

Raudteelased rakendused. Rööbastee. Pöörmed ja ristmed. Austeniit-mangaanterasest valatud ruströöpa komponendid

Railway applications - Track - Switches and crossings - Crossing components made of cast austenitic manganese steel

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 15689:2010 sisaldab Euroopa standardi EN 15689:2009 ingliskeelset teksti.

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This Estonian standard EVS-EN 15689:2010 consists of the English text of the European standard EN 15689:2009.

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English Version

Railway applications - Track - Switches and crossings - Crossing components made of cast austenitic manganese steel

Applications ferroviaires - Voie - Appareils de voie - Coeurs
ou composants de coeur en acier moulé au manganèse

Bahnanwendungen - Oberbau - Weichen und Kreuzungen -
Gegossener austenitischer Manganstahl für
Herzstückbauteile

This European Standard was approved by CEN on 10 October 2009.

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Foreword

This document (EN 15689:2009) 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of an identical text or by endorsement, at the latest by May 2010, and conflicting national standards shall be withdrawn at the latest by May 2010.

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

This European Standard is complementary to the series of standards EN 13232 “*Railway applications — Track — Switches and crossings*”, which covers the design and quality of switches and crossings in flat bottomed rail.

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

1 Scope

The scope of this European Standard is:

- to establish material requirements for cast austenitic manganese steel for fixed crossings and cradles for crossings with moveable parts designed to be welded or bolted to rails;
- to formulate codes of practice for inspection, testing of un-machined and machined heat-treated castings;
- to list the methods by which crossings should be identified and traced;
- to define limits of weld rectification by the supplier;
- special requirements for pre-hardened crossings.

Geometrical aspects, as machining tolerances and inspection of finished crossings are covered in EN 13232-6 and EN 13232-7 and therefore not in this European Standard.

This European Standard specifies the minimum requirements for cast manganese crossing components. Special applications (for instance tram systems) can require different demands in certain paragraphs and need to be agreed between customer and supplier.

2 Normative references

The following referenced documents are indispensable for the application 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 444:1994, *Non-destructive testing — General principles for the radiographic examination of metallic materials using X- and gamma-rays*

EN 462-3:1996, *Non-destructive testing — Image quality of radiographs — Part 3: Image quality classes for ferrous metals*

EN 473:2008, *Non destructive testing — Qualification and certification of NDT personnel — General principles*

EN 571-1, *Non destructive testing — Penetrant testing — Part 1: General principles*

EN 1370, *Founding — Surface roughness inspection by visual/tactile comparators*

EN 1371-1, *Founding — Liquid penetrant inspection — Part 1: Sand, gravity die and low pressure die castings*

EN 10204, *Metallic products — Types of inspection documents*

EN 13232-1:2003, *Railway applications — Track — Switches and crossings — Part 1: Definitions*

EN 13232-6:2005, *Railway applications — Track — Switches and crossings — Part 6: Fixed common and obtuse crossings*

EN 13232-7:2006, *Railway applications — Track — Switches and crossings — Part 7: Crossings with moveable parts*

EN ISO 11970, *Specification and approval of welding procedures for production welding of steel castings (ISO 11970:2001)*

ISO 8062, *Castings — System of dimensional tolerances and machining allowances*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in 7.4 and 7.5 of EN 13232-1:2003, 3.1 of EN 13232-6:2005, Clause 4 of EN 13232-7:2006 and the following apply.

3.1

weldable crossing

crossing with rail ends suitable for welding into track

3.2

fishplated crossing

crossing with rail ends suitable for mechanical joints

3.3

pre hardened

contact area and running table which is intentionally hardened prior to installation in track

3.4

chaplet

metallic core support that remains in finished part

3.5

customer

operator or user of the equipment, or the purchaser of the equipment on the user's behalf

3.6

supplier

body responsible for the use of the EN in response to the customer's requirements

4 Quality systems

The supplier responsible for the manufacture of the crossing shall be certified by an accredited third party and have an audited quality system or shall have a quality system approved by the customer.

5 Sample approval

The suitability of the pattern design, mould preparation procedures, casting conditions and heat treatment procedures shall be demonstrated by producing prototype casting for every new pattern.

Sample approval by the supplier is necessary for every new pattern. Any subsequent modifications in the manufacturing process, which may influence the quality of the components, shall be the responsibility of the cast foundry to test and record. The customer shall have the right to have access to these records.

All tests according to Clause 7 shall be performed for sample approval. However, radiography may be dispensed with by the customer, in which case this shall be specified in the tender documents.