

<b>TO</b>	Interstate Network
<b>FROM</b>	Corporate Services & Safety, General Manager Technical Standards
<b>DATE</b>	17 April 2019
<b>SUBJECT</b>	Track and Civil Code of Practice – Section 1 Rail – Technical Note ETD-01-02 for 60kg/m tangent rail profile.
<b>Amendment</b>	Minor revision to design shape (v1.1)

## References

Track and Civil Code of Practice Section 1 - Rail

ETM-01-02 Rail Reprofile Standard for Plain Track

AS1085.1 – Steel Rails

## Issue

A Technical Note is required to support the use of a modification to 60kg/m rails as specified in AS1085.1 Steel Rails, a variation as allowed in Section 1 Rail, 1.2.1 Rail Materials. The Section 1 Rail clause for new rail materials implies the use of AS1085.1 is not mandated and equivalent types of rail are acceptable alternatives, however the standard does not define any guidance on the requirements of any other rail types. This Technical Note will define a modified version of the AS1085.1 Rail section with a different head profile shape in the wheel contact zone, specifically designed for tangent tracks above 800m radius curvature. All other specifications from AS1085.1 remain unchanged.

## Status and Applicability of this Technical Note

This Technical Note has the status of an ARTC Standard and shall remain in force until the ARTC Track and Civil Code of Practice Section 1 or AS1085.1 standard is updated to incorporate the Technical Note contents. This Technical Note is for the Interstate Network as an alternative option for installation of new 60kg/m rail on curvature above radius 800m, in particular on high speed tangents. The note will recommend that use of the new design profile is not desirable on tighter curvature and may also not meet the demands of heavy haul tracks above 25TAL without subsequent reprofile grinding.

## Inserted paragraphs into the Track and Civil Code of Practice Section 1 Rail

Nil

## Deleted or altered paragraphs

### 1.2.1 Rail materials

Guidelines for the acceptance of rail and associated materials are as follows:

#### a. New rail

New rail should comply with the criteria in the following standards:

i. 60 kg/m rail can be sourced in two head profile forms to suit different track configurations. The purpose of differing head profiles is to eliminate the need for grinding the new rails immediately following installation. Also noting that decisions around the use of Head Hardened rail are not affected by these head profile options, rail hardness and installation grinding practices must still be assessed separately using the relevant sections of the Code of Practice.

a. Track with tighter curvature below R800m should use 60kg/m that complies with AS 1085.1 or equivalent standard. This profile suits the high leg of tight curves with most common wheel profiles and is acceptable for low legs until first grind occurs.

b. Track with curvature above R800m (particularly tangents) should use 60kg/m that complies with all aspects of AS 1085.1 or equivalent standard, except for the modified head profile shape as specified below in Figure 1. Marking of this modified 60kg rail profile shall comply to AS1085.1, however with the removal of the rolled in "1085.1" portion of the branding (AS to remain) and the addition of brand modification letter "T", to indicate Tangent.

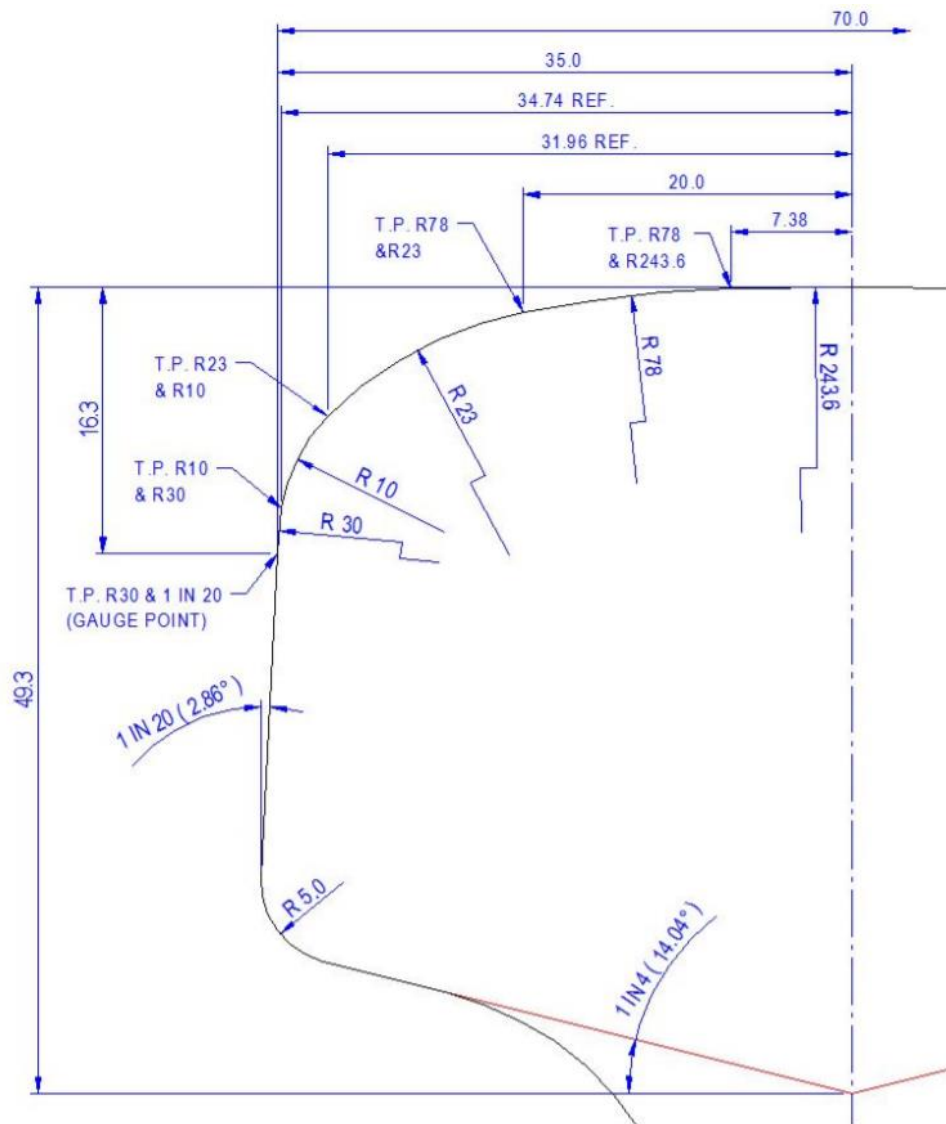


Figure 1. Detail of Head Profile 60 Kg/m Rail (Not to Scale)

- ii. 50 kg/m rail should comply with AS 1085.1 or equivalent standard.
- iii. 53 kg/m rail cross section should comply with the superseded AS 1085.1 (1980). All other properties should comply with AS 1085.1

Rail Purchased for use in CWR track should be obtained in lengths as long as possible so as to minimise the number of welds in track.

## Effectivity

This Technical Note shall apply to all new rail installation activities undertaken on ARTC tracks following its publication and until the Track and Civil Code of Practice Section 1 Rail is updated and this Technical Note is withdrawn.

## Updates to this Technical Note

This Technical Note shall apply to all new rail installation activities undertaken on ARTC tracks following its publication and until the Track and Civil Code of Practice Section 1 Rail is updated and this Technical Note is withdrawn.

*[Signature on file 17/04/2019]*

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