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| ECVET Earth Building | Production Adobe, CEB, extruded bricks | Unit P |
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| Learning outcomes | | Levels 3+4 |
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| KNOWLEDGE | SKILLS | |
| <ul style="list-style-type: none"> - Earth masonry techniques and traditions - Brick / block types and characteristics - Relevant codes of practice and current standards for production - Conditions of use for different brick types - Test methods and results - Moulded, compressed or extruded process - Production methods - Tools, machinery and equipment: <ul style="list-style-type: none"> o Materials for moulds (wood, metal, others) o Criteria for selection of appropriate equipment (moulds, press, racks, dryers...) o Types of drying racks/spaces for bricks/blocks o Producers and suppliers for moulds and materials - Properties of clay, earth, mix and appropriate additives - Drying and curing processes - Storage methods - Quality control at each step - Health and safety regulations | <p>Production line</p> <ul style="list-style-type: none"> - Shaping: use different methods for mould preparation, infill, unmoulding - Curing and drying: <ul style="list-style-type: none"> o create conditions for curing and drying according to brick type and site conditions o use appropriate covers/shelter/drying racks to support the curing and drying process - Prepare bricks and blocks for transport and delivery - Implement internal quality control - Label brick types and identify different batches - Carry out external quality control and lab testing if necessary <p>Maintenance</p> <ul style="list-style-type: none"> - Clean and maintain moulds, machinery and equipment <p>Planning and organisation</p> <ul style="list-style-type: none"> - Read drawings, specifications, bills of quantities - Read test results - Calculate quantities of mix and manage procurement - Design and manufacture simple moulds - Prepare and arrange the areas for shaping, curing, drying, storage | |

COMPETENCE

Level 3

Decision making process

- Select moulds (manual and mechanic)

Planning and organising for own work

- With the mix and equipment provided, plan and organise each step of the production, for a defined order of bricks or blocks (humid or plastic process)

Execution, quality control and coordination within the earth building team

- Work in accordance with the schedule of works, adjust to general work process on site, instruct L1 + L2 workers of the EB team
- Check if all the steps involved conform to the specification and program
- Identify problems and report
- Implement quality control for own work during shaping, curing, drying, and storage until delivery:
 - o Manage and check the fabrication process (infill)
 - o Control moisture content (shrinkage and dimensions)
 - o Control the drying process (colour, superficial drying)

Communication beyond the earth building team

- Liaise with non earth-building specialists on the conditions for use, storage and transport

COMPETENCE

Level 4

Decision making process

- Select machinery and equipment

Planning and organising for team work

- Plan and organise all the steps of the production

Execution, quality control and coordination within the earth building team

- Supervise and coordinate the entire work of the earth building team according to the specifications and program
- Report mix quality and production progress
- Identify significant problems and intervene
- Put in place quality control during shaping, curing, drying and storage until delivery

Communication beyond the earth building team

- Liaise with supervision and design team
- Liaise with other trades and professionals, coordinate and sequence earth works within the general schedule
- Liaise with non earth building specialists on the conditions for use, storage and transport

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| Criteria and Indicators for the Assessment of Skills | | Levels 3+4 |
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| Criteria | Indicators | |
| Quality of dry bricks | <ul style="list-style-type: none"> - Bricks meet the specification regarding shape, size, density - Edges are clean / sharp, brick surface has no cracks - Resistance of the bricks to abrasion and compression conforms to the specifications - Composition and colour are homogeneous | |
| Production line <ul style="list-style-type: none"> - Shaping - Curing - Drying - Storage | <ul style="list-style-type: none"> - The production line is efficiently organised and prepared - Damaged or broken bricks are recycled etc. (no waste of material) - Quality controls are executed at the 4 steps - Bricks are protected from water and impacts during handling, drying and storage - The storage supports the drying process | |
| Equipment | <ul style="list-style-type: none"> - Forms/moulds are chosen according to: <ul style="list-style-type: none"> - dimensions - material - finishing - quality - Press, carriers, racks, are chosen according to site conditions and to the product | |

Ensure that standards of work and materials comply with relevant codes of practice and to current standards.