

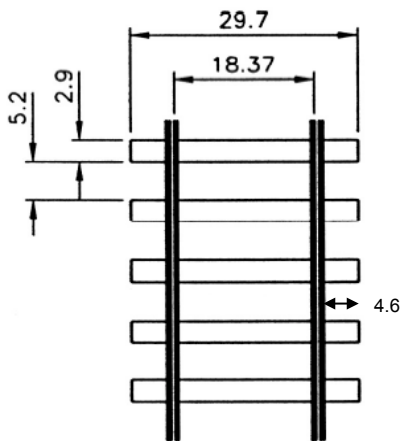
# SAR typical track dimensions – 1600 mm broad gauge (timber sleepers)

These data sheets are downloadable free from [http://www.sap4group.org.au/downloads\\_and\\_links.html](http://www.sap4group.org.au/downloads_and_links.html)

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Dimensions shown are millimetres for 1:87.1 scale



**SAR broad gauge mainline  
(HO scale, 18.37 mm gauge)**

– when full-size gap between sleepers is 450 mm (the range of averages of gaps measured on primary and secondary mainlines in the 1980s was 450±35 mm). With welded rail, the specified gap is 508 mm (= 5.8 mm in HO) – source: SAR F73/65.

## Features of the upper drawing

The sleeper spacing shown is for track that is not near rail joints. Other drawings give that information.

The 5.2 mm gap between timber sleepers is an average on numerous mainline tracks as measured in the 1980s. This gap is smaller than the 1927 specification shown (“5.8 typical”) on the ‘Sleeper spacing’ data sheets. Then, train speeds and weights were lower, usually on lighter rails.

It is interesting to note that the gap in the 1970s specification for timber sleeper spacing on SAR standard gauge mainlines (4.7 mm) is 0.5 mm less than the measured “standard practice” gap shown here, and the specified gap for standard gauge non-mainline track is 0.5 mm more (5.7 mm).

The size of broad gauge timber sleepers (29.7 mm x 2.9 mm x 1.5 mm thick in 1:87.1 scale) is the same as for SAR standard gauge – hence the shorter distance between the rail and the end of the sleeper in broad gauge.

## Dimensions when shrunk to 90%

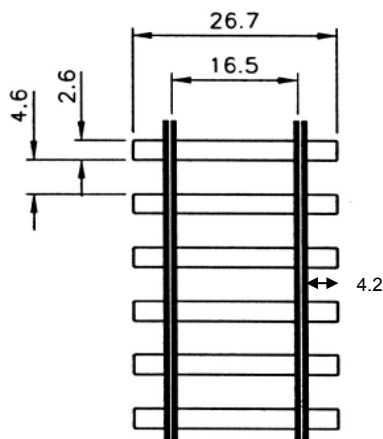
The lower drawing on the left shows the dimensions in the drawing above reduced to 90% so that an impression of broad gauge is given while retaining a gauge of 16.5 mm. Adopting a scaling of “90% of everything but gauge” works quite well since the eye picks up proportion far more readily than it does actual dimensions.

The upper drawing, and all other drawings in this series of data sheets, are at 100% for 1:87.1 scale. You can easily reproduce them for your scale. First print the drawing at 100% and check that the dimensions actually printed match the numerical values shown. You may then need to adjust this initial output by one or two per cent to achieve complete accuracy. Then you can output the drawing at the scale you require by setting your printer or photocopier to produce a larger or smaller print.

The values (if you do not need to make an initial adjustment) are:

- HO scale (1:87.1): 90% – i.e., 16.5 ÷ 18.37
- N scale (1:148): 49% – i.e., 9.0 ÷ 18.37
- O scale (1:43.5) at 174% – i.e., 32.0 ÷ 18.37.

[Model only]



**Above dimensions when modelled at  
90% (HO scale, 16.5 mm gauge)**

– so that the proportions are the same as above while using a gauge of 16.5 mm.