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ID］Maintenance and Storage of Wood－Course：Manual woodworking techniques．Instruction examples for practical vocational training（Institut fr Berufliche Entwicklung， 15 p．）
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## Preliminary Remarks

The present booklet contains 3 selected instruction examples to acquire the necessary knowledge and skills for the maintenance and storage of wood.

These particular examples are preferably intended for application of the manual technique of natural open-air drying of wood. But with slight modifications, the examples 2 and $\mathbf{3}$ can also be used for technical drying of wood in drying kilns.

For each example, the necessary materials, tools, measuring and testing means, auxiliary accessories and previous knowledge of the trainees are specified to facilitate the preparation and execution of the work.

The sequence of operations given for each example contains the order of working steps leading to the correct completion of the task. Peculiarities of craftsmanship are pointed out. A working drawing showing the recommended sizes is attached to each instruction example for better understanding of the task. Depending on the
local and climatic conditions at the timber yard as well as on specific properties and dimensions of the wood to be stored，modifications thereto can be made by the instructor．

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Instruction Example 8．1．：Sawn Timber Storage Yard
This example serves to practise the preparation of a storage yard for sawn timber for natural open－air drying of the piled up wood．

Material


Figure
Pile stones of concrete or natural stone
Dimensions:
Width: at
least 400 mm
Length: at
Height: at
least 400 mm
least 300 mm
Squared timbers (impregnated with preservatives)
Dimensions:
Width: at
least 100 mm
Length: at
Thickness: at
least 1000 mm
least 100 mm

## Tools

If necessary, earthwork too Is like pick, shovel, spade, hoe

Measuring and testing means
Measuring tape, folding or solid rule, long straightedge, water level, stretching line

## Necessary previous knowledge

## Types of wood, properties of wood, measuring, testing

| Sequence of operations | Comments |
| :--- | :--- |
| 1. Decide on the location of the sawn <br> timber storage yard. | Take into account the necessary distances to <br> neighbouring premises and the main wind <br> direction. |
| 2. If necessary, clean the yard to remove <br> dirt, wood and bark waste. |  |
| 3. Plane the yard (if necessary). |  |
| 4. Lay out the pile stones on the yard with |  |
| equal length and width distances. | Make sure that the centre-to-centre distance <br> are correct with respect to the dimensions and <br> type (different weights) of the wood to be <br> stored. |
| 5. Check the position of the pile stones for <br> horizontal position and alignment in height <br> as well as straightness in length and width <br> by means of long straightedge or <br> stretching line and water level. | Put the straightedge on the pile stones in <br> longitudinal and transverse directions and <br> lompare or tightly stretch the line over the <br> pile stones and compare. Put water level on <br> the straightedge or hold it at the line. |
| 6. If necessarv, chanae the position of the | Adiust the heiaht alianment of the pile stones |


| pile stones until the required position as <br> per 5. above is achieved. | by adding or removing soil on the yard. |
| :--- | :--- |
| 7. Put the squared timbers on the aligned <br> pile stones in a straight line and in parallel <br> with each other. | The longitudinal grain direction to be in main <br> wind direction. |
| 8. Check the position of the squared <br> timbers as per steps 5. and 6. above. | Similarly take into account the comments on <br> steps 5. and 6. above. |



Sawn Timber Storage Yard

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Instruction Example 8．2．：Box－type Pile
This example serves to practise the construction of a box－type pile．Box－type piles are applied for sawn timber sorted boardwise or blockwise．

Material


Figure
Non-edged or edged boards
Dimensions:
Width: as available
Length: at least 2000 mm
Equal thickness: at least 25 mm
Tools
Metal hammer 250 to 500 g
Measuring and testing means
Measuring tape or folding rule, long straightedge, stretching line, water level Auxiliary accessories

## Pile strips (width: $\mathbf{2 5} \mathbf{~ m m}$ to $\mathbf{5 0} \mathbf{~ m m}$ )

Dimensions:
Width: $\quad 25 \mathrm{~mm}$ to 50 mm
Length: at least 1000 mm
Thickness: at least 25 mm
Ladder (scaffold), covering plates, identification plate, nails
Necessary previous knowledge
Types of wood, properties of wood, measuring, testing, preparation of a sawn timber storage yard

| Sequence of <br> operations | Comments |
| :--- | :--- |
| 1. Check the prepared <br> timber yard and pile base <br> for meeting of <br> requirements. | Check the position of the pile stones for joint horizontal and <br> aligned height and for straight-ness in length and width by <br> means of long straightedge or stretching line with water level. If <br> necessary, adjust the position of the pile stones until the <br> required position is achieved. |
| 2. Put pile strips <br> longitudinally on the <br> squared timbers of the <br> pile base. | The grains of the squared timbers and of the pile strips to have <br> the same direction. Put one pile strip on each squared timber. <br> Make sure that the pile strips have the same thickness. |
| 3. Put several boards | The faces of the boards nearer to the heart to show upwards. |

side by side and transversely on the pile strips until the intended

Always let the edges of one cross-grained face (cross-sectional area) of all boards end with the edges of an outer pile strip.
2. Putidith seconched er of Put the pile strips exactly vertically above the pile strips pile strips on the first beneath (check with water level).
layer of boards according to step 2. above.
5. Put on the second Take into account the comments on step 3. above. Put the layer of boards according frontal longitudinal narrow face of the first board and one crossto step 3. above. grained face each vertically above the narrow faces of the bards-beneath (check with water level).
6. Repeat the steps $4 . \quad$ Use safe ladder or scaffold when working in bigger height. and 5 . above until the intended pile height is reached.
7. Cover the top of the box-type pile with covering plates.
8. Identify the pile by fixing an identification plate.


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Instruction Example 8．3．：Double－block Pile
Instruction Example 8．3．：Double－block Pile
This example serves to practise the construction of a double－block pile．Block－type piles are applied for high－quality timber only．

Material


Figure
Unedged-sawn boards completely belonging together, originating from at least two tree trunks or partial lengths from one tree trunk

Dimensions:
Width: as available
Length: at least 2000 mm
Thickness: at least 25 mm

## Tools

Metal hammer $\mathbf{2 5 0} \mathbf{g}$ to $\mathbf{5 0 0} \mathbf{g}$
Measuring and testing means
Measuring tape or folding rule, long straightedge, stretching line, water level

## Auxiliary accessories

Pile strips
Dimensions:
Width: 25 mm to 50 mm
Length: double the bigger board width (trunk diameter) +200 mm
Thickness: at least 25 mm
Ladders (scaffold), covering plates, identification plate, nails

## Necessary previous knowledge

Types of wood, properties of wood, measuring, testing, preparation of a sawn timber storage yard

| Sequence of operations | Comments |
| :--- | :--- |
| 1. Check the prepared timber <br> yard and pile base for meeting of <br> requirements. | Check the position of the pile stones for joint horizontal <br> and aligned height as well as for straightness in length <br> and width by means of Iong straightedge or stretching <br> line and water level. Check the position of the squared <br> timbers. |
| 2. Arrange the boards to origin |  |
| with respect to tree trunk and to |  |
| order of sequence. | Measure and compare the width of the boards. Visually <br> check and compare the course of the longitudinal edges <br> of the boards and of the annual rings (at the cross- <br> sectional areas). |
| 3. Put pile strips lonaitudinallv on |  |




Double-block Pile

