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English Version

Industrial thermoprocessing equipment - Part 1: Common safety requirements for industrial thermoprocessing equipment

Equipements thermiques industriels - Partie 1:
Prescriptions générales de sécurité pour les équipements
thermiques industriels

Industrielle Thermoprozessanlagen - Teil 1: Allgemeine
Sicherheitsanforderungen an industrielle
Thermoprozessanlagen

This draft amendment is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 186.

This draft amendment A1, if approved, will modify the European Standard EN 746-1:1997. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

This draft amendment was established by CEN 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 746-1:1997/prA1:2009) has been prepared by Technical Committee CEN/TC 186 "Industrial thermoprocessing - Safety", the secretariat of which is held by DIN.

This document is currently submitted to the Unique Acceptance Procedure.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document.

The new safety requirements as stated in this document comply with the additional relevant Essential Requirements of the new Machinery Directive 2006/42/EC complementing the existing Machinery Directive 98/37/EC.

Once this document is cited in the Official Journal of the European Community under the new Machinery Directive 2006/42/EC and has been implemented as a national standard in at least one member state, it confers a presumption of conformity with the new relevant Essential Requirements of that new Directive and associated EFTA regulations.

This standard forms one part of a series safety standards covering Industrial Thermoprocessing Equipment.

The full list of parts of EN 746 is given below:

EN 746 *Industrial thermoprocessing equipment*

Part 1: *Common safety requirements for industrial thermoprocessing equipment*

Part 2: *Safety requirements for combustion and fuel handling systems*

Part 3: *Safety requirements for the generation and use of atmosphere gases*

Part 4: *Particular safety requirements for hot dip galvanising thermoprocessing equipment*

Part 5: *Particular Safety Requirements for Salt Bath Thermoprocessing Equipment*

Part 6: *Particular Safety Requirements for Material Melting, Remelting and Liquid Phase Maintaining Thermoprocessing Equipment*

Part 7: *Particular Safety Requirements for Vacuum Thermoprocessing Equipment*

Part 8: *Particular safety requirements for quenching equipment*

EN 1547 *Industrial thermoprocessing equipment — Noise test code for industrial thermoprocessing equipment including its ancillary handling equipment*

An assessment of the foreseeable risks arising from the use of the equipment was carried out when this standard was prepared.

EN 746-1:1997/prA1:2009 (E)**1 Modification to the Foreword**

Replace the 7th paragraph with the following:

"For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document."

2 Modification to Clause 2, Normative references

Replace the 1st paragraph with the following:

"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."

2.1 Basic Standards

In EN 60204-1, replace the bracket expression with "(IEC 60204-1:2005, modified)".

Delete "EN 292-1:1991, Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology" and add:

"EN ISO 12100-1:2003, Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology (ISO 12100-1:2003)".

Whole document: Replace "EN 292-1:1991" with "EN ISO 12100-1:2003".

Delete "EN 292-2:1991, Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles and specifications" and add:

"EN ISO 12100-2:2003, Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles (ISO 12100-2:2003)".

Whole document: Replace "EN 292-2:1991" with "EN ISO 12100-2:2003" where no specific reference has been made and replace "clause 5 of EN 292-2:1991" in 6.1.2 with "Clause 6 of EN ISO 12100-2:2003" and delete "Annex A, 1.7.4, f) of EN 292-2:1991" in 6.4.6.

Replace all general references on "EN 292" with "EN ISO 12100".

Replace:

"IEC 364-4-41, Electrical installations of buildings; Part 4: Protection for safety; Chapter 41: Protection against electrical shock" with:

"IEC 60364-4-41, Low-voltage electrical installations — Part 4-41: Protection for safety — Protection against electric shock".

Whole document: Replace "IEC 364-4-41" with "IEC 60364-4-41".

Replace:

"IEC 364-4-43, Electrical installations of buildings; Part 4: Protection for safety; Chapter 43: Protection against overcurrent" with:

"IEC 60364-4-43, Electrical installations of buildings — Part 4-43: Protection for safety — Protection against overcurrent".

Whole document: Replace "IEC 364-4-43" with "IEC 60364-4-43".

Delete:

"IEC 364-4-47, Electrical installations of buildings; Part 4: Protection for safety; Chapter 47: Application of protective measures for safety; Section 470 - General; Section 471 - Measures of protection against electric shock".

Whole document: Replace "IEC 364-4-47" with "IEC 60364-4-41" or, where "IEC 60364-4-41" is already listed because of a former change, delete "IEC 364-4-47" (e.g. in Table 1).

Replace:

"IEC 364-4-442, Electrical installations of buildings; Part 4: Protection for safety; Chapter 44: Protection against overvoltages; Section 442: Protection of low-voltage installations against faults between high-voltage systems and earth" with:

"IEC 60364-4-44, Low-voltage electrical installations — Part 4-44: Protection for safety — Protection against voltage disturbances and electromagnetic disturbances".

Whole document: Replace "IEC 364-4-442" with "IEC 60364-4-44".

Delete:

"IEC 364-4-443, Electrical installations of buildings; Part 4: Protection for safety; Chapter 44: Protection against overvoltages; Section 443: Protection against overvoltages of atmospheric origin or due to switching".

Whole document: Replace "IEC 364-4-443" with "IEC 60364-4-44" or, where "IEC 60364-4-44" is already listed because of a former change, delete "IEC 364-4-443" (e.g. in Table 1).

Delete:

"IEC 364-4-473, Electrical installations of buildings. Part 4: Protection for safety; Chapter 47: Application of protective measures for safety. Section 473: Measures of protection against overcurrent".

Whole document: Replace "IEC 364-4-473" with "IEC 60364-4-43" or, where "IEC 60364-4-43" is already listed because of a former change, delete "IEC 364-4-473" (e.g. in Table 1).

Delete:

"IEC 364-4-45, Electrical installations of buildings. Part 4: Protection for safety; Chapter 45: Protection against undervoltage".

Whole document: Replace "IEC 364-4-45" with "IEC 60364-4-44" or, where "IEC 60364-4-44" is already listed because of a former change, delete "IEC 364-4-45" (e.g. in Table 1).

Delete:

"IEC 364-4-46, Electrical installations of buildings. Part 4: Protection for safety; Chapter 46: Isolation and switching".

Whole document: Replace "IEC 364-4-46" with "IEC 60364-4-41" or, where "IEC 60364-4-41" is already listed because of a former change, delete "IEC 364-4-46" (e.g. in Table 1).

2.2 Group Safety Standards

Delete "EN 294, Safety of machinery - Safety distances to prevent danger zones being reached by the upper limbs" and "EN 811, Safety of machinery - Safety distances to prevent danger zones being reached by the

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lower limbs" and add "EN ISO 13857, Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)". In Table 1, Clause 2.2, last column, replace "EN 294" with "EN ISO 13857" and delete "EN 811". In 5.2.2, last paragraph, replace "EN 294, EN 811" with "EN ISO 13857".

Delete:

"EN 418, Safety of machinery — Emergency stop equipment, functional aspects; Principles for design" and add:

"EN ISO 13850, Safety of machinery — Emergency stop — Principles for design (ISO 13850:2006)".

Whole document: Replace "EN 418" with "EN ISO 13850".

Delete:

"EN 457, Safety of machinery — Auditory danger signals — General requirements, design and testing (ISO 7731:1986 modified)" and add:

"EN ISO 7731, Ergonomics — Danger signals for public and work areas — Auditory danger signals (ISO 7731:2003)".

Whole document: Replace "EN 457" with "EN ISO 7731".

Delete:

"EN 563, Safety of machinery — Temperatures of touchable surfaces — Ergonomics data to establish temperature limit values for hot surfaces" and add:

"EN ISO 13732-1, Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 1: Hot surfaces (ISO 13732-1:2006)".

Whole document: Replace "EN 563" with "EN ISO 13732-1".

Replace:

"prEN 953, Safety of machinery; General requirements for the design and construction of guards (fixed, movable)" with:

"EN 953, Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards".

Whole document: Replace "prEN 953" with "EN 953".

Delete:

"EN 954-1, Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design" and add:

"EN ISO 13849-1, Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2006)".

Whole document: Replace "EN 954-1" with "EN ISO 13849-1".

Replace:

"prEN 1127-1, Safety of machinery — Fire and explosions — Part 1: Explosion prevention and protection" with:

"EN 1127-1, *Explosive atmospheres — Explosion prevention and protection — Part 1: Basic concepts and methodology*".

Whole document: Replace "prEN 1127-1" with "EN ISO 1127-1".

Replace:

"prEN 1299, *Vibration isolation of machines — Information for the application of source isolation*" with:

"EN 1299, *Mechanical vibration and shock — Vibration isolation of machines — Information for the application of source isolation*".

Replace the last element of the title of EN 60825-1 with "Part 1: Equipment classification and requirements (IEC 90825-1:2007)".

Replace the bracket expression of EN 61310-1 with "(IEC 61310-1:2007)" and the one of EN 61310-2 with "(IEC 61310-2:2007)".

Whole document: Replace "prEN 1299" with "EN 1299".

Replace:

"IEC 405, *Nuclear instrumentation: Constructional requirements to afford personal protection against ionizing radiations*" with:

"IEC 60405, *Nuclear instrumentation — Constructional requirements and classification of radiometric gauges*".

Whole document: Replace "IEC 405" with "IEC 60405".

Replace:

"IEC 417, *Graphical symbols for use on equipment — Index, survey and compilation of the single sheets*" with:

"IEC 60417-DB, *Graphical symbols for use on equipment*".

Whole document: Replace the reference to "IEC 417" with "IEC 60417".

2.3 Product Safety Standards

Replace:

"prEN 746-4, *Industrial thermoprocessing equipment — Part 4: Particular Safety Requirements for Hot Dip Galvanising Equipment*" with:

"EN 746-4, *Industrial thermoprocessing equipment — Part 4: Particular safety requirements for hot dip galvanising thermoprocessing equipment*".

Whole document: Replace "prEN 746-4" with "EN 746-4".

Replace:

"prEN 746-5, *Industrial thermoprocessing equipment — Part 5: Particular Safety Requirements for Salt Bath Thermoprocessing Equipment*" with:

"EN 746-5, *Industrial thermoprocessing equipment — Part 5: Particular safety requirements for salt bath thermoprocessing equipment*".