



**Technical  
Specification**

**ISO/TS 17539**

**Railway applications — Track  
foundation — Observation and  
evaluation method of railway  
subgrade settlement and  
deformation**

*Infrastructure ferroviaire — Fondation des voies — Méthode  
d'observation et d'évaluation du tassement et de la déformation  
des plateformes ferroviaires*

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## Foreword

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This document was prepared by Technical Committee ISO/TC 269, *Railway applications*, Subcommittee SC 1, *Infrastructure*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

This document is intended to be used by customers, designers, specifiers of observation and evaluation of settlement and deformation of railway subgrade and contractor.

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# Railway applications — Track foundation — Observation and evaluation method of railway subgrade settlement and deformation

## 1 Scope

This document specifies the general requirements for the observation and evaluation method of railway earthworks (substructure and foundation ground) settlement and deformation for new-built and existing railway.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

### 3.1

#### **ballast**

crushed stone or coarse gravel used to construct the top layer of the track bed

### 3.2

#### **ballastless track**

track bed built without a *ballast* (3.1) layer, usually on concrete slabs

### 3.3

#### **break angle**

angle formed by the *differential settlement* (3.8) of the trackbed in the *transition section* (3.20)

### 3.4

#### **settlement**

vertical displacement (compression), usually positive in the downward direction, due to an imposed load or lowering of the groundwater table

Note 1 to entry: Settlement can be due to several causes primary compression results from the process of consolidation and secondary compression (creep) caused by the flow of soil grains.

### 3.5

#### **culvert**

covered channel used to convey a watercourse, passage and others below ground, mainly under railways

### 3.6

#### **cutting**

#### **cut**

permanent excavation formed by removing soil or rock to create a level or graded path to allow the formation of a railway