	•	•	•	•		•	•		
	3.3	Platform Section					•		•	•	•		•			
	3.4	Running-in sign			•							•	•			
	3.5	Station Name Panel			•								•			
	3.6	Trolley Point Rack					•			•			•			
	3.7	Location Panel Sign					•	•		•			•			
	3.8	Gateline Frieze Sign				•	•		•		•		•	•		
	3.9	Facilities Shallow Depth				•	•		•	•						
	3.10	PID Display Case				•			•				•			
	3.11	Multifunctional Platform Totem				•	•									

D

Technical Specifications & Fixings

Technical Specifications

Structure

The design of all structural elements shall be the responsibility of the supplier. Detailed drawings and calculations necessary for carrying out the work shall be submitted for approval of the Employers Representative and where appropriate, for Local Authority Building Control approval.

The structural stability and calculations for all signs and their fixings shall take account of both crowd and wind loadings as applicable.

An assessment of possible wind loadings shall be the responsibility of the Supplier.

Crowd loading on freestanding signs such as information points shall be taken as a horizontal line load of 1.5KN/m at a height of 1.2 metres above floor level.

Shop Drawings

The Contractor shall be required to submit detailed shop drawings necessary for carrying out the work and for approval by the Employer's Representative. Any such approval shall in no way absolve the Contractor from his responsibilities and obligations under the Contract.

These drawings shall be submitted for checking and approval before any manufacturing or fabrication work is proceeded with.

Drawing submitted shall show complete and detailed particulars, which shall include the following items:

Proper drawings showing full construction, support and fixing details. Proposed methods of supporting and fixing all signs.

Complete specifications of materials and coating used, steel or aluminum alloys from which the sections are manufactured including chemical and mechanical properties and detailed results of tests.

Details of guarantees covering materials, manufactured items and fixings from manufacturers (if obtainable) shall be provided to the Employer's Representative.

Materials

All ferrous metals shall be free from rust, scale, and any other defects and the various shapes and sections shall be clearly rolled or otherwise formed to uniform sections. All non-ferrous metal shall have uniform finished surfaces, machined and buffed, free from defects and all sections shall confirm accurately to the sizes and shapes required.

Steel shall comply with the requirements of BS 4360 and the Contractor shall produce the manufacturer's test certificates when so required by the Employer's Representative.

Aluminum shall be to BS 1470 (sheet) or BS 1161 (sections). Where stated, aluminum shall be polyester powder coated or stove enamelled to colours selected by the Employer's Representative.

Bolts generally shall have hexagonal heads and nuts and all bolts shall be fitted with washers. Countersunk heads and dome headed bolts shall be used where indicated.

Anchors shall be approved expansion tapered nut type anchors for fixing all bolts in brickwork or concrete. Mortices for anchors shall be drilled to the required diameters in accordance with the manufacturer's instructions so that no damage is done to the receiving surface. Power fixing shall be as approved.

Panel and slat type signs are to be formed from 3mm or 2mm thick aluminium sheet as specified. Cube type signs are to be made from minimum 3mm aluminium sheet and section thicknesses are to be verified by the supplier, and shall be increased if necessary.

Galvanizing

All galvanizing shall be done by the hot dip process in accordance with BS 729 Table 1 galvanized after fabrication.

Metal surfaces shall be thoroughly clean of all mill scale, rust, dirt, grease, oil, moisture, and other deleterious material by pickling or sand blasting prior to galvanizing.

Steel to be galvanized shall be dipped in a 98.5 % pure zinc bath and given a coating of 0.60kg/m≤ minimum of zinc.

Stainless Steel

All stainless steel work shall conform to the requirements of BS 1449 Part 2. Stainless steel shall be low carbon chromium nickel austenitic steel type 302 or 304.

The surface of stainless steel shall be in No. 4 brushed in a horizontal direction to achieve a satin polish grain.

All stainless steel shall be factory fabricated to the best standard of workmanship and under factory supervision and control.

Shop Priming

All ferrous metals except galvanized, stove enamelled surfaces or stainless steel shall be cleaned and shop primed with one shop coat of metal primer compatible with later finish coats of paint. All ferrous metals exposed to the weather or attached to the exterior of the building shall receive one additional coat of metal primer on the concealed surfaces before their installation.

Ferrous metals shall be thoroughly cleaned of all oil, grease, rust, mill scale and other deleterious materials by solvent cleaning and wire brushing or other approved means.

Shop priming shall be applied immediately after cleaning the metal. Priming shall be applied in dry weather or under cover and metal surfaces including edges, joints, holes, corners, etc. shall receive primer and all surfaces which will be concealed after assembly shall be shop primed prior to assembly. All primers shall be used in accordance with the manufacturer's printed instructions and the use of any thinners, adulterants, or admixtures shall be only as stated in the instructions. Priming shall be applied uniformly and completely over the metal surfaces. No work shall be delivered to the Site until the shop-primed coat has thoroughly dried.

Any damaged or abraded surfaces of the metal items shall have their priming touched up in the shop and if necessary after assembly on the Site. Touching up primer shall be the same as the primer applied in the shop.

Protective Coatings / Paints

Wherever dissimilar metals will be in contact or wherever galvanized or aluminium metals will be in contact or embedded in the concrete, cement, mortar, plaster or masonry, the contact surfaces shall be separated by coating each contact surface prior to assembly or installation with one coat of bituminous aluminium paint which shall be in addition to the specified shop prime or galvanizing. Those surfaces not required to receive protective coatings shall be masked off.

All ferrous metals except galvanized, stove enamelled surfaces or stainless steel shall be finished in a paint system to BS 5493, designed to provide a first maintenance life of 20 years.

Polyester Powder Coating

Polyester powder coating shall be of polyester powder and be applied to a minimum thickness of 70 microns.

The various colours to be coated are to be selected by the Employer's Representative from the full BS colour range.

Before applying the powder coating, all weld slag, weld spatter, anti-spatter compounds, paints, grease, flux, rust, burrs and sharp arises are to be removed. All defects which would show after application of the coating are to be made good and finished smooth.

All surfaces shall be prepared in accordance with the powder

manufacturer's recommendations including de-burring, degreasing, and oven drying.

Powder coating shall be applied after fabrication of the components is complete and all fixing holes have been drilled unless otherwise specified.
Type: P9000
Gloss Level: Eggshell (3), 25-35 %
Pretreatment: as necessary to the manufacturers recommendations
Application: to the manufacturers recommendations

Stove Enamelling

Stove enamelling shall be carried out in accordance with Railtrack Specification 1050A. Die cut plastics film (Spec 1050A, item 3.3c) is not acceptable.
1st coat: SAP3 two pack self etching primer
2nd coat: SP16 epoxy stoving primer
3rd coat: S85 low temperature acrylic stoving finish
4th coat: SV85 low temperature acrylic stoving varnish
Gloss level: Eggshell, 25-35 %

Ink for Graphics

Inks to be 'A' Series Colours: White, Yellow (Pantone ref 109). If necessary the lettering shall be screen printed in two layers (with the yellow on a first layer of white) to achieve acceptable colour density and reflectance measurement. Preparation and application to the manufacturers recommendations.

Bird Deterrents

On narrow signs a birdwire system shall be fixed to the top of the sign; one wire and set of supporting posts shall be fixed for every 75mm width of sign.

Threaded bird posts, Birdguard code BIR 160, shall be used. Bird wire shall be 7 stranded stainless steel coated with UV light stabilized clear nylon to give a total diameter of 0.7mm.

On wide signs such as cubes, the birdwire system shall be used in two perpendicular rows at differing heights, to form a grid of wires at 75mm centres.

Springs shall be incorporated in the wire, adjacent to posts, at alternating ends.

Ironmongery

All ironmongery, including screws, shall be finished to match the signage components to which they are fixed.

Hinges shall be sized according to loading and be manufactured in an appropriate metal.

Locks shall be 'budget' type, fully concealed and operated by the insertion of an allen key with a security pin arrangement.

General workmanship

The work shall comply with all current British Standards, Codes of Practice or Agreement Certificates as appropriated.

All metalwork shall be fabricated and installed by experienced fabricators or manufacturers. The materials, methods of fabrication, fitting, assembling,brazing, supporting, fastening, operating devices and erection shall be in accordance with the working drawings, this Specification, approved shop drawings and best practices of the trade. All materials shall be new and clean having structural properties sufficient safely to sustain or withstand stresses and strains to which materials and assembled work will be subjected. All work shall be accurately and neatly fabricated assembled and erected.

In so far as is practicable, fitting and assembly of work shall be done in the shop. Work that cannot be permanently shop assembled shall be completely assembled, marked and dismantled in the shop, before shipment, to ensure proper assembly on the Site.

All work shall be shop assembled in the largest practicable sizes to minimise Site work. It is the responsibility of the Contractor to ensure that the shop fabricated items will properly fit into the Works. In the event that shop fabricated items do not fit into the Works the items shall be returned to the shop for correction.

Metal shall be cut by sawing, sheering or blanking. Flame cutting will be permitted only if cut edges are ground back to clean smooth edges. All cutting shall be accurate, clean sharp and free

of burrs without deforming adjacent surfaces or metals. All holes required in the metalwork shall be frilled or cleanly punched holes. Burning to form holes is prohibited.

Where exposed to the weather, joints shall be located where least conspicuous. Unless otherwise shown shop connections shall be welded or bolted and Site connections shall be bolted or screwed. Expansion and contraction joints to allow for thermal movement of metals shall be provided at locations and by methods approved by the Employer's Representative.

For the metals being welded, welds shall be continuous except where spot welding is specifically required. Welds exposed to view shall be ground flush and dressed smooth to match the finish of the adjoining surfaces. Where welds are required to be flush the metal edges shall be undercut.

All welds on or behind surfaces which will be exposed to view shall be executed so as to prevent distortion of the finished surface. Weld spatter and welding oxides shall be removed from all welded surfaces.

Brazing shall be to BS 1723.

Threaded connections shall be made tight with threads entirely concealed and the use of lock nuts. Bolts and screw heads exposed to view shall be flattened countersunk with projecting ends of exposed bolts and screws cut off flush with the nuts or adjacent metal surfaces, incorporating dome headed nuts as indicated on drawings.

Abutting bars shall be soldered and headed, doweled and pinned or small bars shall pass through larger bars and then be pinned.

Castings shall be in one piece where practicable and of uniform thickness sufficient to ensure the required strength for the design and use. Castings shall be clean, smooth, true to dimensions and pattern, free from defects and of the best quality with all surfaces and edges clean, smooth and perfect.

Operating devices, mechanisms and hardware used in connection with metalwork shall be fabricated, assembled, installed and adjusted after installation so that they will operate smoothly, freely, noiselessly and without excessive friction.

All supplementary and miscellaneous parts for each item of work shall be provided as necessary so that it may serve its function properly even though these may not be specifically shown in the Contract Documents.

All metalwork shall be fabricated to coordinate with other trades and services and work shall be accurately cut, fitted, drilled and tapped to accommodate such trades and services. Templates and drawings shall be provided for proper coordination of this section of the Works. In addition to the foregoing and other requirements of the Contract Documents metalwork shall conform to the following:

All surfaces exposed to view shall be clean and free from dirt, stains, grease, scratches, distortion, waves, dents, buckles, tool marks, burrs and other defects which mark the appearance of finished work.

All surfaces exposed to view shall be straight and true to lines or curves. Arises and angles shall be as sharp as practicable. Mitres shall be formed in true alignment with profiles accurately intersecting and all joints carefully eased to a radius of approximately 1mm unless otherwise shown. Metal corners shall be bent to the smallest radius possible without causing grain separation of otherwise impairing the work.

All exposed connections shall be formed with hairline joints flush and smooth using fasteners wherever possible. Exposed fastenings where permitted shall be of the same material, colour and finish as the metal to which they are applied unless otherwise indicated and shall be of the smallest practicable size Phillips flat headed countersunk screws or bolts.

All back tray folds to minimum radius, corners welded and dressed. All edges finished squared.

All face panels must be flat, true and free from weld stud witness or other surface blemishes. Edges to be machined and finished free from cutter marks (not guillotined). Finished edge radius 0.3mm - 0.5mm.

All work shall be installed square, plumb, straight, true to line or radius, accurately fitted and located, with flush type hairline joints (except as indicated otherwise or to allow for thermal movement), with provisions for other trades, with provision for thermal movement, with provision to exclude water where exposed to the weather and with attachment devices as required for a secure and rigid installation, all in accordance with the approved shop drawings.

Work to be attached to concrete or masonry shall be anchored by bolts embedded into inserts or expansion shields. Work attached to structural steel shall be anchored by bolts and clamping plates or a specialist clamping bolt system.

Work attached to metals other than structural steel shall be anchored by bolts, screws or clamps. Power actuated fasteners are not permitted unless approved by the Designer.

All sizes to be determined by the Supplier. The Contractor shall protect all metalwork and subsequently remove all protective applications and clean prior to Completion of the Works. Where shown on drawings or directed by the Employer's Representative, joints and edges, etc. are to be pointed with an approved coloured silicone sealant. Sealants shall be applied in accordance with the manufacturer's instructions with backer rods provided where necessary. All surfaces to receive sealant shall be thoroughly cleaned; excess material and spillage shall be properly cleaned off and removed.

Site Measurements

The Contractor is solely responsible for ensuring total coordination of all work and shall take site measurements prior to the preparation of any shop drawings or before commencing fabrication.

Protection

All work shall be handed over on completion in a clean undamaged condition free of scratches and surface blemishes.

Health & Safety

Refer to Network Rail Safety Guidelines RT/LS/S/008

Engineering hours

All work is to be undertaken during nocturnal engineering hours which will vary depending on station.

Illumination

The contractor shall be responsible for all electrical connections and disconnections.

Illuminated /Emergency signs

Illuminated Way out and emergency signs will need to meet Section 12 requirements for fire precautions. This includes the use of fire and smoke resistant materials for cables and gear as well as glass (and not acrylic) faces.

The installation of a battery back-up unit to ensure that the sign continues to operate (for a period of up to 3 hours) in the event of interruption to electrical supplies will need to be allowed for. The signs will need to interface with the existing fire protection systems and the contractor will have to allow for the necessary checking and liaison with the station and the system maintainer. In view of the potential affect on the fire alarms, the work related to the installation of the new signs and the removal of the old is likely to be particularly restrictive in time and contractors should allow for the extra time and cost involved when submitting their tenders.

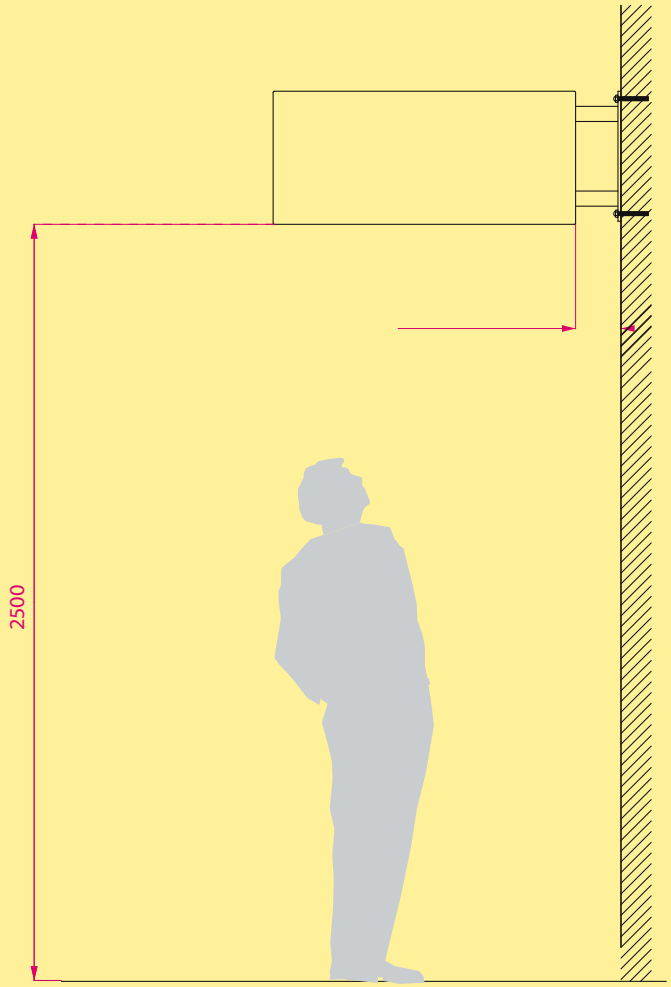
Fixings

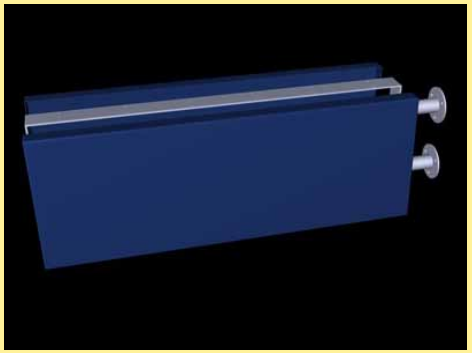
Fixing types

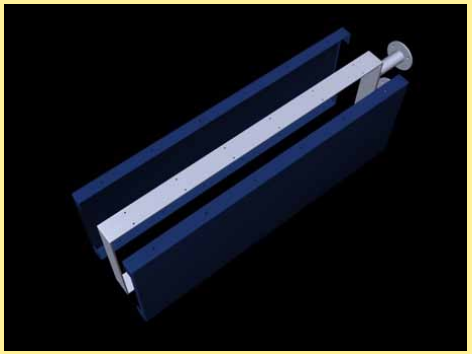
The different structures can be attached to the floor or to the fabric of the buildings through 7 basic types of fixings. The responsibility for selecting the most appropriate type of fixing rests with the contractors, who must present a proposal complete of construction drawings to the relevant Station Manager for approval.

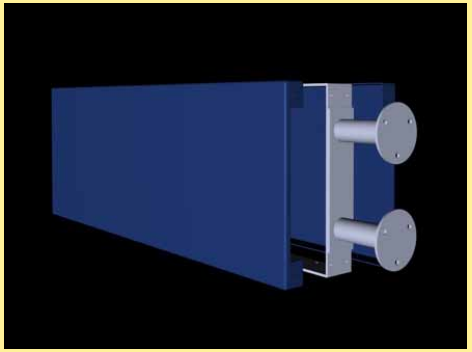
Type A-1

Wall brackets to be tubular mild steel, diameter to be determined by the Supplier to the approval of the Employer's Representative; wall fixing to incorporate dome headed bolts; shop painted.









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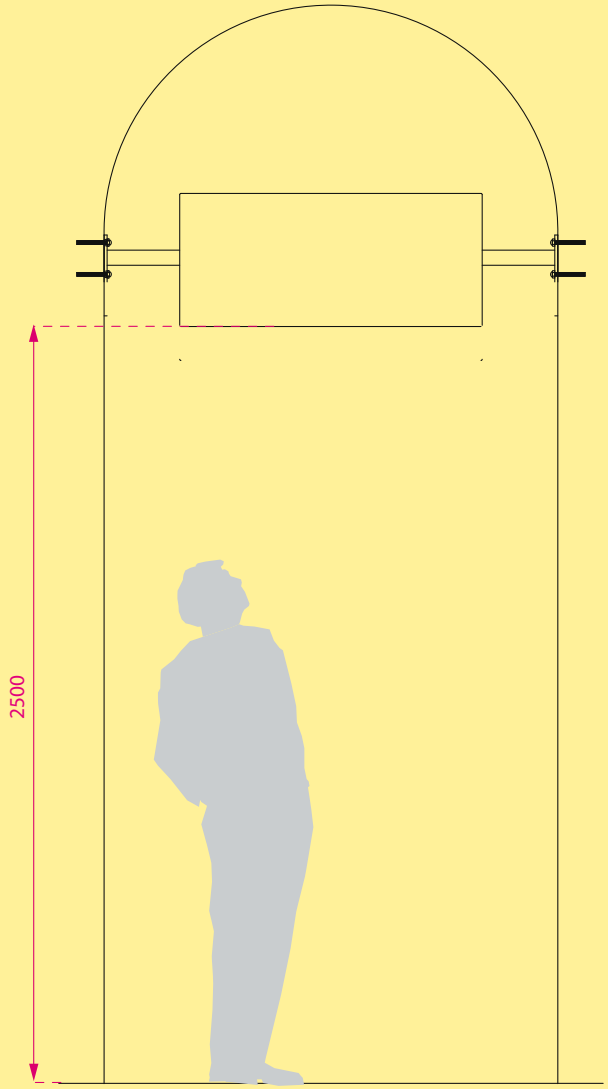

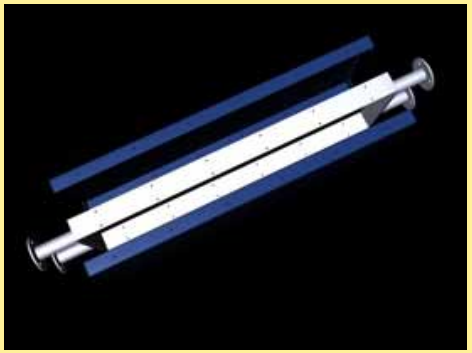

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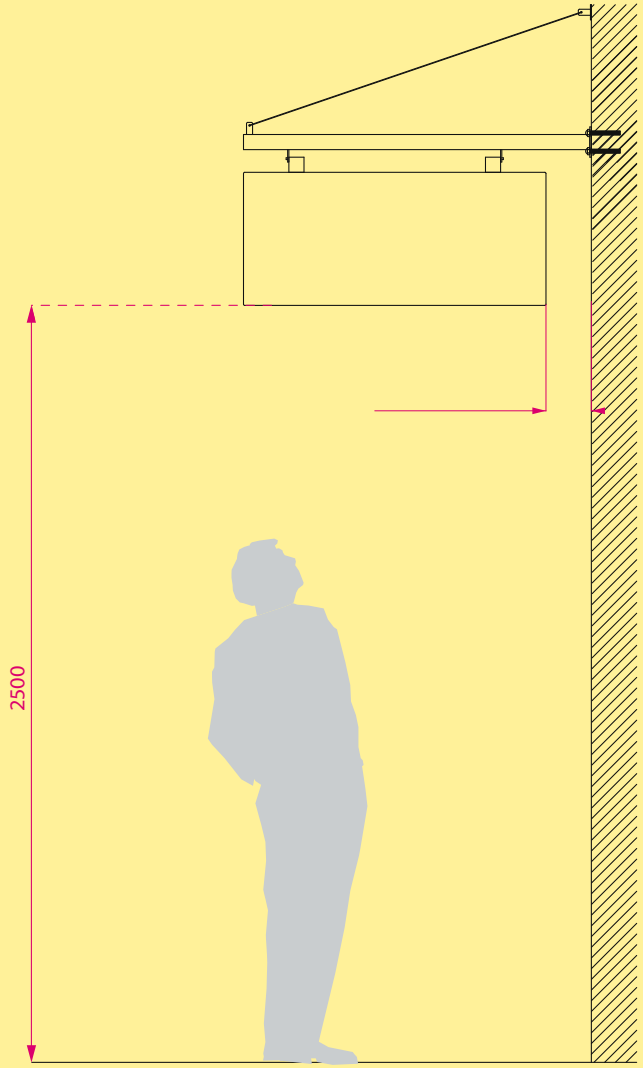

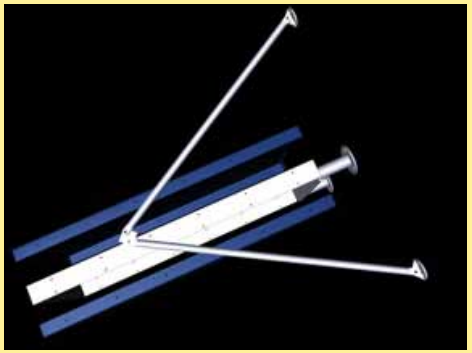

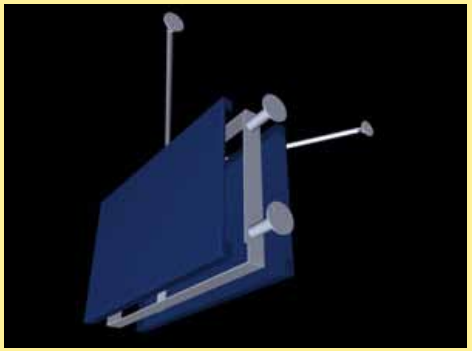

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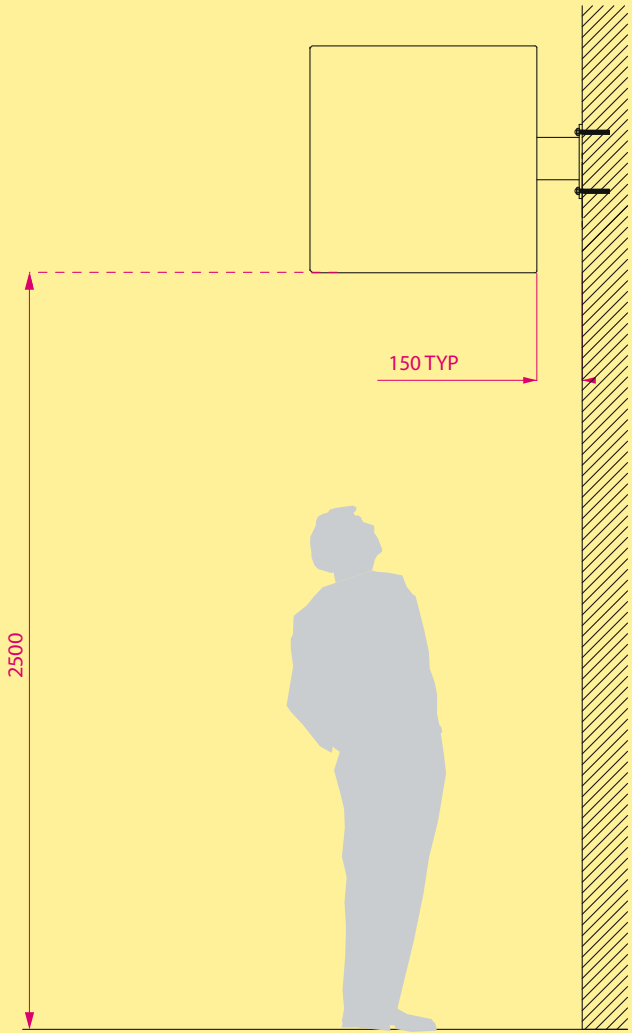

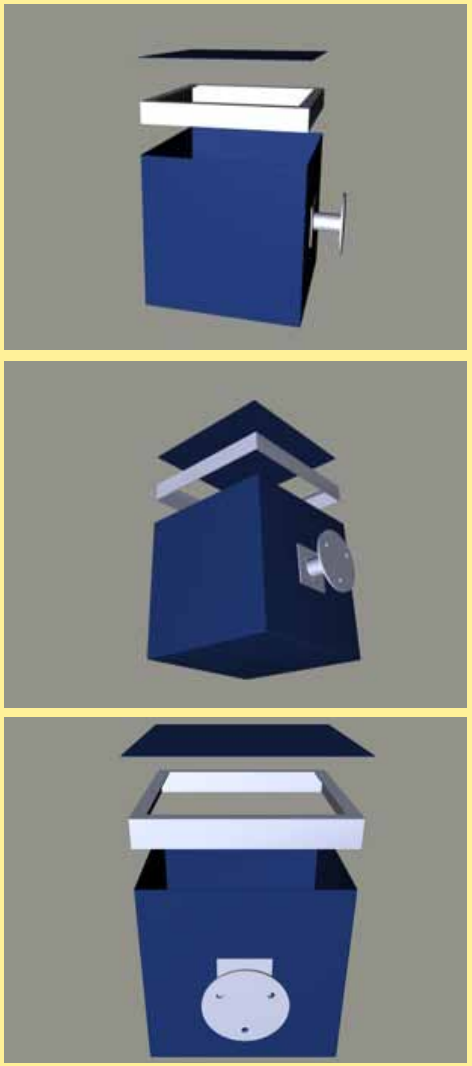

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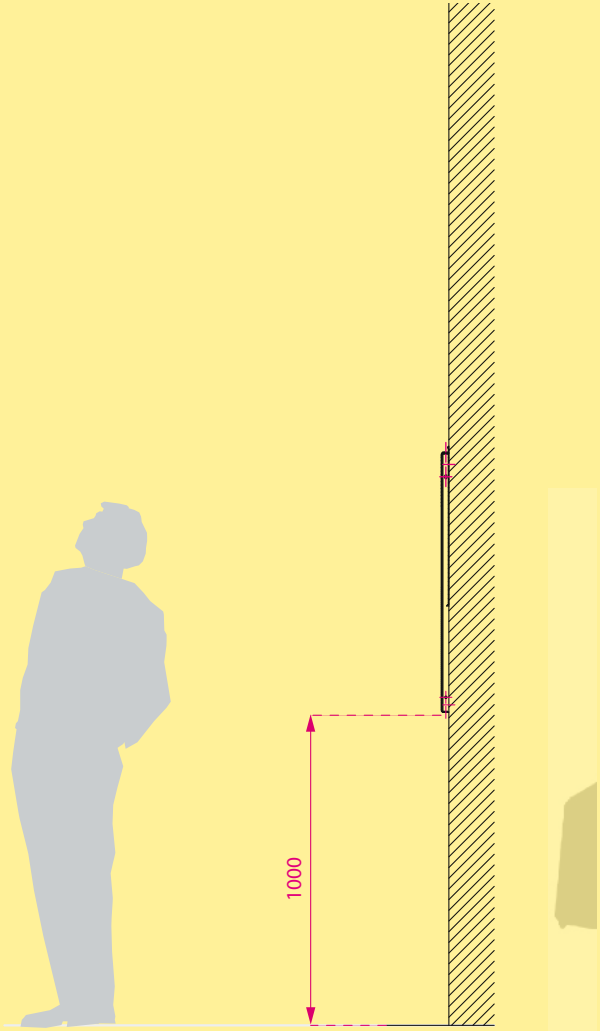

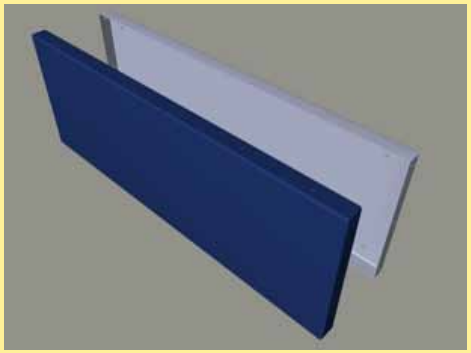

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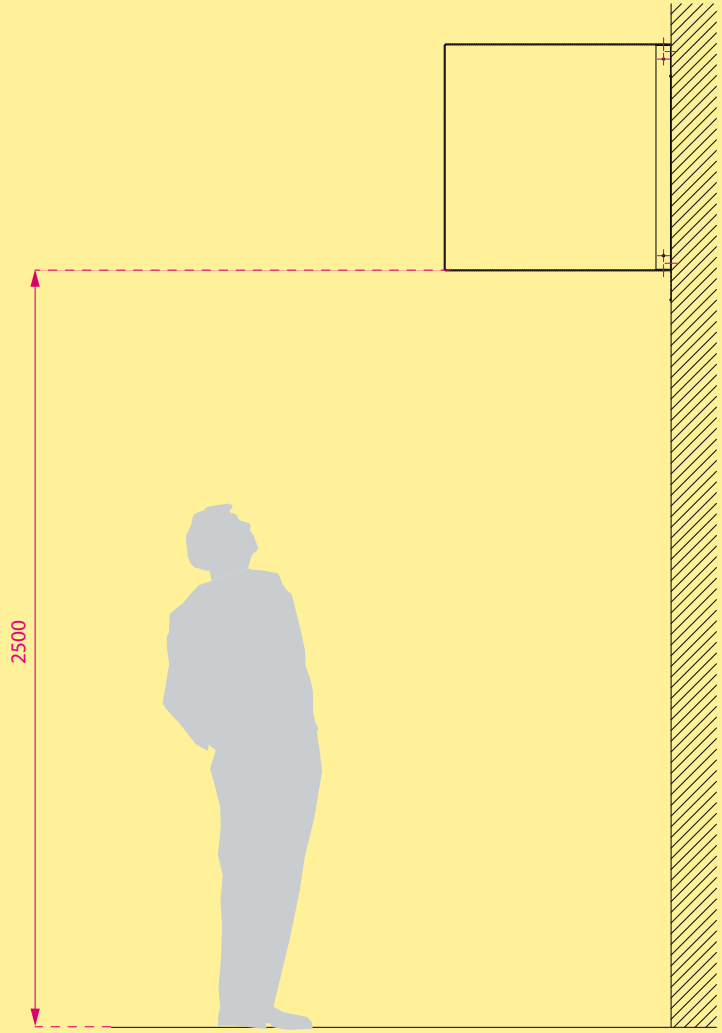

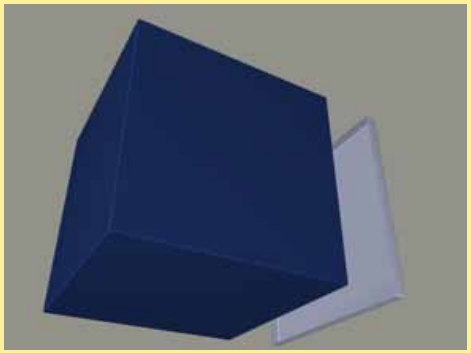

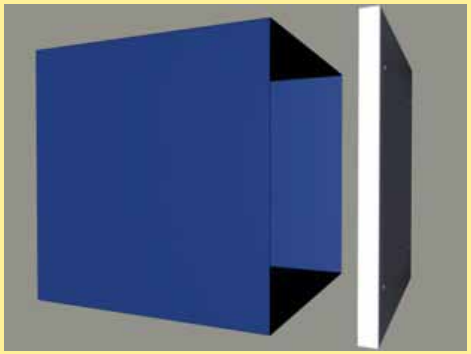

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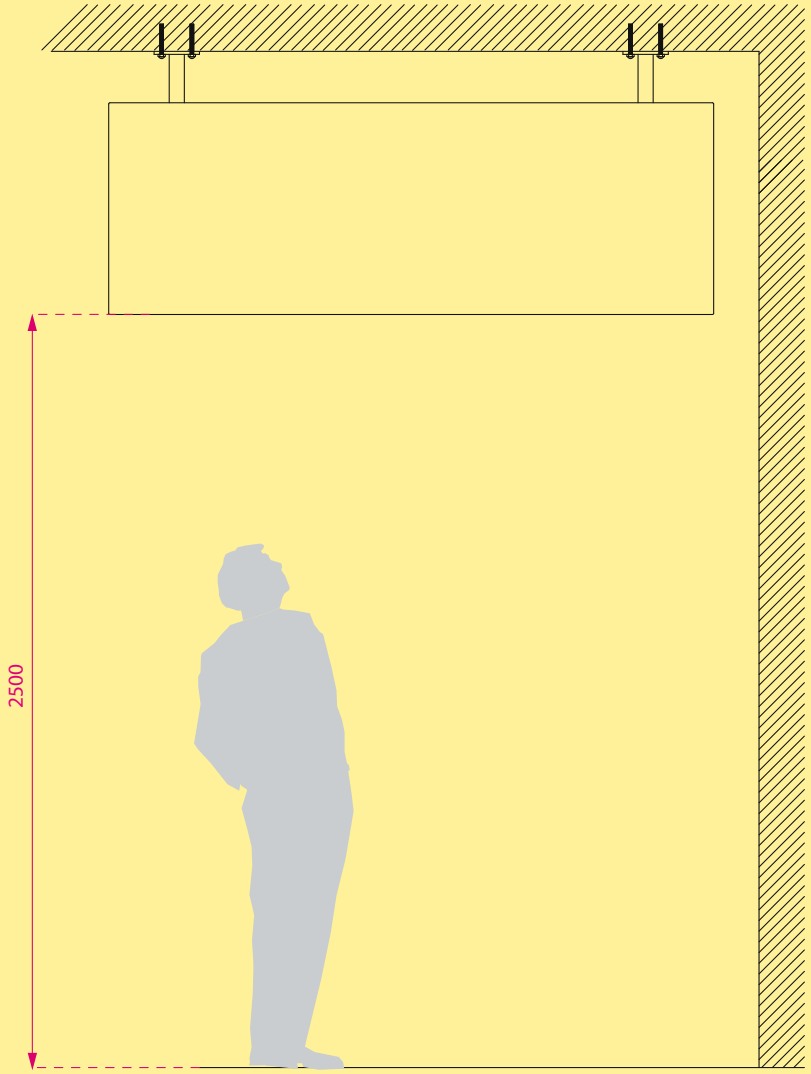

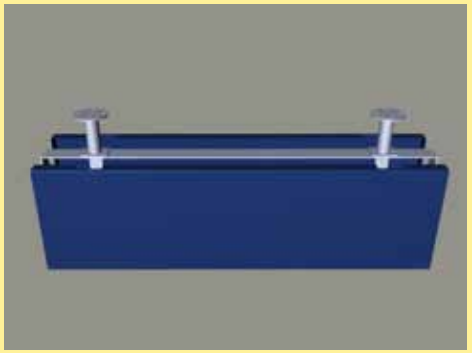

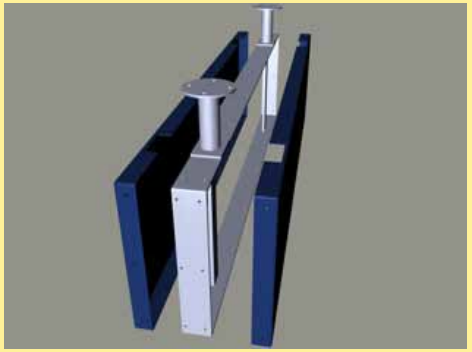

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