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P - 284 / 90 / 15

B = 90 mm
A = 284 mm
Plate

C = 15 mm

X - A / B

P  Plate
C  Connection
B  Beam
L  Link
E  Ending

X  Cut

Male / Female

C1
C2

B1  B2  B3
L1  L2  L3

E1  E2  E3

X1  X2

MM  MF  FF
STOOL №1

1. Diagram of stool components.
2. Assembly steps:
   - Step 1: Attach components 12, 8, 10, and 8.
   - Step 2: Assemble 360 x 330, 300 x 90, 1, and 2.
   - Step 3: Connect 8, 2, and 58.
   - Step 4: Assemble the final components 2 x.

Toolbox
EXAMPLE

= 240 mm
= 8 x 30 mm

= 120 mm
= 4 x 30 mm

5°
3°

L3 - 360 / 5 / 5 - MF

2 x 30 = 60

E3 - 60 / 5 / 5 - M
EXAMPLE

EXAMPLE

TRANSFORMATION

TRANSFORMATION

E3 - 60 / 5 / 5
L3 - 360 / 5 / 5 - MF
L3 - 270 / 5 / -5 - FF
X1 - 120

9 x 30 = 270

B3 - 310 / 5 / -5
X2 - 20
X2 - 263

L3 - 270 / 5 / -5 - FF
X1 - 120

9 x 30 + 2 x 20 = 310

B3 - 310 / 5 / -5
X2 - 20
X2 - 263

L3 - 360 / 5 / 5 - MF
E1 - 60 / 5 / 5 - M
STOOL №1

- Wood plate (350 mm x 300 mm)
- Wood plate (270 mm x 90 mm) x 2
- Wood plank (9 mm x 27 mm x 7250 mm)
- 30 dowels
- Handsaw
- Hammer
- Drill
- Wood glue

Materials:

1 x P - 350 / 300 / 35
20 x C1
4 x E3 - 54 / 5 / 5 - M
4 x L3 - 360 / 5 / 5 - MF
2 x P - 270 / 90 / 8
2 x L3 - 270 / 5 / -5 - FF
X1 - 120
1 x B3 - 310 / 5 / -5
X2 - 20
X2 - 263
L3 - 270 / 5 / -5 - FF
X1 - 120

L3 - 360 / 5 / 5 - MF
S H E L F  № 1

- wood plate (9 mm x 300 mm x 1140 mm) x 4
- wood plank (9 mm x 27 mm x 44,628 mm)
- 72 dowels
- handsaw
- hammer
- drill
- wood glue

ST O O L  № 1

C1

wood plate [9 mm x 300 mm x 1140 mm] x 4
wood plank [9 mm x 27 mm x 44,628 mm]
STOOL №1

P - 1140 / 300 / 35

L1 - 1196 - FF

Furniture Link L1
L3 - 1167 / 3 / 3 - FF
X3 - 90 / 3
X2 - 210
X2 - 480
X2 - 750
X2 - 1020
Modules

STOOL №1

**E3 - 54 / 3 / 3 - M**

- **B** Beam
- **L** Link
- **C** Connection
- **P** Plate
- **E** Ending

Dimensions:
- B1: 27 x 3
- B2: 27 x 3
- B3: 27 x 3
- L1: 27 x 3
- L2: 27 x 3
- L3: 27 x 3
- C1: 27 x 3
- C2: 27 x 3
- E1: 27 x 3
- E2: 27 x 3
- E3: 27 x 3
Male / Female
**Ending E**

- **E1**
- **E2**
- **E3**

**Male / Female**

- **MM**
- **MF**
- **FF**

**E1**

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**A (mm)**

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**F**

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**M**

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E2 \( A[\text{mm}] / B[^\circ] \)

E3 \( A[\text{mm}] / B[^\circ] / C[^\circ] \)
PLATE P
A[mm] / B[mm] / C[mm]

C - C1 - C2
Connections

M8

C 1

M8

C 2
The development and production system that is explained in the Selfmakers manual can be used in different scaled models. The dimensioning can and should evolve during the process. An important condition for growth is the generation of donations and/or attaining public funding. Starting with one of the first two scales lowers the starting barrier considerably.

<table>
<thead>
<tr>
<th>ORGANISATION</th>
<th>SPACE</th>
<th>ACTIVITY</th>
<th>PERSONNEL</th>
<th>EQUIPMENT</th>
<th>MATERIALS</th>
<th>RUNNING COSTS</th>
<th>ECONOMICAL SUSTAINABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SESSION</strong></td>
<td>available space in asylum centers or social facilities (including schools), must be cleanable and acoustically separated from neighbors</td>
<td>furniture for personal use will be produced in regular meetings</td>
<td>few organizers, open group of predominantly refugee participants</td>
<td>hand tools, use of the existing infrastructure such as water boilers, cleaning equipment</td>
<td>precut planks and plates, few variations</td>
<td>marginal energy cost, wood glue, sand paper, etc.</td>
<td>based on the center’s budget and donations of tools and materials. A permanent material donor is utterly helpful</td>
</tr>
<tr>
<td><strong>LOW-VOLUME PRODUCTION WORKSHOP</strong></td>
<td>own workshop space with low requirements, low use of electricity sanitation and break spaces</td>
<td>furniture for personal use will be produced in regular meetings, donations to the center</td>
<td>organization group of norwegians and refugees, mixed but periodic participants</td>
<td>hand tools, hobby carpentry machines</td>
<td>precut planks and plates</td>
<td>marginal energy cost, wood glue, sand paper</td>
<td>rent for the space</td>
</tr>
<tr>
<td><strong>BATCH PRODUCTION WORKSHOP</strong></td>
<td>own carpentry workshop space, requirements depend on available tools, if necessary heavy current</td>
<td>furniture for personal use will be produced in regular meetings, furniture supply for national asylum centers</td>
<td>organization group of norwegians and refugees, mixed but periodic participants</td>
<td>extensive carpentry equipment, including table saws and drilling presses</td>
<td>a high range of raw materials can be processed depending on the available tools</td>
<td>medium energy cost, wood glue, sand paper</td>
<td>rent for the space</td>
</tr>
</tbody>
</table>

A permanent material donor is utterly helpful, public funding.
Several tools and materials can be useful. The range of processable construction materials depends on the available tools and vice versa. Most stationary machines require professional HSE introductions, supervision and particular infrastructural features, such as ventilation, heavy current and security equipment.

**MEASURING EQUIPMENT**
- measuring meters
- carpenter squares
- metal rulers

**NON-ELECTRIC HANDTOOLS**
- handsaws
- (Japanese saws, fine saws)
- hand drills
- chisels
- clamps
- hammers
- vices
- planers

**ELECTRIC HANDTOOLS**
- electric drills
- electric planers
- jigsaws
- circular blade saws

**STATIONARY TOOLS**
- chop saw
- table saw
- drill press
- belt sander
- band sander
- lathe
- sewing machines

**SAFETY EQUIPMENT**
- security gloves
- security glasses
- ear protection
- work clothes
- dust masks

**PRE CUT MATERIAL**
- plywood / massive
- wood – cut into plates and planks

**RAW MATERIAL**
- uncut plywood
- uncut wood
- ropes
- fabric
- metal profiles
- bamboo
**COMMUNICATION**

Public communication is essential for creating a sustainable structure by donations and support. Furthermore, a network of international participants has to be created and maintained.

**WEBSITE**
The selfmakers homepage www.selfmakers.org informs about the concept and the created furniture to address both, participants and donors.

**SOCIAL MEDIA SELFMAKERS**
Digital communities can help to create a sustainable network of donators and volunteers.

**SOCIAL MEDIA WORKSHOP**
The individual workshops should have a separate community in addition, as done for the asylum centers as well.

**CENTER STRUCTURE**
The communicative structure in the asylum centers should be used to mobilize capacities and facilities.

**NEWS PAPER**
Local and national newspapers are still very powerful options to promote the concept in order to generate donations and support.

**PHONE CONTACT**
Most arrangements should be done in direct contact to avoid misunderstandings and save time.

**E-MAIL CONTACT**
As far as our experience goes, e-mail communication is of limited suitability, since answers might take long time or stay away.

**PERSONAL VISITS**
Direct contact remains the best and irreplaceable opportunity to interest possible donators in the project.

**PUBLIC COMMUNICATION**
Public communication is essential for creating a sustainable structure by donations and support. Furthermore, a network of international participants has to be created and maintained.