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European foreword

This document (EN 16729-2:2020) has been prepared by Technical Committee CEN/TC 256 "Railway applications", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2020, and conflicting national standards shall be withdrawn at the latest by September 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This EN 16729 series, *Railway applications – Infrastructure – Non-destructive testing on rails in track*, consists of:

- *Part 1: Requirements for ultrasonic inspection and evaluation principles;*
- *Part 2: Eddy current testing of rails in track;*
- *Part 3: Requirements for identifying internal and surface rail defects;*
- *Part 4: Qualification of personnel for non-destructive testing on rails.*

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This document represents the actual state of the art of eddy current testing for surface cracks on rails in track applied by European railway companies.

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1 Scope

This document is applicable to testing of rails installed in track for detecting rail surface cracks. This document applies to testing equipment in inspection-trains or reprofiling machines and manual systems. This document specifies the requirement for testing principles and systems in order to produce comparable results in respect to the location and the characteristic of surface cracks. This document is not aiming to give any guidelines for managing the result of eddy current rail testing. This document does not define the requirements for vehicle acceptance. This document is not concerned with production testing of rails in a production plant. This document applies only to rail profiles meeting the requirements of EN 13674-1.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13231-5, *Railway applications — Track — Acceptance of works — Part 5: Procedures for rail reprofiling in plain line, switches, crossings and expansion devices*

EN 16729-1:2016, *Railway applications — Infrastructure — Non-destructive testing on rails in track — Part 1: Requirements for ultrasonic inspection and evaluation principles*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 16729-1:2016 and the following apply.

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

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

3.1

real crack

crack caused by traffic loads or production induced

Note 1 to entry: Cracks may also be simulated. They then constitute an artificial feature designed to represent a real defect of a known size, orientation and position.