



BSI Standards Publication

# Thermal spraying — Safety requirements for thermal spraying equipment

Part 1: General requirements

**National foreword**

This Published Document is the UK implementation of CEN/TR 15339-1:2014.

The UK participation in its preparation was entrusted to Technical Committee STI/40, Thermal spraying and thermally sprayed coatings.

A list of organizations represented on this committee can be obtained on request to its secretary.

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## Thermal spraying - Safety requirements for thermal spraying equipment - Part 1: General requirements

Projection thermique - Exigences de sécurité relatives au matériel de projection thermique - Partie 1: Exigences générales

Thermisches Spritzen - Sicherheitsanforderungen für Einrichtungen für das thermische Spritzen - Teil 1: Allgemeine Anforderungen

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## Foreword

This document (CEN/TR 15339-1:2014) has been prepared by Technical Committee CEN/TC 240 "Thermal spraying and thermally sprayed coatings", the secretariat of which is held by DIN.

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.

CEN/TR 15339, *Thermal spraying - Safety requirements for thermal spraying equipment* is composed of the following parts:

- *Part 1: General requirements*
- *Part 2: Gas control units* (published as a European Standard)
- *Part 3: Torches for thermal spraying and their connection and supply units*
- *Part 4: Gas and liquid fuel supply*
- *Part 5: Powder and wire feed units*
- *Part 6: Spray booth, Handling system, Dust collection, Exhaust system, Filter*

## Introduction

In order to establish technical harmonization, development of technical standards and reduction of hindrances to trade, the European Community agreed several directives:

**Table 1 — European Directives**

Target Group	Directives						
	2006/42/EC <sup>a</sup> Machine Directive [1]	95/63/EC <sup>b</sup> Social Directive [2]	2006/95/EC <sup>c</sup> Low Voltage Directive [3]	2004/108/EC EMC Directive [4]	94/9/EC ATEX 95 Directive [5]	99/92/EC ATEX 137 Directive [6]	97/23/EC Pressure Equipment Directive [7]
Manufacturer	•		•	•	•		•
User		•	•	•		•	

<sup>a</sup> The Machine Directive applies to machinery and lays down the essential health and safety requirements therefore as well as for safety components placed on the market separately.

<sup>b</sup> This directive defines the minimum safety and health requirements for the use of work equipment by workers at work.

<sup>c</sup> Designed to ensure safety in the use of electrical equipment within certain voltage limits.

The Member States of the European Union have to transpose the directives in their national law by decrees and laws. Laws and decrees relevant for the subject of this European Standard are listed in the national foreword.

## 1 Scope

This Technical Report specifies and indicates safety requirements of machines, machine accessories, and equipment for thermal spraying. The provisions stated in this document are intended for the designer, manufacturer, integrator, and user of thermal spray equipment.

Safety requirements of specific and auxiliary components of a thermal spray system will be focused in further parts. (For details, see Clause 3).

## 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 ISO 12100:2010, *Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)*

## 3 Legal requirements

### 3.1 Design and construction of safe machinery for thermal spraying

#### 3.1.1 Procedure to design and to construct safe machinery for thermal spraying

Thermal spray equipment and related safety components shall be placed in the market and put into service only if they satisfy essential health and safety requirements.

NOTE The procedure indicated in 3.1.2 and 3.1.3 is a summary and output of directives, especially the Machine Directive 2006/42/EC [1] and several European Standards. In every case, the detailed directives and European Standards are valid.

#### 3.1.2 Design and construction following essential health and safety requirements

##### 3.1.2.1 Risk analysis

The manufacturer is under an obligation to assess the hazards in order to identify all those applying to his machine; he shall then consequently design, construct and produce the machinery taking his assessment into account.

The representation of the iterative method for the risk reduction process is schematically shown in Figure 1.