

Employer  
**SAKO BRNO A.S.**

Project  
**High-efficient combined heat and power facility utilizing renewable sources (OHB  
II - line K1)**

Date  
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# **PART III, APPENDIX A14.1**

## **WELDING AND INSPECTION OF PRESSURIZED PARTS**



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(OHB II - line K1)**  
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## 1. GENERAL REQUIREMENTS

Welding and welding inspection shall be performed in full compliance with the latest issue of the "Pressure Equipment Directive" (PED), the standards stated in section 2 below and all relevant Legal regulation in the Czech Republic.

Depending on the equipment category and the selected conformity assessment module applicable to the specific project, it may be necessary to involve a notified body to obtain the required approvals. All involvement of notified bodies shall be included in the Contract Object with full responsibility of the Contractor.

The Contractor is responsible for keeping up to date with requirements and submitting and maintaining all documentation required by the Authorities and the EU regulations and the standards stated in section 2 below.

The Contractor shall be responsible for the planning, execution and testing of the welding work and inspection in order to obtain and document the necessary welding quality.

Welding procedures (WPS) and inspection & test plans shall be presented to and approved by the Employer before manufacture begins (execution).

The Employer is entitled to carry out inspection and testing of the welding work at his own account by use of an authorized institute.

## 2. CODES OF PRACTICE, STANDARDS AND OTHER REQUIREMENTS

The boiler shall be designed, produced and tested in accordance with the latest issue of EN 12952 ("Water-tube boilers and auxiliary installations"), and in conformity with the Pressure Equipment Directive (PED) and the Czech implementation of these standards.

Correspondingly, for the pipe systems and pressure vessels included in the supply, the latest issue of EN 13480 ("Metallic Industrial Piping") and EN 13445 ("Unfired Pressure Vessels"), respectively, shall be followed.

The mentioned standards and the PED also include requirements for welders' qualifications, qualifications for NDT personnel, acceptance criteria and for the documentation requirements for metallic base materials in accordance with EN 10204:2004.

### 3. ADDITIONAL SPECIFICATIONS FOR WELDING

Generally, it is anticipated, that welding will be executed as electric arc welding, MIG or TIG welding. All welding seams in water, steam pipes and boiler parts shall be executed with a root run executed as TIG welding.

Pipe ends shall be checked for lamination. In case lamination is observed, the laminated pipe end shall be cut off and the new pipe end checked for lamination with ultrasound in a 25 mm wide section.

Pipe sections shorter than 100 mm shall not be used.

General for all piping special attention shall be made to alignment of tube bores and the requirements stated in EN 12952-5.

When performing welding work at the construction site, the use of steel structures, machines, and other installations as return conductor for the welding current is not allowed. Welding of temporary and permanent attachments on installation components requires the consent of the site supervision.

The base material shall be dry and the temperature of it shall not be less than stated in the standards or the manufacturer's recommendations, however not below 5°C.

Boxes containing basic covered electrodes shall be used within 4 hours after opening. Opened boxes shall be stored in a heated closet. Electrodes with damaged covering may not be used. Uncovered electrodes shall be stored and handled in a way so that other materials do not affect them.

All part-documentation shall be summarised and compiled in a final documentation report and is not considered as completed until it has been commented by the Employer and revised by the Contractor/manufacturer.

Unless otherwise stated in the codes of practice and standards mentioned in section 2, at least 10% of all welds shall undergo volumetric inspection. The volumetric inspections shall be representative for the performed welds, different types of welds and the welders who have performed the welding works.