



AUSTRALIAN RAIL TRACK CORPORATION LTD

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Discipline
Engineering Standard - NSW

Category
Signalling

Title
Signs, Notice Plates and Instruction Plates

Reference Number
SPS 03 - (RIC Standard: SC 00 24 00 00 SP)

Document Control

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About This Standard

This specification sets out the requirements for sizes, lettering and colours of signs and notice plates used with railway signalling.

Document History

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List of Amendments –

ISSUE	DATE	CLAUSE	DESCRIPTION
1.1	14/03/2005	Disclaimer	Minor editorial change
1.2	06/05/2005	All	Document reformatted

Contents

1.	General.....	7
1.1.	Introduction	7
1.2.	Referenced Documents	7
1.3.	Form of Lettering.....	7
1.4.	Materials.....	8
1.5.	Dimensional Tolerances.....	8
1.6.	Reflectivity.....	8
1.7.	Mounting Holes	8
2.	Mandatory or Hazard Signs and Notice Plates.....	9
2.1.	'STOP' Signs.....	9
2.2.	'ELECTRIC TRAINS STOP' Board	10
2.3.	'DERAIL' Signs.....	11
2.4.	'CATCH POINT' Signs	12
2.5.	'BLOCK JOINT' Signs	13
2.6.	'LIMIT OF SHUNT' Signs	14
2.7.	'END OF STAFF SECTION' Signs.....	15
3.	Safeworking Instruction Boards.....	16
3.1.	Prohibitive Boards.....	16
3.2.	Semi-Automatic Signal Board	17
3.3.	Automatic Signal Board.....	18
3.4.	Intermediate Siding Board.....	19
3.5.	Slip Boards.....	20
3.6.	Distant Signal Boards.....	21
3.7.	'BEGIN' and 'END' Single Light Indication Boards.....	22
3.8.	Tonnage Instruction Boards	23
4.	Miscellaneous Notice Boards	24
4.1.	Advisory Speed Boards.....	24
4.2.	Special Speed Board Metropolitan Area	25
4.3.	Accept Signal Board.....	26
4.4.	Repeat Signal Board	26
4.5.	Distant Signal Boards.....	27
4.6.	Indicator Boards	27
4.7.	Outer Home Boards	28
4.8.	Automatic Signal Board.....	28
5.	Level Crossing Signs.....	29

5.1. Road.....	29
5.1.1. “Railway Crossing”	29
5.1.2. “Tracks”	29
5.1.3. “Stop on Red Signal”	29
5.1.4. Advance warning and trains drivers approach	29
5.2. Road Sign Combinations	30
5.2.1 Actively protected crossings (Type F lights etc.)	30
5.2.2 Passively protected crossings	30
5.3. Pedestrian Crossings	31
5.3.1 Pedestrian crossing with active protection (lights and siren etc.)	31
5.3.2 Pedestrian crossing with passive protection	31

1. General

1.1. Introduction

This specification contains the requirements for the wording, size, colour, and materials for notice plates, instruction plates and signs used with the railway safeworking systems and at level crossings in New South Wales.

Railway notice plates are divided into three categories:

- Signs or notice plates with an unconditional mandatory message, e.g., 'STOP' or signs which denote a hazard, e.g., 'CATCHPOINT'. These signs are normally white lettering on a red background.
- Signs or notice plates with an instruction to the driver which supplements the Safeworking Rules, e.g. 'Drivers must not pass this signal etc'. These signs are normally white lettering on a black background.
- Signs or notice plates of a specialised nature, e.g., advisory speed boards, pilot staff box labels. These signs may be in a variety of colours depending on application

Level Crossing signs comply with the materials, colours and sizes specified in Australian Standard 1742 Part 7 - 'Manual of Uniform Traffic Control Devices - Railway Crossings' and Australian Standard 1743 "Road Signs Specifications". Methods of mounting may, however, differ.

1.2. Referenced Documents

The following documents are referenced within this specification:

AS 1734	Aluminium Flat Sheet
AS 1742 Part 7	Manual of Uniform Traffic Control Devices - Railway Crossings
AS 1743	Road Signs Specifications
AS 1744	Forms of Letters and Numerals for Road Signs
AS 1906	Retro-reflective Materials

1.3. Form of Lettering

Except where otherwise shown, lettering and numerals and letter and numeral spacing shall be in accordance with AS 1744.

Letter or numeral sizes are quoted as, for example, "80DM" or "100CN" where:

- "80" and "100" are the letter heights in mm.
- "D" and "C" are letter and numeral forms and "M" and "N" are letter and numeral spacings specified in AS 1744.

Where letter or numerals which are not included in AS 1744 are specified, the form

and proportion shall be similar to that shown in AS 1744.

1.4. Materials

Signs and notice plates shall be made from aluminium alloy sheet or extrusion, Alloys shall be:

For 2mm thick sheet	5052 H36 or H38
	5086 H34
	5251 H36 or H38
For 1.6mm thick sheet	5052 H36 or H38
	5251 H36 or H38
For extrusions	6063 T5 or T6
	6061 T6

All sign and notice plate dimensions in the following sections are quoted in millimeters. Where reflective lettering, numerals or backgrounds are specified, the reflective material as well as any process inks or pastes shall be to AS 1906 Part 1, with the class of material as specified for each sign.

Non reflective finishes, whether paints, films or other coating materials shall be compatible with the reflective materials, adhere securely to the aluminium plate or extrusion and have an equivalent or better service life than the reflective materials.

1.5. Dimensional Tolerances

Overall dimensions of sign or plate $\pm 5\text{mm}$

Vertical spacing between lines of letters or numerals $\pm 5\text{mm}$

Mounting hole centers $\pm 2\text{mm}$

1.6. Reflectivity

Where reflective letters on a reflective background are specified, the same class of reflective material shall not be used for both letters and background.

Class 1 and Class 2 materials to AS 1906.1 shall be used as specified herein, eg, class 1 letters on a Class 2 background.

1.7. Mounting Holes

Where mounting holes positions and sizes are quoted, these are for direct mounting the plate to a signal post or rail post with U-bolts. If the signs are to be mounted using "Bandit" clamps or similar with proprietary brackets, hole centers should be varied to suit the bracket used.

2. Mandatory or Hazard Signs and Notice Plates

Where horizontal and vertical signs are shown, the horizontal sign shall be used except where there is insufficient space available to locate the sign.

2.1. 'STOP' Signs

Horizontal Sign

Vertical Sign



Sign Identification No.	002400.2.1H	002400.2.1V
Width	600	200
Height	300	750
Plate Thickness	2	2
Letter Size, Type and Spacing	140EM	140E
Letter Material	Retroreflective White Class 1	Retroreflective White Class 1
Background Material	Retroreflective Red Class 2	Retroreflective Red Class 2
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 260v, 14 dia	160h x 710v, 14 dia

2.2. 'ELECTRIC TRAINS STOP' Board



Sign Identification No.	002400.2.2
Width	450
Height	350
Plate Thickness	2
Letter Size, Type and Spacing	60DM 100DM
Letter Material	Retroreflective White Class 1
Background Material	Retroreflective Red Class 2
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 310v, 11 dia

2.3. 'DERAIL' Signs

Horizontal Sign

Vertical Sign



Sign Identification No.	002400.2.3H	002400.2.3V
Width	600	150
Height	300	800
Plate Thickness	2	2
Letter Size, Type and Spacing	120DM	100D
Letter Material	Retroreflective White Class 1	Retroreflective White Class 1
Background Material	Retroreflective Red Class 2	Retroreflective Red Class 2
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 250v, 14 dia	110h x 760v, 14 dia

2.4. 'CATCH POINT' Signs

Horizontal Sign

Vertical Sign



Sign Identification No.	002400.2.4H	002400.2.4V
Width	600	150
Height	450	900
Plate Thickness	2	2
Letter Size, Type and Spacing	120EM	60E
Letter Material	Retroreflective White Class 1	Retroreflective White Class 1
Background Material	Retroreflective Red Class 2	Retroreflective Red Class 2
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 410v, 14 dia	160h x 860v, 14 dia

2.5. 'BLOCK JOINT' Signs

Horizontal Sign

Vertical Sign



Sign Identification No.	002400.2.5H	002400.2.5V
Width	600	150
Height	450	800
Plate Thickness	2	2
Letter Size, Type and Spacing	120EM	60E
Letter Material	Retroreflective White Class 1	Retroreflective White Class 1
Background Material	Retroreflective Red Class 2	Retroreflective Red Class 2
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 410v, 14 dia	160h x 760v, 14 dia

2.6. 'LIMIT OF SHUNT' Signs

Horizontal Sign

Vertical Sign



Sign Identification No.	002400.2.6H	002400.2.6V
Width	600	200
Height	450	800
Plate Thickness	2	2
Letter Size, Type and Spacing	80DN 40DN	40D
Letter Material	Retroreflective White Class 1	Retroreflective White Class 1
Background Material	Retroreflective Red Class 2	Retroreflective Red Class 2
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 410v, 14 dia	160h x 760v, 14 dia

2.7. 'END OF STAFF SECTION' Signs



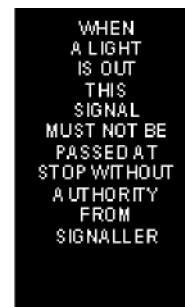
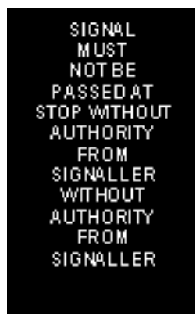
STOP Sign

END Sign

	STOP Sign	END Sign
Sign Identification No.	002400.2.7A	002400.2.7B
Width	600	600
Height	600	450
Plate Thickness	2	2
Letter Size, Type and Spacing	100DM 80EM	100DM
Letter Material	Retroreflective White Class 1	Retroreflective White Class 1
Background Material	Retroreflective Red Class 2	Retroreflective Red Class 2
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 560v, 14 dia	160h x 410v, 14 dia

3. Safeworking Instruction Boards

3.1. Prohibitive Boards



	“THIS SIGNAL MUST NOT” etc board	“WHEN A LIGHT IS OUT” etc board
Board Identification No.	002400.3.1A	002400.3.1B
Width	250	250
Height	450	600
Plate Thickness	1.6	1.6
Letter Size, Type and Spacing	30CN	‘A’ 40 30CN
Letter Material	Retroreflective White Class 2	Retroreflective White Class 2
Background Material	Black non reflective	Black non reflective
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 410v, 11 dia	160h x 560v, 11 dia

Alternative materials:

- Photo-anodised aluminium, silver letters on black background.
- Vitreous enamel, white letters on black background.

3.2. Semi-Automatic Signal Board

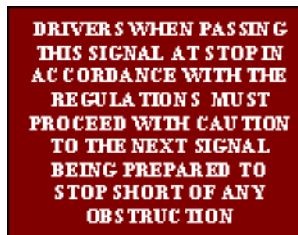


Board Identification No.	002400.3.2
Width	600
Height	600
Plate Thickness	1.6
Letter Size, Type and Spacing	30CN
Letter Material	Retroreflective White Class 2
Background Material	Black non reflective
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 560v, 11 dia

Alternative materials:

- Photo-anodised aluminium, silver letters on black background.
- Vitreous enamel, white letters on black background.

3.3. Automatic Signal Board

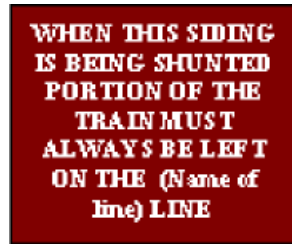


Board Identification No.	002400.3.3
Width	600
Height	450
Plate Thickness	1.6
Letter Size, Type and Spacing	30CN
Letter Material	Retroreflective White Class 2
Background Material	Black non reflective
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 410v, 11 dia

Alternative materials:

- Photo-anodised aluminium, silver letters on black background.
- Vitreous enamel, white letters on black background.

3.4. Intermediate Siding Board

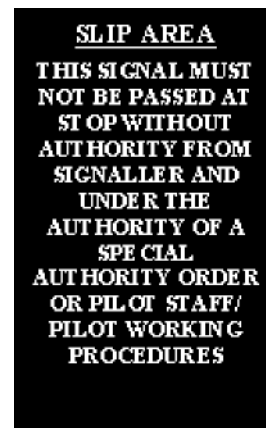


Board Identification No.	002400.3.4
Width	450
Height	400
Plate Thickness	1.6
Letter Size, Type and Spacing	30CN
Letter Material	Retroreflective White Class 2
Background Material	Black non reflective
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 360v, 11 dia

Alternative materials:

- Photo-anodised aluminium, silver letters on black background.
- Vitreous enamel, white letters on black background.

3.5. Slip Boards



Board Identification No.	002400.3.5A	002400.3.5B
Width	600	600
Height	400	750
Plate Thickness	2	2
Letter Size, Type and Spacing	50DN 40DN	50DN 30DN
Letter Material	Retroreflective White Class 2	Retroreflective White Class 2
Background Material	Black non reflective	Black non reflective
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 360v, 11 dia	160h x 710v, 11 dia

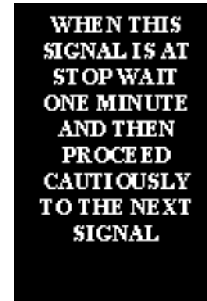
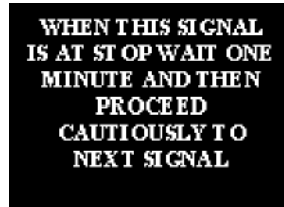
Alternative materials:

- Photo-anodised aluminium, silver letters on black background.
- Vitreous enamel, white letters on black background.

3.6. Distant Signal Boards

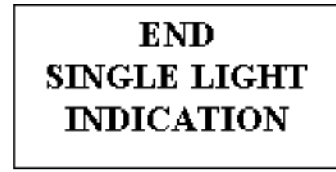
Horizontal Board

Vertical Board



Board Identification No.	002400.3.6A	002400.3.6B
Width	600	400
Height	400	650
Plate Thickness	2	2
Letter Size, Type and Spacing	40DN	40DN
Letter Material	Retroreflective White Class 1	Retroreflective White Class 1
Background Material	Retroreflective Red Class 2	Retroreflective Red Class 2
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 360v, 11 dia	160h x 610v, 11 dia

3.7. 'BEGIN' and 'END' Single Light Indication Boards

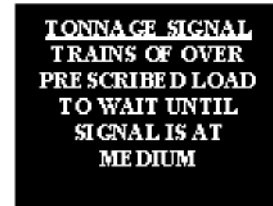
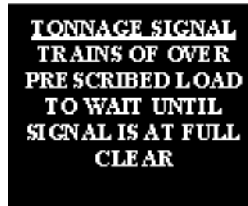


"BEGIN" board

"END" board

Board Identification No.	002400.3.7A	002400.3.7B
Width	900	900
Height	450	450
Plate Thickness	2	2
Letter Size, Type and Spacing	80DN	80DN
Letter Material	Black non reflective	Black non reflective
Background Material	Retroreflective White Class 1	Retroreflective White Class 1
Mounting Holes Centers and Diameters (Clause 1.7)	As specified by client	As specified by client

3.8. Tonnage Instruction Boards



Board Identification No.	002400.3.8A	002400.3.8B
Width	450	450
Height	400	400
Plate Thickness	2	2
Letter Size, Type and Spacing	30CN	30CN
Letter Material	Retroreflective White Class 2	Retroreflective White Class 2
Background Material	Black non reflective	Black non reflective
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 360v, 11 dia	160h x 360v, 11 dia

4. Miscellaneous Notice Boards

4.1. Advisory Speed Boards



A

For locomotive
 hauled passenger
 and freight



B

For XPT,
 Xplorer and
 Endeavour
 trains

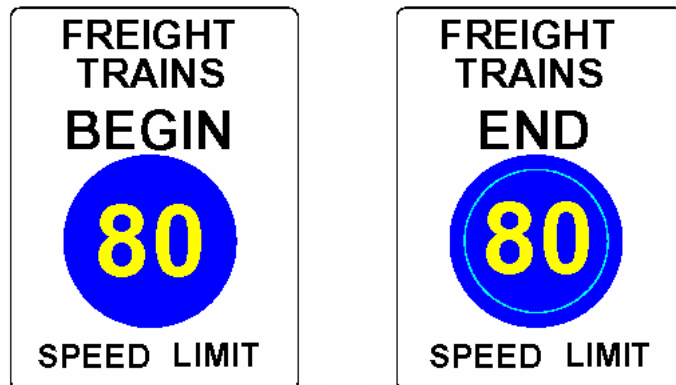


C

For freight over
 1150 long

Board Identification No.	002400.41A	002400.4.1B	002400.4.1C
Diameter	600	600	600
Plate Thickness	2	2	2
Letter Size, Type and Spacing	300DN	300DN	300DN
Letter Material	Retroreflective Red Class 1	Retroreflective Red Class 1	Retroreflective Yellow Class 1
Background Material	Retroreflective Yellow Class 2	Retroreflective Silver Class 2	Retroreflective Blue Class 2
Mounting Holes Centers and Diameters	Specified by Client	Specified by Client	Specified by Client

4.2. Special Speed Board Metropolitan Area



“BEGIN” board

“END” board

Board Identification No.	002400.4.2A	002400.4.2B
Width	800	800
Height	1200	1200
Plate Thickness	2	2
Letter Size, Type and Spacing		
“Freight Trains”	100EM	100EM
“Begin” “End”	140EM	140EM
“Speed Limit”	80DM	80DM
Letter Material	Black non reflective	Black non reflective
Numeral 300DM	Retroreflective Yellow Class 1	Retroreflective Yellow Class 1
Disk 560 dia	Blue non reflective	Blue non reflective
Background Material	Retroreflective White Class 2	Retroreflective White Class 2
Mounting Holes Centers and Diameters (Clause 1.7)	Specified by Client	Specified by Client

4.3. Accept Signal Board

ACCEPT

Board Identification No.	002400.4.3
Width	600
Height	150
Plate Thickness	1.6
Letter Size, Type and Spacing	100DM
Letter Material	Retroreflective White Class 1
Background Material	Black non reflective
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 110v, 11 dia

4.4. Repeat Signal Board

REPEATER
 (signal name or
 number)

e.g.

REPEATER
ST 1022 M

Board Identification No.	002400.4.4
Width	600
Height	300
Plate Thickness	1.6
Letter Size, Type and Spacing	80DM
Letter Material	Retroreflective White Class 1
Background Material	Black non reflective
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 260v, 11 dia

4.5. Distant Signal Boards



Board Identification No.	002400.4.5A	002400.4.5B
Width	600	600
Height	150	300
Plate Thickness	1.6	1.6
Letter Size, Type and Spacing	100DM	100DM
Letter Material	Retroreflective White Class 1	Retroreflective White Class 1
Background Material	Black non reflective	Black non reflective
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 100v, 11 dia	160h x 260v, 11 dia

4.6. Indicator Boards



Board Identification No.	002400.4.6A	002400.4.6B
Width	600	600
Height	150	250
Plate Thickness	1.6	1.6
Letter Size, Type and Spacing	80DM	80DM
Letter Material	Retroreflective White Class 1	Retroreflective White Class 1
Background Material	Black non reflective	Black non reflective
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 110v, 11 dia	160h x 210v, 11 dia

4.7. Outer Home Boards



Board Identification No.	002400.4.7A	002400.4.7B
Width	600	150
Height	150	450
Plate Thickness	1.6	1.6
Letter Size, Type and Spacing	120DM	120DM
Letter Material	Retroreflective White Class 1	Retroreflective White Class 1
Background Material	Black non reflective	Black non reflective
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 110v, 11 dia	100h x 410v, 11 dia

4.8. Automatic Signal Board

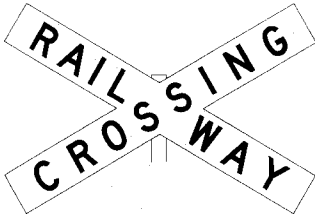


Board Identification No.	002400.4.8
Width	200
Height	250
Plate Thickness	1.6
Letter Size, Type and Spacing	180DM
Letter Material	Retroreflective White Class 1
Background Material	Black non reflective
Mounting Holes Centers and Diameters (Clause 1.7)	160h x 160v, 11 dia

5. Level Crossing Signs

5.1. Road

5.1.1. “Railway Crossing”



Sizes and colours as specified for W7-1A sign AS 1743 when used with RX-5 assembly. W7-2A or W7-1B when used with RX-1 or RX-2 assemblies.

5.1.2. “Tracks”



Sizes and colours as specified for W7-2A sign AS1743 when used with RX-5 assembly. W7-2A or W7-2B when used with RX-1 or RX-2 assemblies.

5.1.3. “Stop on Red Signal”



Sizes and colours as specified for R6-9 sign AS1743 when used with RX-5 assembly.

5.1.4. Advance warning and trains drivers approach



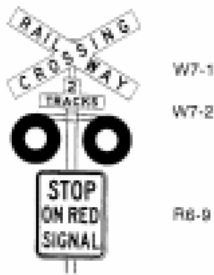
Sizes and colours as specified for W7-4B sign AS1743.

NOTE:

Provision of the advance warning sign (for road users) is normally the responsibility of the road authority. W7-4C sign may be more appropriate in some country situations.

5.2. Road Sign Combinations

5.2.1 Actively protected crossings (Type F lights etc.)



RX-5 assembly to AS1742.7

5.2.2 Passively protected crossings



RX-1 assembly to AS1742.7



RX-2 assembly to AS1742.7



W7-6 assembly to AS1742.7. This assembly is used when increased conspicuity is required.

5.3. Pedestrian Crossings

5.3.1 Pedestrian crossing with active protection (lights and siren etc.)



W7-14-3 sign to AS1747.7

5.3.2 Pedestrian crossing with passive protection



W7-14-1 sign to AS1747.7