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Learning Resources for the course:

Steel Structure Inspector Course for EN 1090

This document covers only:

Competence unit no. CU-9 DIMENSIONAL CONTROL AND DELIVERY DOCUMENTATION

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Structure of this document:

Introduction.

Objective.

A. Teacher Guideline.

B. Students Guideline

C. Learning resources

D. Students tasks

E. Appendix.

Introduction

Note. It is assumed that the teacher has in depth knowledge of the industry requirements for the topics discussed in this CU.

**Reference document covering the course structure, see document D2.2
The content of this document covers deliverables for D4.1 and D4.2**

The course consists of a number of CU's. A CU is the smallest element in the education system that specifies Learning Outcomes, Skills and Competence. A CU can be delivered individually or it can be delivered in combinations with other CUs in order to cover a defined range of knowledge and competence.

The course will be work-based and follows the manufacturing process from the order is received until the welded product is ready for delivery. The inspector is responsible for producing documents that ensure traceability of the components and related manufacturing action throughout this process.

In CU-9 the content of Inspection and Testing Plan (ITP) will be summarized in Product Record Book or Product documentation book. This book shall contain all documentation relevant for the product including repair reports and any deviation reports.

All CUs have practical tasks for the students. The course requires that the student has access to a workshop where products are manufactured. The products in the workshop will be used during the practical training sessions in this course.

Please also note that the learning resources summarized and added in chapter C, is the deliverables harvested from 3 different pilot courses in Hungary and Slovenia.

Objective.

The objective of this CU is to create a Product Documentation Record (PDR) book that entails all relevant documents that have been defined in the Inspection and Testing Plan developed in CU-3.

The PDR will serve as background documentation for the approval of the product and handover of the responsibility and guarantee of the product.

A. Teacher Guideline.

Content of the Teacher Guideline:

The CU 9 covers documentation before delivery. The documents should have been specified and developed through CU 3.

In this CU it is expected that the students have created all documents that they have specified through the Inspection and Testing Plan (ITP) in CU 3.

They should verify that the documents are available and they should be able to understand and explain why an ITP is important and why it is required.

In addition a Document Record Book, (or Document Register) containing the as-built documentation should be created through this CU.

We must assume that the students have examples of this in their companies.

Try to get examples from the students and use these examples for discussions.

One important aspect of the Document Record book is the reference of information back to the product drawing which will ensure that you get full traceability.

B. Students Guideline

The CU 9 covers documentation before delivery. You should have specified and developed the documents should through CU 3. In CU 3 you should have developed an Inspection and Testing Plan, ITP.

In this CU you will follow up the ITP and verify that it contains all documents required for the product.

In addition a complete Document Record Book should be delivered containing all relevant documents for the product, with cross reference to the drawings.

We assume that you already have examples of this in your company.

If possible share this experience with the other students and the teacher and discuss if the examples really cover the requirements.

Time schedule for CU 9: 6 hours (2 hours studying, 2 hours practical work and 2 hours zoom meeting)

Under folder with “Resources and activities”. The material is available as pdf-files, word- and excel files, and video material (online at YouTube and as mp4 files stored in the learning management system). Please notice that the written assignments should be answered by using the word-files that are embedded into the description of the tasks. **You shall not use** the Office package installed on your own device.

Type of work:

You have 2 weeks to complete each CU. The first week should be preparation activities, while the second week should be used to solve the tasks, exercises and hand in your results to the teacher. The learning activities include individual studies, work-based training in your company, group activities, classroom training and a digital Zoom video meeting with the teacher once per week (Saturdays) of using zoom meetings

C. Learning resources

Support resources from selected from the Internet.

| Title | Producer | Reference | Language | No of pages | Copy-right |
|--------------|-----------------|------------------|-----------------|--------------------|-------------------|
|--------------|-----------------|------------------|-----------------|--------------------|-------------------|

Learning resources developed in the project.

| Title | Producer | Language | No of pages | Copyright |
|---|-----------------|-----------------|--------------------|------------------|
| Preparation of and final documentation handover | MHtE | English | 10 | No |

Video resources created for this CU

| Title | Producer | Time | Reference | Language | Format | Copy-right |
|--------------|-----------------|-------------|------------------|-----------------|---------------|-------------------|
|--------------|-----------------|-------------|------------------|-----------------|---------------|-------------------|

D. Students tasks.

*Inspection of documentation that have been created during manufacturing.

*Verify documents that should be stored in the company and documents to be submitted to client.

*Write a status report after document control for the product

*Specify the content in the fabrication record book

Tasks for the students:

1. Establish as-built documentation related to inspection
2. Create an inspection log book with all inspection documents

E. Evaluation

1. Did you find this module relevant ?

- * Yes
- * No
- * I don't know

2. Was it time enough for going through the material ?

- * Yes
- * No
- * I do not know

3. Was the resources relevant for this module ?

- * Yes
- * No
- * I do not know

F. Appendix.

Learning resources developed for this CU.



Magyar Hegesztéstechnikai és Anyagvizsgálati Egyesülés

CU9

Preparation of handover and final documentation



Delivery documentation:

A document and a set of records prepared by the company on the realized state of a given product production (professional task, project), the content of which has been agreed with the customer in advance.

Closing documentation :

In addition to the scope of the handover documentation, it includes all external and internal records related to the construction task from the publication of the task (request for quotation) to all files prepared during the preparation and implementation phases.



Contractor's declaration:

A written declaration by the construction company that it has completed the construction works in accordance with the terms of the construction contract, has complied with their technical correctness in accordance with the construction design documentation and is ready to start the commissioning procedure.



Clear identification of the handover documentation must be ensured (eg with an “As-built” or “Plan D” stamp).

Documentation:

Printed or

Electronic

Formally bound, required by the buyer



- Contents of the handover documentation:
- construction specifications,
 - documents generated during construction



Minimum content of handover documentation:

- Design documentation modified according to implementation
- Company documents (eg certificates, project organization chart)
- Quality certificates (eg base and feedstock, prefabricated structures, other built-in elements, materials).
- Certificates of qualification of persons (eg material testers', welders' certificates)
- Documents related to welding in case of welding task (eg WPQR, WPS, seam map, seam book)
- In case of heat treatment, the related documents (eg heat treatment protocol)



Minimum content of handover documentation:

- Isometric drawings
- Construction log copies
- Protocols (eg workspace handover, measurement)
- Pressure test certificates (tightness, strength)
- Permits (eg installation, work)
- Examination documents (eg RU, PT, radiographic records, films on request)
- Contractor's declarations, permits (eg declaration of conformity, CE certificate, technical description, document certifying the qualification of the responsible technical manager, declaration of the responsible technical manager, contractor's declaration)



Minimum content of handover documentation:

- Orders, offers, contracts and related correspondence
- Tender accompanying and contract control sheet
- Table of Contents of Transfer Documentation
- Construction log
- Quality and / or environmental plan
- Workspace acceptance certificate
- Test and inspection plan
- Ad hoc technologies
- Procurement documents



General content of the final documentation:

- Material, equipment orders
- Material certificates for raw materials and welding consumables
- Quality certificates for fittings
- Quality certificate
- Delivery notes
- Welding roster
- Non - compliance reports
- Other construction notes
- Inspection and test reports
- Environmental notes



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Thank you for your attention!