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RISSB
RAIL INDUSTRY SAFETY AND STANDARDS BOARD

:

CODE OF PRACTICE

Track Stability

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Any changes to the content of this publication require the version number to be updated.
RISSB will identify and communicate changes to this publication.

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1 Introduction

1.1 Preface

Being a RISSB Code of Practice, this document is a set of descriptions i.e. it is the "how" to meet a higher-level requirement, in this case that set out in AS 7643 – Railway Infrastructure: Track Stability. This Code may not be the only way to meet the requirements of AS 7643, thus it is not mandated and certainly not prescribed by law, but for organisations that choose to adopt it, it becomes normative. Indeed, RISSB recognises that different networks have different operating conditions, risk profiles and infrastructure management practices. Infrastructure managers may meet the requirements of AS 7643 in other ways and/or ways that exceed the expectations of this Code. By its nature this Code contains several options about how to achieve compliance, it also contains some informative guidance. For organisations that do adopt it, it is intended to help support the creation of work instructions, process procedures etc.

1.2 Scope

The misalignment of railway track may result from a build-up of internal longitudinal rail stresses which overcome the rigidity of the track structure. The management of track stability is a key responsibility for the Rail Infrastructure Manager to ensure the reliability and safety of the track structure throughout the asset lifecycle.

1.3 Application

This code of practice applies to tracks constructed on sleepers in open ballasted track with rails which are continuously welded, long welded or mechanically jointed.

Direct fixation track system such as those on track slabs have their own performance characteristics and are not included in the scope of this document.

The code covers rail networks classified in AS 7630 Railway Infrastructure – Track Classification for all track gauges.

1.4 Definitions

Continuous welded rail (CWR): A continuous rail length, welded or a single string, which requires management of residual stress-free temperature (SFT) by a rail adjustment procedure to address variance between ambient rail temperature and the design SFT.

The minimum length to be treated as CWR shall be declared by the RIM. (This is generally considered to be for rail lengths greater than 220 metres; however, circumstances may require shorter lengths to be included)

Design Neutral Temperature (DNT) The stress-free temperature at which the rail is to be maintained, to mitigate the risk of either a misalignment or a rail break.

Design Stress Free Temperature (DSFT) The rail temperature determined by the RIM to which CWR is to be adjusted during stressing.