

**Measuring and Scribing – Course: Manual woodworking techniques.
Instruction examples for practical vocational training**

Table of Contents

<u>Measuring and Scribing – Course: Manual woodworking techniques. Instruction examples for practical vocational training</u>	1
<u>Preliminary Remarks</u>	1
<u>Instruction Example 1.1.: Board</u>	1
<u>Instruction Example 1.2.: Frame Timbers</u>	3
<u>Instruction Example 1.3.: Scribing with Templates</u>	5

Measuring and Scribing – Course: Manual woodworking techniques. Instruction examples for practical vocational training

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Preliminary Remarks

The present booklet includes three instruction examples by means of which measuring and scribing exercises with sawn timber and panels can be carried out.

The mastering of these working techniques is the precondition for

- a professional cutting of wood-based materials
- the sawing to final size
- the planing to width and thickness and
- the manufacturing of wood joints of all kinds.

To facilitate the preparation and execution of the work, the necessary materials, tools and auxiliaries are specified for each instruction example. Necessary previous knowledge of the features of the wood-based materials as well as of wood defects and their consideration when scribing is mentioned. The sequence of operations for each instruction example includes the order of the working steps which should be followed in the working techniques of “Measuring and Scribing” in order to reach an economical use of the working materials and a high dimensional accuracy.

A working drawing is added to each instruction example showing the required shapes and dimensions of the workpiece to be manufactured.

In the instruction examples preparatory works on the workpieces are carried out which after further working steps like sawing, planing, manufacturing of joints and so on result in ready-made commodities.

Instruction Example 1.1.: Board

Measuring and scribing of wide faces is practised on the board.

Material

Unedged-sawn boards of hard- or softwood.

Measures depend on the work order but should be no less than

thickness: 30 mm

width: 200 mm

length: 1500 mm

Tools/Measuring and testing means

Folding or steel rule or measuring tape, working square

Auxiliary accessories

Working stands, work or carpenter's bench, straightedge, pencil, coloured chalk (if available)

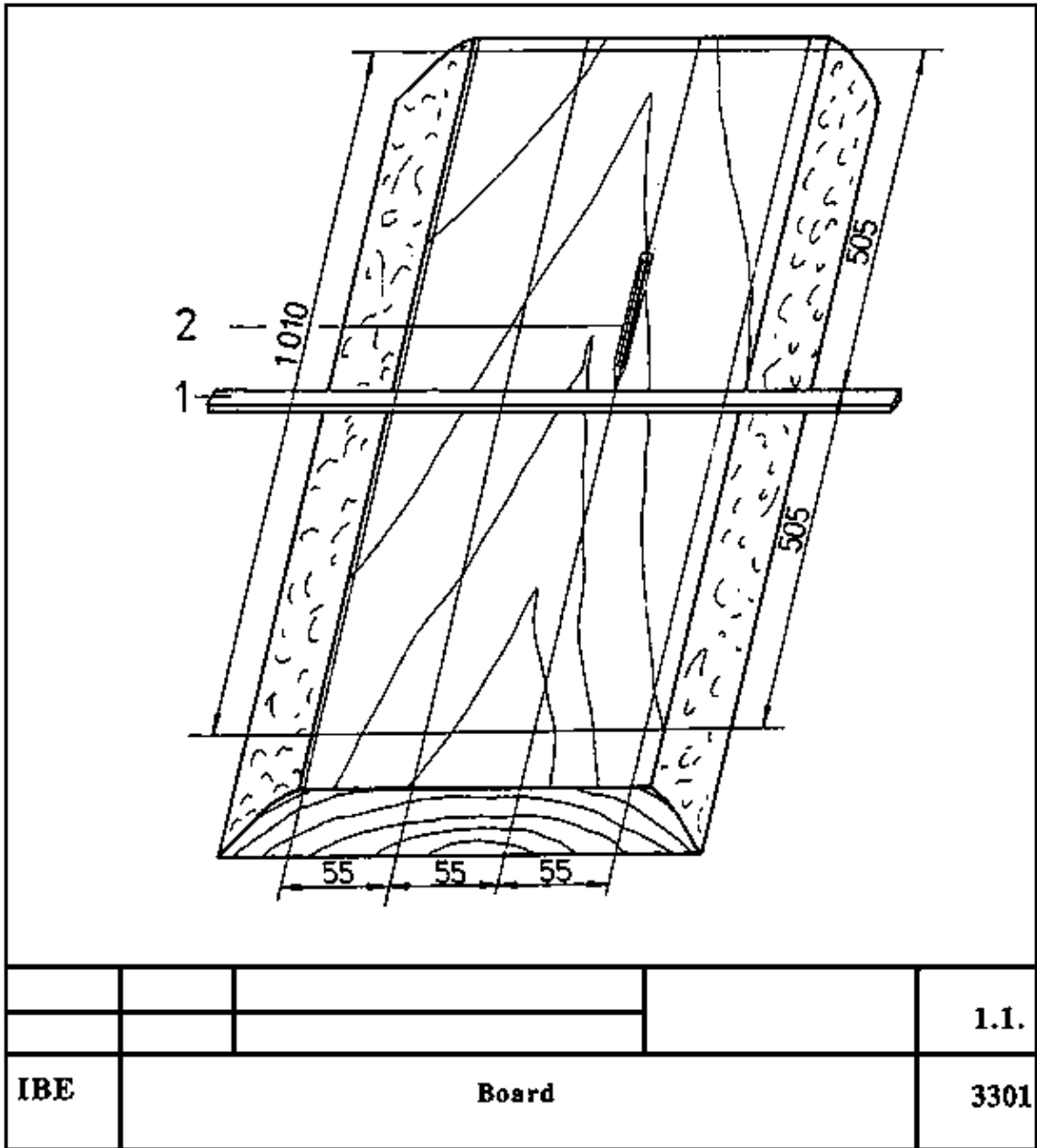
Required previous knowledge

Use for measuring units, reading of drawings, knowledge of the features and defects of the species of wood

Explanations to the working drawing

1 straightedge, 2 pencil

	Sequence of operations	Comments
1.	Prepare the working place.	Check for the completeness of the working materials.
2.	Put the board on the stands or on the work bench.	The number of the stands depends on the board's length.
3.	Check the board for wood defects.	Check which defects can be processed without loss of quality.
4.	Determine and scribe the length reference edge with the straightedge and the pencil.	Consider if a part of the natural bevel can be included in the workpiece.
5.	Mark off the width sizes and scribe them with the straightedge and the pencil.	Pay attention to the additional working allowance.
6.	Mark off the length sizes and scribe them with the working square and the pencil.	Pay attention to the additional working allowances.
7.	Check the marked off sizes and compare with the working drawing.	



Instruction Example 1.2.: Frame Timbers

Measuring and scribing of wide and narrow faces of frame timbers is to be practised.

Material

Cut and planed strips of hard- or softwood. Measures depend on the work order, e.g.: final sizes:

thickness: 24 mm

width: 50 mm

1st length: 1000 mm

2nd length: 500 mm

Tools/Measuring and testing means

Folding rule, scribe, try square, marking gauge

Auxiliary accessories

Work bench or carpenter's bench, screw clamp, pencil

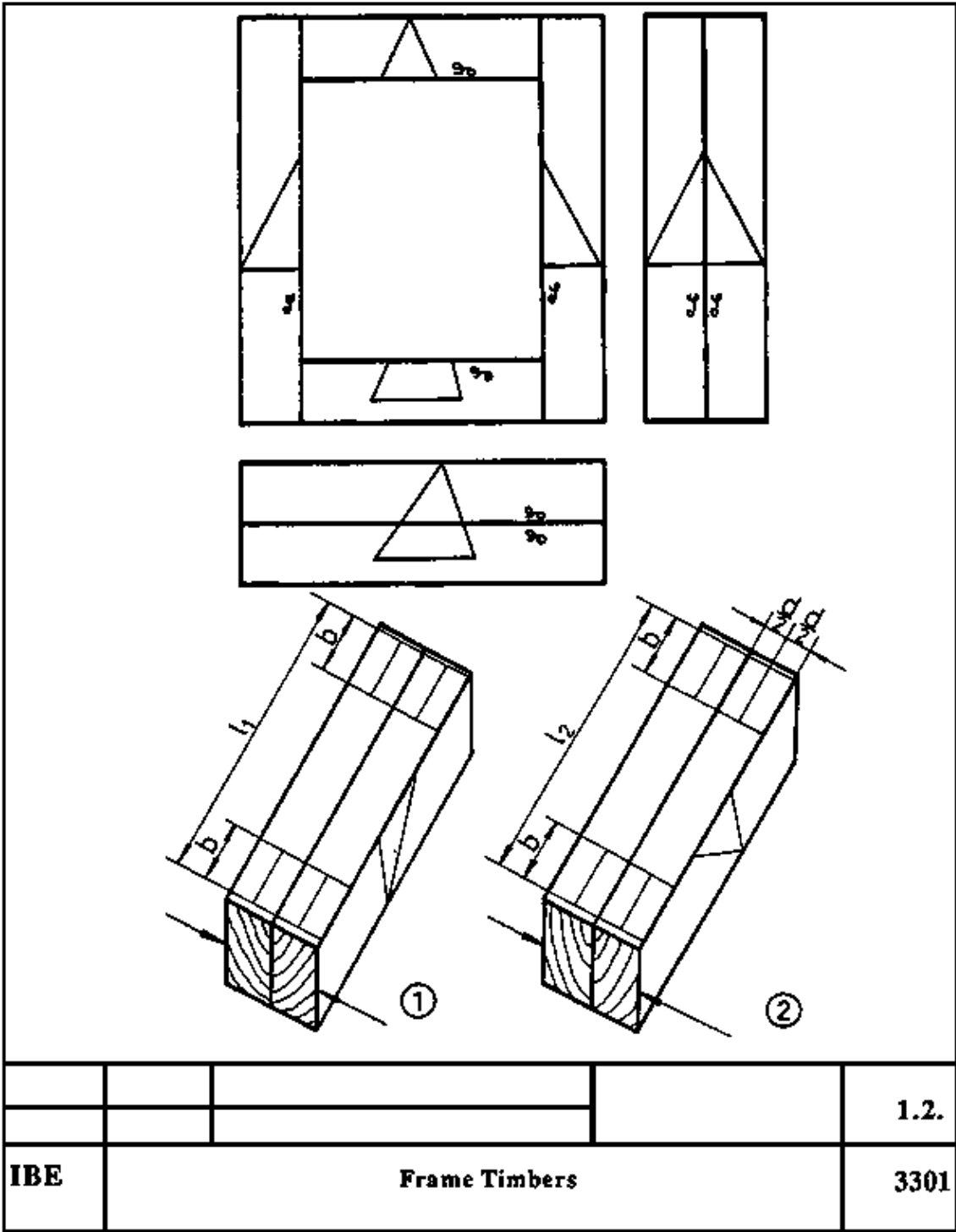
Required previous knowledge

Use of measuring units, reading of drawings

Explanations to the working drawing

- (1) upright timbers
- (2) crosspieces
- ? angle at the reference edge
- d thickness
- b width
- l length

Sequence of operations	Comments
1. Prepare the working place.	Check the tools.
2. Mark the reference edges.	The best side of the timbers points inwards.
3. Draw the timbers together.	Mistakes are avoided.
4. Parallel timbers are clamped together with a screw clamp.	In this way uniform marking off of sizes is possible.
5. Mark the final length size and the finished dimensions with the try square and the scribe on the reference narrow face.	Use the scribe only there where later chip-forming processes are carried out, otherwise use a sharp pencil.
6. Unclamp the timbers and transfer the marking onto the wide face by means of the scribe and the try square.	
7. Set the marking gauge and scribe the finished dimensions.	The finished dimensions depend on the type of wood joints.
8. Check all markings.	
9. Compare with the drawing.	



Instruction Example 1.3.: Scribing with Templates

Practise the scribing of curved lines with templates for curves of all kinds.

Material

According to their application solid wood strips or plies (plywood).

Measures:

solid wood

thickness: 20 mm

width: 100 mm

length: 1000 mm

ply

thickness: 6 mm

width: 100 mm

length: 1000 mm

Tools

Folding rule, pair of compasses, try square

Auxiliary accessories

Work bench or carpenter's bench, pasteboard, pencil, scissors, template (to be made if necessary)

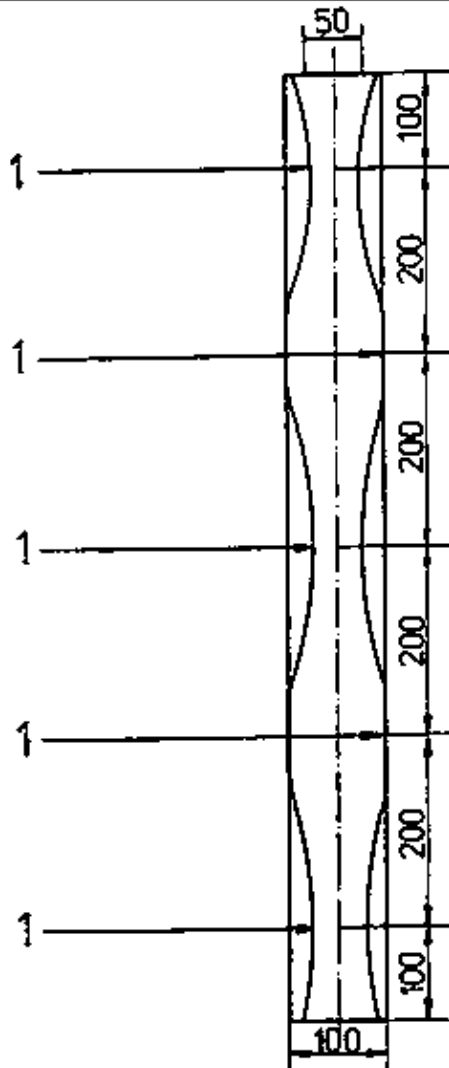
Required previous knowledge

Knowledge of wood features (pay attention to the grain direction), reading of drawings

Explanations to the working drawing

1 equal to radius R 400

	Sequence of operations	Comments
1.	Preparation of the working place.	Check for the completeness.
2.	Construct the template on pasteboard (or transfer it from the drawing).	Determine if a working allowance has to be taken into account.
3.	Cut out the template.	
4.	Put the template on the workpiece.	Place it so that a large part of the workpiece surface has a continuous grain direction.
5.	Mark the form of the template with a pencil.	
6.	Check the markings.	



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