SLOVENSKI STANDARD
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Varjenje in sorodni postopki - Kontrolni vprašalnik/seznam v zvezi z okoljem

Welding and allied processes - Environmental check list

Schweißen und verwandte Prozesse - Umweltcheckliste

Soudage et techniques connexes - Liste de vérification relative à l'environnement

Ta slovenski standard je istoveten z: **prEN 14717**

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13.020.01	Okolje in varstvo okolja na splošno	Environment and environmental protection in general
25.160.01	Varjenje, trdo in mehko spajkanje na splošno	Welding, brazing and soldering in general

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EUROPEAN STANDARD

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ICS

Will supersede EN 14717:2005

English Version

Welding and allied processes - Environmental check list

Soudage et techniques connexes - Liste de vérification relative à l'environnement

Schweißen und verwandte Prozesse - Umweltcheckliste

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 121.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (prEN 14717:2021) has been prepared by Technical Committee CEN/TC 121 “Welding and allied processes”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 14717:2005.

This document has been prepared under a standardization request 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 Annex ZA, which is an integral part of this document.

The main changes compared to the previous edition EN 14717:2005 are as follows:

a) the document was editorially reviewed;

b) new terms (ecodesign and improvement of the environmental performance) under Clause 2 added;

c) new Annex ZA regarding relationship between this document and the ecodesign requirements of Commission Regulation (EU) No 2019/1784.

Introduction

Protection of the environment is a key political issue in Europe and elsewhere. Protection of the environment is taken in a very broad sense. What is meant is the total life cycle aspects of, e.g. a product on the environment, including expenditure of energy and during all phases from mining of raw materials, fabrication, packaging, distribution, use, scrapping, recycling of materials, etc. However, assessment of all aspects of the welded product or structure during its entire lifetime cycle is beyond the scope of the present document. The document is limited to aspects directly related to welding fabrication.

The design of the fabricated structures puts a lower limit on the expenditure of energy during joint preparation and welding, on the consumption of consumables and consequently on emissions of fumes and gases during welding, etc. but the design phase is not covered by the document.

Welding fabrication has many environmental aspects. This document provides for a checklist, which may be used for identification of environmental aspects during welding fabrication.

Provisions are restricted to a general guidance. Limit values are specified in national laws.

Some of the environmental aspects also have an implication for occupational health and safety, but the check list in this document is incomplete for this use.

1 Scope

This document provides check lists for the assessment of the environmental aspects of welding fabrication of metallic materials including site and repair work. Informative annexes indicate recommended actions for avoiding and reducing the possible environmental impacts outside the workshop.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
welding fabrication
includes the following activities and associated processes:

— joint preparation including thermal cutting and grinding;

— surface preparation including sand blasting, shot blasting, shot peening, chemical pickling and cleaning;

— welding, including grinding and back gouging;

— soldering and brazing;

— thermal spraying;

— preheating and heat treatments;

— flame straightening and mechanical straightening;

— inspection and testing of welds and thermal sprayed surfaces

3.2
disposal
collection, sorting, transport and treatment of waste as well as its storage and tipping above or underground, the transformation operations necessary for its re-use, recovery or recycling

[SOURCE: Directive 75/442/EEC]

3.3
ecodesign
integration of environmental aspects into product design with the aim of improving the environmental performance of the product throughout its whole life cycle

[SOURCE: Directive 2009/125/EC]

3.4
environment
surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation

[SOURCE: EN ISO 14001:2015, 3.2.1, modified – Note 1 to entry and Note 2 to entry have been deleted.]

3.5
environmental aspect
element of an organization's activities or products or services that can interact with the environment

[SOURCE: EN ISO 14001:2015, 3.2.2, modified – Note 1 to entry and Note 2 to entry have been deleted.]

3.6
environmental impact
any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects

[SOURCE: EN ISO 14001:2015, 3.2.4.]

3.7
improvement of the environmental performance
process of enhancing the environmental performance of a product over successive generations, although not necessarily in respect of all environmental aspects of the product simultaneously

[SOURCE: Directive 2009/125/EC]

4 Procedures

Requirements for the protection of the environment and improvement of the environmental performance of welding equipment during welding fabrication can originate from a number of sources such as:

— legal requirements, often at the national level;

— commercial requirements (customer requirements);

— economical requirements, e.g. related to insurance.

Annex B provides further comments on the possible requirements.

Absolute limits, e.g. emissions, can apply but protection of the environment is, as a general rule, a continuous process for which gradual improvements are aimed.

The check lists in the document can be used as a tool for determination of possible problem areas. In general this applies to the following situations:

— when planning a fabrication, the application of new methods of fabrication or new equipment;

— for identification of procedures for monitoring or checks of actual environmental aspects;

— for specification of procedures for handling, storage and disposal of environmentally harmful substances.

All check lists state possible environmental aspects. Many aspects can be identified during the planning stage as having no environmental impact. Others can be shown to be of no significance by monitoring or

checking the production processes. A few can result in further action to comply with the requirements. Annex A provides some general guidance for assessment and possible actions.

5 Check lists of possible environmental aspects

Table 1 — Common to welding fabrication

Common to welding fabrication	
Consumables	Check for: — Consumption of welding consumables during welding (filler material, shielding gas, backing gas, electrode coating); — Disposal of containers, packaging material, etc.; — Disposal of used consumables and waste materials.
Equipment	Check for: — Energy and fuel efficiency; — Generation of physical aspects, e.g. noise, heat and radiation; — Requirements for spare parts and consumables for maintenance; — Procedures for disposal of the equipment.
Work operation	Check for: — Disposal of scrap; — Emission of fumes, gases and aerosols; — Energy and fuel consumption; — Fire hazards and explosion risks whenever there is a risk of ignition; — Generation of physical aspects, e.g. heat, light, noise, radiation.
Several of the aspects listed above have a limited range of influence. It depends on the circumstances whether they represent an environmental aspect or not. Noise may e.g. not represent an environmental aspect when working in a large workshop but could be a serious problem when working on site or performing repair work in residential areas.	

Table 2 — Joint and surface preparation, weld dressing, surface treatment and cleaning

Joint and surface preparation, weld dressing, surface treatment and cleaning	
Cleaning, pickling and other chemical treatment	Check for: — Disposal of cleaning agents and other chemicals; — Vapours; — Leakage of consumables, cleaning agents, etc. from storage vessels representing a risk of contamination of soil, drains, watercourses or groundwater; — Emission of hazardous substances in the air.

Joint and surface preparation, weld dressing, surface treatment and cleaning	
Grinding and gouging	Check for: — Disposal of dust, used grinding wheels and other tools for grinding; — Dust explosions; — Emission of dust; [a] — Noise.
Sandblasting, shot blasting, shot peening, etc.	Check for: — Disposal of dust and used sand/shot; — Emission of dust; [a] — Noise.
Thermal cutting	Check for: — Disposal of scrap, slag or mud; — Emission of UV-/IR-radiation; — Emission of dust; [a] — Noise; — Use of coolants; — Emission of hazardous gases, e.g. nitrogen oxide (if relevant).
[a] Un-controlled emission of dust (not least when working on site) could represent a risk of contamination of soil, drains, watercourses or groundwater, e.g. by heavy metals.	

Table 3 — Welding, brazing and soldering

Welding, brazing and soldering	
Welding, brazing and soldering	Check for: — Disposal of non-permanent backing; — Disposal of slag, fluxes and powders; — Emission of UV-/IR-radiation; — Emission of fume, dust and gases [a]; — Noise; — Use of coolants; — Electrode stubs.
[a] Un-controlled emission of dust (not least when working on site) could represent a risk of contamination of soil, drains, watercourses or groundwater, e.g. by heavy metals.	