

Employer
SAKO BRNO A.S.

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

Date
February 2021

PART III, APPENDIX A14.2

STEEL CONSTRUCTIONS FOR PROCESS



**PART III, APPENDIX A14.2
STEEL CONSTRUCTIONS FOR PROCESS**

Project name **High-efficient combined heat and power facility utilizing renewable sources
(OHB II - line K1)**
Version **1**
Date **2021-02-25**
Documentation **Procurement documentation – Part III – Employer’s Requirements**

Ramboll
Hannemanns Allé 53
DK-2300 Copenhagen S
Denmark

T +45 5161 1000
F +45 5161 1001
www.ramboll.com/energy

CONTENTS

1.	General	2
2.	Protective Treatment	3
3.	Control Plan	4

1. GENERAL

Unless otherwise specified the delivered steel shall be produced in accordance with the latest issue of EN 1090-1 and EN 1090-2.

The Contractor is responsible for keeping up to date with the Legal regulation and regulatory requirements including the EU regulations.

The design basis for the boiler steel structure shall be delivered for Employer's review as part appendix C1 *Reviewable Project and Design Data*. The boiler steel structure shall be executed in minimum EXC3.

2. PROTECTIVE TREATMENT

Protective treatment by painting shall be in accordance with the latest issue of EN ISO 12944.

- EN ISO 12944-1: General Introduction
- EN ISO 12944-2: Classification of corrosion categories
- EN ISO 12944-5: Protective Paint Systems

Requirements in EN ISO 12944 or the specifications below are additions or replacements to the corresponding requirements in EN 1090-1.

In general, recommendations and the word "should" in EN ISO 12944, shall be regarded as requirements.

The scope of the documentation and the deadline for its submission are shown in the control plan.

The use of electro galvanization will not be accepted as corrosion protection.

The following corrosion categories for steel structures are to be used when choosing the painting system:

Structure	Corrosion category	Expected Lifetime
Indoor steel structures	C2	Very high
Outdoor steel structures	C3	Very high
Exposed to weather conditions up to 6 months	C3	Very high
Exposed to regular cleaning during operation	C4	Very high
Exposed to condensate during operation	C4	Very high
Exposed to corrosive environment*	C5	Very high
Bunker Silo and reception hall	C4	Very high

* I.e. IBA basement, IBA handling, flue gas treatment, wastewater treatment, chemical rooms, stack, etc.

In acidic environments hot dip galvanizing will not be accepted as the only means of surface treatment.

3. CONTROL PLAN

The control plan below shall be detailed and incorporated into the Contractor's own project quality plan.

If the Contractor has a preferred standard control plan, which in general fulfils the below outlined, such standard control plan may also be submitted for the Employer's acceptance.

Subject	Reference	Method	Scope	Time	Accept criteria	Documentation
Material	EN1090-2 Cp. 12.2					
Steel quality		Check of certificates delivery notes	100%	Prior to fabrication	EN1090-2 Cp. 12.2.1	Certificates and signed delivery notes
Lamination		Check of NDT-report	Subject demanded without lamination: 100%	Prior to fabrication	EN1090-2 Cp. 12.2.1	Control form/Certificate
Filler material		Check of data sheets and delivery notes	100%	Prior to fabrication	EN1090-2 Cp. 12.2.1	Control form and signed delivery notes
Bolts		Check of marking and delivery notes	100%	Prior to fabrication	In accordance with project	Control form and signed delivery notes
Fabrication	EN1090-2 Cp. 12.3					
Planning of production		Study	100%	Prior to fabrication	Practicable production plan – EN1090-2 Cp. 9.3.2	Checked quality plan
Contact areas in friction connections		Visual measuring	100%	At factory	EN1090-2 Cp. 8.8	Control form
Components from Subcontractor		Visual or measuring	100%	Prior to reception on site	Faultless components	Control form
Planning of production		Study	100%	Prior to fabrication	Practicable production plan	Checked quality plan
Finished component from factory		Visual	100%	Receipt on site	Faultless component	Control form
Welding	EN1090-2 Cp. 12.4					
Welders qualification		Certificate	100%	Prior to fabrication	EN1090-2 Cp. 7.4.2	Weld certificate

Subject	Reference	Method	Scope	Time	Accept criteria	Documentation
WPS		Data sheet	100%	Prior to fabrication	EN1090-2 Cp. 7.4.2	WPS
Welded connections		Visual/NDT control	EN1090-2 Cp. 12.4.2	After welding	EN1090-2 Cp. 12.4.2	Control form
Mechanical components for connections	EN1090-2 Cp. 12.5					
Bolted connections, marking and torque		Visual.	100%	During execution	EN1090-2 Cp. 12.5.1 and 12.5.2	Control form
Surface treatment	EN1090-2 Cp. 12.6					
Offered system specifications		Data sheet	Every system in use	Prior to contract	EN ISO 12944-5 and description	Description of systems
Contractors description of work/ -Instruction		Data sheet	Every system in use	Prior to execution	EN ISO 12944-5	Note from paint Contractor
Procedure for reparation works		Data sheet	Every system in use	Prior to execution	EN ISO 12944-5	Note from paint Contractor
Steel surfaces, degree of corrosion, faults in surfaced		Visual	Every time	Prior to painting	EN ISO 12944-4 EN 1090-2 Cp. 12.6	Control form
Mechanical cleaning, degree of cleaning		Visual	Every time	Prior to painting	EN ISO 12944-4	Control form
Paint, appearance		Visual	Every time	During execution	EN ISO 12944-7	Control form
Finish control, coating thickness after treatment		Visual and electromagnetic measuring of thickness	Spot checks	After execution	EN ISO 12944-7	Control form
Assembly	EN1090-2 Cp. 12.7					
Planning		Study	100%	Prior to assembly works	Practicable assembly	Checked assembly plan
Provisional supports		Study	100%	Prior to assembly works	Acceptable Provisional supports	Checked plan
Geometry adjacent building parts		Visual and measurement EN 1090-2 Cp. 12.7.3	Control of interface to adjacent buildings	Prior to fabrication works/ commencement of assembly	EN1090-2 Cp. 11 and Cp. 12.7.2+3	Control form

Subject	Reference	Method	Scope	Time	Accept criteria	Documentation
Foundation bolts		Visual and measurement	Placement Tightening	Prior to cast-in and during tightening	EN1090-2 Cp. 11.2.3.2	Control form
Geometry complete construction		Measurement	Primary measurements: 100% Secondary measurements: Spot check	After execution	EN1090-2 Cp. 12.7.3	Control form