

STN	Elektromagnetické pulzné zvaranie Časť 5: Kvalita a inšpekčné požiadavky	STN EN 18007-5 05 2840
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Electromagnetic pulse welding - Part 5: Quality and inspection requirements

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 09/24

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Electromagnetic pulse welding - Part 5: Quality and inspection requirements

Soudage par impulsion électromagnétique - Partie 5 :
Exigences de qualité et de contrôle

Elektromagnetisches Pulsschweißen - Teil 5: Qualitäts-
und Prüfanforderungen

This European Standard was approved by CEN on 7 June 2024.

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EN 18007-5:2024 (E)

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European foreword

This document (EN 18007-5:2024) has been prepared by Technical Committee CEN/TC 121 “Welding and allied processes”, 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of an identical text or by endorsement, at the latest by January 2025, and conflicting national standards shall be withdrawn at the latest by January 2025.

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.

The EN 18007 series of standards, under the general title *Electromagnetic pulse welding*, consists of the following parts:

- *Part 1: Welding knowledge, terminology and vocabulary,*
- *Part 2: Design of welded joints,*
- *Part 3: Qualification of welding operators and weld setters,*
- *Part 4: Specification and qualification of welding procedures,*
- *Part 5: Quality and inspection requirements.*

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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EN 18007-5:2024 (E)**Introduction**

Electromagnetic pulse welding is an innovative solid-state welding technology that belongs to the group of pressure welding processes and is based on the use of electromagnetic forces to deform, accelerate and weld workpieces. No external heat source is used, the connection is only created by a high-velocity impact.

The increasing use of the electromagnetic pulse welding process has created the need for a standard, to ensure that the welding operations are carried out in the most effective manner and that appropriate controls are performed on all aspects of the implementation.

To be effective, welded products should be free from problems in production and in service. To achieve this goal, it is recommended to provide controls from the design phase through material selection, choice of parameters, the fabrication itself, and inspection. For example, poor design can create serious and costly difficulties in the workshop or in service. Incorrect process parameters and/or material selection can result in welding defects. Welding procedures should be correctly formulated and approved to avoid weld discontinuities. To ensure the manufacture of a quality product, management should understand the causes of potential problems and implement appropriate inspection procedures and subsequent quality measures. Supervision should be implemented to ensure that the specified quality is achieved.

1 Scope

This document specifies a method to determine the capability of a manufacturer to use the electromagnetic pulse welding process for production of products of the specified quality. It specifies quality requirements but does not assign those requirements to any specific product or product group.

In this document, the term “aluminium” refers to aluminium and its alloys.

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 18007-1, *Electromagnetic pulse welding — Part 1: Welding knowledge, terminology and vocabulary*

EN 18007-3, *Electromagnetic pulse welding — Part 3: Qualification of welding operators and weld setters*

EN ISO 9712, *Non-destructive testing — Qualification and certification of NDT personnel*

EN ISO 20807, *Non-destructive testing — Qualification of personnel for limited application of non-destructive testing*

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