

**Termopihustamine.  
Termopihustusseadmete vastavuse  
kontrollimine tehnilistele tingimustele**

Thermal spraying - Acceptance inspection of thermal spraying equipment - Part 6: Manipulator systems

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 1395-6:2007 sisaldab Euroopa standardi EN 1395-6:2007 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 28.02.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 1395-6:2007 consists of the English text of the European standard EN 1395-6:2007.</p> <p>This document is endorsed on 28.02.2007 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b> See Euroopa standard määrab kindlaks tehnilistele tingimustele vastavuse nõuded termopihustusseadmete korral, kaasa arvatud plasma-, kaar- ja leekpihustusseadmed, mida kasutatakse heakvaliteediliste katete pealekandmiseks.</p>	<p><b>Scope:</b> This European Standard specifies requirements for the acceptance inspection of thermal spraying equipment in this case manipulator systems used in spray jobs to produce thermally sprayed coatings of reproducible quality. This part should be used in conjunction with EN 1395-1, which includes general requirements and explanations of procedures.</p>
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**Võtmesõnad:** elektrikaared, füüsika, katsed, kvaliteedi kontrollimine, leegid, metallkatted, plasma, termopihustamine, töökojad, varustus, vastuvõetavus

English Version

## Thermal spraying - Acceptance inspection of thermal spraying equipment - Part 6: Manipulator systems

Projection thermique - Contrôle d'acceptation du matériel  
de projection thermique - Partie 6: Système de  
manipulation

Thermisches Spritzen - Abnahmeprüfungen für Anlagen  
zum thermischen Spritzen - Teil 6: Handhabungssysteme

This European Standard was approved by CEN on 23 December 2006.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

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## Foreword

This document (EN 1395-6:2007) has been prepared by Technical Committee CEN/TC 240 “Thermal spraying and thermally sprayed coatings”, 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 July 2007, and conflicting national standards shall be withdrawn at the latest by July 2007.

This document together with EN 1395-1, 1395-2, 1395-3, 1395-4 1395-5 and 1395-7 supersedes EN 1395:1996.

EN 1395 consists of the following Parts, under the general title *Thermal spraying — Acceptance inspection of thermal spraying equipment*:

- *Part 1: General requirements;*
- *Part 2: Flame spraying including HVOF;*
- *Part 3: Arc spraying;*
- *Part 4: Plasma spraying;*
- *Part 5: Plasma spraying in chambers;*
- *Part 6: Manipulator systems;*
- *Part 7: Powder feed systems.*

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 United Kingdom.

## 1 Scope

This European Standard specifies requirements for the acceptance inspection of thermal spraying equipment in this case manipulator systems used in spray jobs to produce thermally sprayed coatings of reproducible quality.

This part should be used in conjunction with EN 1395-1, which includes general requirements and explanations of procedures.

## 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 657:2005, *Thermal spraying — Terminology, classification*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 657:2005 and the following apply.

### 3.1

#### **manipulators**

equipment for horizontal and/or vertical repositioning and/or rotating of objects

## 4 Acceptance inspection

### 4.1 Purpose of acceptance inspection

5.1 to 5.4 reveal state of the art technology in thermal spraying equipment and the minimum requirements concerning accuracy of motion of a spraying gun and/or work piece as given in Annex A, Table A.2.

### 4.2 Preliminary conditions for inspection

The manipulator system shall be installed according to the instructions of the manufacturer/supplier. It shall be completely fitted with any other manipulator equipment necessary for the spraying process, aligned, adjusted and shall be able to operate. Measurements see Annex A, Table A.1.

## 5 Manipulators for thermal spraying

### 5.1 General

Generally, manipulators used for thermal spraying may move the gun and/or the work piece to be sprayed.

Usually, manipulators used for thermal spraying do not need the same positioning accuracy as systems for positioning of tools when e.g. chip cutting on milling or drilling machines, due to a spreading of the spray spot as well as to masking of the area not to be sprayed. These circumstances allow larger tolerances in positioning the spray gun and/or the work piece.