

Topic 02: Construction Process of foundations

Task # 2:

- Prepare the **technological regulation** for design of reinforced concrete foundation structure for your object, determine the cubic capacity of concrete, steel and formwork - for training purposes, determine the area of formwork - classic or systemic.
- Draw **additional pictures** by hand (cross section and axonometry of formwork)

Technological regulation

1) General Information

1.1 General information about the construction

- Identification of the building...)
- Separation of the building on objects
- Location
- Slope of the area, the conditions for foundations,
- Number of floors
- Material properties
- General information on site facilities

Technological regulation

1.2 General information about the process

- Identification of the process
- type of foundation
- Type of Reinforcement,
- Type of Formwork
- Concrete plant + fabrication of reinforcement

Technological regulation

2) Preparedness of construction site

2.1 Preparedness of construction site

- inter-site roads
- lifting mechanisms
- cells for construction
- dumps

Technological regulation

2.2 Takeover workplace

- Between the subcontractor and the main contractor
- Conditions for acceptance
- activities that should be completed in the previous phase

Technological regulation

3) Materials, transport, storage

3.1 Calculation of material

- List of basic material
- supplementary material
- cubic volume of concrete and steel weight
- Parts of formwork

Technological regulation

3.2 Transport

3.2.1. Primary transport

- by trucks: material for the formwork and reinforcement
- Mobile concrete mixer

3.2.2. Secondary transport

- in the construction site
- small things will be handmade
- concrete pumps

Technological regulation

3.3 Material storage

- storage of the reinforcement
- storage of materials for classic formwork

4) Working conditions

4.1 General working conditions

- Preparation of the workplace
- temperature, requirements to work in the winter

4.2 Working Conditions of process

- energy, lighting, editing places - dumps, access roads...

Technological regulation

5) Technological prescription

- Chronological sequence and description
- following steps:
 - Manual cleaning of the excavation, Thickness 10cm,
 - Creating a blinding concrete
 - Technological pause
 - Alignment of the foundation structure,
 - Execution of classical formwork (by carpenters)
 - Placing of reinforcement
 - Execution of other side of formwork
 - Concrete Pouring and curing of concrete,
 - Technological pause,
 - Removing the formwork

Technological regulation

6) Staff (group of workers)

- composition of the working group
- the master - (!! no construction manager, but the champion and the most experienced person in the squad
- not forget to machine operators
- required qualifications
- responsibilities of individual workers

Technological regulation

7) Machinery and equipments

7.1 Necessary machines

- heavy machinery
- Concrete pump
- concrete mixers

7.2 Required tools and equipment

- manually tools
- necessary equipment - shovels, spades, buckets, hammers, etc...

Technological regulation

7.3 Required and recommended personal protective gear and equipment

- Helmets
- Vests
- work clothes
- Footwear

Technological regulation

8) Quality control and Checks

8.1. Input control

- takeover of previous works

8.2. Interoperation control

- control during the construction
- required inspection and testing during

8.3. Output control

- after completion of the work
- Documentation of performed tests

Technological regulation

9) Health and safety

- Government Regulation no. **591/2006** Coll. (minimum requirements for safety work)
- Government Regulation no. **362/2005** Coll. (risk of falling from height and to the depth)
- Government Regulation no. **378/2001** Coll. (safe operation and use of machinery)

Technological regulation

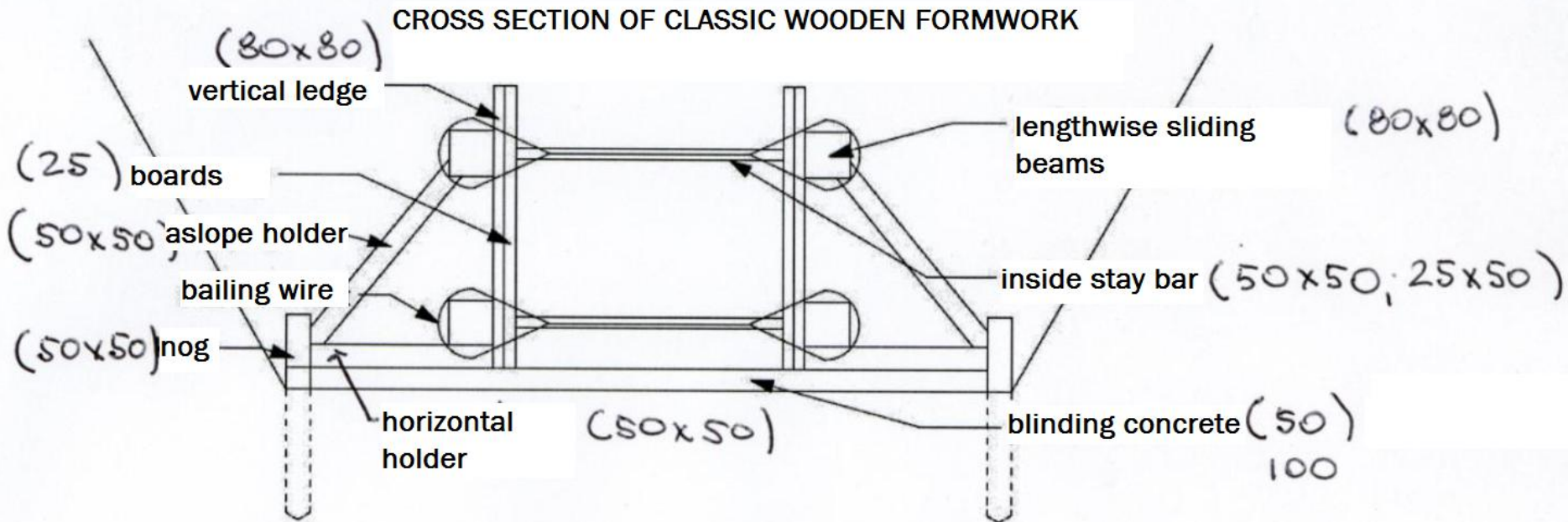
10) Ecology

- Law no. 185/2001 Coll. – waste act
- Act. no. 381 / 2001Coll. - waste Catalogue

- Write a main waste for the the stage (foundations).
- Code can be found in the Waste Catalogue no. 381 / 2001Sb.
- under the category number 17 - Construction waste

Draw additional pictures (appendix)

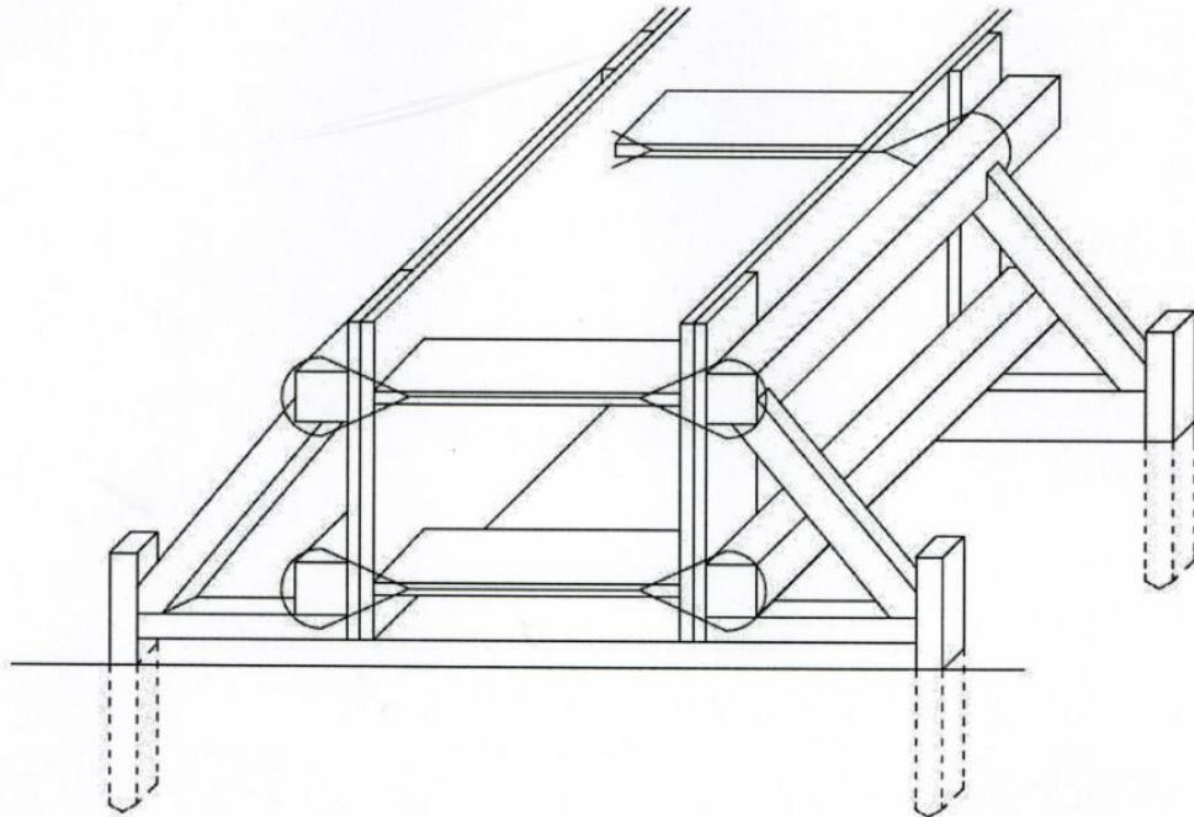
Appendix No. 1 - CROSS SECTION OF CLASSIC WOODEN FORMWORK



Draw additional pictures (appendix)

Appendix No. 2 - AXONOMETRY OF CLASSIC WOODEN FORMWORK

AXONOMETRY OF CLASSIC WOODEN FORMWORK



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THANK YOU !