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Thermal spraying - Safety requirements for thermal spraying equipment - Part 3: Torches for thermal spraying and their connection and supply units

Projection thermique - Exigences de sécurité relatives au matériel de projection thermique - Partie 3: Chalumeaux de projection thermique et leurs unités de raccordement et d'alimentation

Thermisches Spritzen - Sicherheitsanforderungen für Einrichtungen für das thermische Spritzen - Teil 3: Brenner und Spritzpistolen und ihre Anschlüsse und Stromquellen

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Foreword

This document (CEN/TR 15339-3:2014) 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*

1 Scope

This Technical Report specifies safety requirements of equipment for thermal spraying, in this case of spray torches, gas hoses, hose assemblies and their electrical and water junctions in junction and monitoring boxes and power sources.

Equipment and storage for gas and liquid fuel supply are presented in CEN/TR 15339-4.

This document should be used in conjunction with CEN/TR 15339-1, which deals with general aspects of designing, manufacture, and/or putting into service of machines or equipment and with the responsibility to issue the CE Conformity Declaration.

Spraying equipment for specific thermal spraying processes, induction plasma spraying, water stabilized plasma spraying and plasma spraying in chambers (below or above atmospheric pressure) are not within the scope of this Technical Report.

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 657, *Thermal spraying — Terminology, classification*

EN 1256, *Gas welding equipment — Specification for hose assemblies for equipment for welding, cutting and allied processes*

CEN/TR 15339-1, *Thermal spraying — Safety requirements for thermal spraying equipment — Part 1: General requirements*

CEN/TR 15339-6, *Thermal spraying — Safety requirements for thermal spraying equipment — Part 6: Spray booth, Handling system, Dust collection, Exhaust system, Filter*

EN 60974-1, *Arc welding equipment — Part 1: Welding power sources (IEC 60974-1)*

EN 60974-3, *Arc welding equipment — Part 3: Arc striking and stabilizing devices (IEC 60974-3)*

EN 60974-7, *Arc welding equipment — Part 7: Torches (IEC 60974-7)*

EN 60974-10, *Arc welding equipment — Part 10: Electromagnetic compatibility (EMC) requirements (IEC 60974-10)*

EN ISO 3821, *Gas welding equipment — Rubber hoses for welding, cutting and allied processes (ISO 3821)*

3 Function of thermal spraying equipment

3.1 General

Thermal spray processes and spray torches are described and schematically represented in EN 657.

Thermal spray processes use flammable gases for flame-, plasma- or HVOF (high velocity oxygen fuel) spraying, which create significant potential hazards. Pure oxygen shall also be considered a dangerous gas, because relatively non-flammable material will burn in the presence of a certain concentration of oxygen.

Electrical devices are common sources for igniting an explosive atmosphere. Only spraying equipment which is suitable for the rated zone shall be operated.