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Laser welded tailored blanks - Technical delivery conditions

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

Laser welded tailored blanks - Technical delivery conditions

Flans rabotés laser - Conditions techniques de livraison

Laserstrahlgeschweißte Tailored Blanks aus Stahlfeinblech
- Technische Lieferbedingungen

This European Standard was approved by CEN on 20 June 2015.

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European foreword

This document (EN 10359:2015) has been prepared by Technical Committee ECISS/TC 109 “Coated and uncoated flat products to be used for cold forming”, the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by January 2016 and conflicting national standards shall be withdrawn at the latest by January 2016.

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1 Scope

This European Standard describes the requirements for laser welded tailored blanks made of alloyed and unalloyed steels, of uniform or different steel grades and with or without metallic and/or organic coatings, having uniform or different sheet thickness. It applies only to the (Tailored Blanks) as-supplied condition of tailored blanks.

After the welding process, tailored blanks are further processed to pressed parts by forming operations under the responsibility of the processor. In the design of the component due consideration should be given to the fact that the weld seam is less formable in comparison to the base material.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 10131, *Cold rolled uncoated and zinc or zinc-nickel electrolytically coated low carbon and high yield strength steel flat products for cold forming — Tolerances on dimensions and shape*

EN 10143, *Continuously hot-dip coated steel sheet and strip — Tolerances on dimensions and shape*

ISO 2768-1, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*

3 Terms and definitions

For the purposes of this document, the following term and definition applies.

3.1
tailored blanks
laser welded metal sheets of uniform and/or different thickness and/or uniform or different steel grades, both with and without surface coating

4 Requirements

As far as the properties of the components are concerned, the general rules of engineering apply. The suitability of tailored blanks for the processes of the customer is guaranteed in case of appropriate execution of the welding seam, suitable positioning of weld seam in the part to be formed and appropriate lay out of sheet thicknesses and steel grades under taking into consideration the requirements of known further processing steps. The criteria laid down in Table 1 have proved to be a practical basis for ordering. Additional specific deviations are admissible and have to be agreed upon at the time of ordering.

5 Tolerances on dimensions and shape

Regarding tolerances on dimensions and shape the agreements of EN 10131 and EN 10143 shall apply for cold rolled and surface coated wide coils, cut to length sheets and slit coils, which are used for the manufacturing tailored blanks.

The relevant tolerance classes for width, flatness and thickness have to be agreed upon between producer of tailored blank and steel producer.

For the general tolerances regarding lengths, angles, coaxiality and symmetry, the precision class c according to ISO 2768-1 shall apply.