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JOINER

Technical Descriptive

Set of tasks



TARTU
KUTSEHARIDUSKESKUS



JELGAVAS
TEHNIKUMS

PROFESIONĀLĀS IZGLĪTĪBAS KOMPETENCES CENTRS



LIEPĀJAS VALSTS TEHNIKUMS



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The name of the skills competition is joiner

THE CONTENT, RELEVANCE AND SIGNIFICANCE OF THIS DOCUMENT

„Set of tasks technical description“ is designed to understand the main technical organization procedures and tasks of Professional mastery competition „Balticskills“.

All competition organizers and participants must have analyzed the „Set of tasks technical description“.

In the event of any conflict within the different languages of the Technical Descriptions, the English version takes precedence.

PROFESSION DESCRIPTION

The carpenter makes various types and constructions of furniture from wood and wood-derived materials. The carpenter independently plans and organizes the performance of work tasks and the sequence of operations. The furniture carpenter works in carpentry workshops, woodworking and furniture manufacturing companies, as well as on-site facilities where performing the installing of furniture.

Carpenter's duties and tasks:

Organization of work process:

- to get acquainted with the task of furniture production
- participate in furniture project development
- to perform calculations related to the production of furniture
- choose work methods according to the task
- prepare appropriate tools and woodworking machines

Selection and preparation of materials:

- choose materials for furniture production
- evaluate the quality of the ordered materials
- prepare the necessary aids (templates, presses, pads, etc.)
- choose the necessary auxiliary materials (abrasives, adhesives), fixings and fittings

Furniture production





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- make furniture blanks
- to perform mechanical processing of furniture blanks
- to finish the edges of furniture parts with natural wood or artificial materials
- to make furniture decorative and functional elements (profile strips, cornices, fillings, rounding etc.)
- create a decorative veneer combination
- to check the compatibility of furniture parts in the assembly
- to prepare a furniture surface for the finishing works
- perform surface finishing of furniture/parts
- to embed the fittings and non-wood materials in the furniture construction in good quality.
- make the final assembly of the furniture

Implementation of the basic principles of professional activity

- perform work in accordance with occupational safety, labour protection, fire safety and electrical safety regulations
- work individually and collaborate with colleagues
- comply with environmental protection requirements, working with wood preservatives

ASSESSMENT STANDARD SPECIFICATION

The assessment standard provides a skills assessment methodology.

Each section is assigned a percentage of the total marks to indicate its relative importance within the assessment standards specification. The sum of all the percentage marks is 100.

Only the skills listed in the assessment standards specification table will be assessed during the Professional mastery competition „Balticskills”.





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Assessment standards specification

Competencies	Percentage
1. Ability independently evaluate and understand the task of furniture manufacturing tasks	
<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • furniture manufacturing technical documentation • Technical drawings <p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Read the technical documentation of furniture manufacture 	
2. Ability to calculate the time and material consumption and costs of the materials necessary for furniture manufacturing.	
<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • Furniture manufacturing technology • Production time planning • Calculations <p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Calculate time and material consumption for furniture manufacturing, considering the quality of materials and the requirements of the technological process. 	
3. Ability to plan the implementation of the technological process in a certain sequence, in accordance with the work task of furniture manufacturing. Ability to rationally organize the furniture manufacturing work process.	
<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • Wood materials, technological methods of their processing and work methods. • Finishing materials, technological methods of their processing and work methods. • Effective work organization. • Technological flow concept. • Technological process map development. <p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Evaluate technological methods of furniture manufacturing. • Choose specific woodworking techniques. 	





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	<ul style="list-style-type: none"> • Prepare technological process maps 	
4.	Ability to choose and prepare appropriate woodworking machines and cutting instruments, manual electrical instruments, and non-mechanised manual instruments.	
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • Basics of electrical engineering. • Basics of wood cutting theory. • Basics of construction and operation of woodworking machines • Furniture manufacturing technological methods. • Types of woodworking machines, their construction, cutting tools, equipment, accessories, efficient and safe working methods. • Types of non-mechanized manual tools for carpenters, their sharpening, efficient and safe working methods. <p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Choose the right machines for the job, equipment, handheld power tools and non-mechanized hand tools. • Choose woodworking cutting tools appropriate for the job task. • Prepare woodworking machines for the task. • Check the compliance of the machine tools with the requirements of the technological process and work safety requirements. 	
5.	Ability to assess the compliance of material quality with the requirements of the technological solution and constructive and aesthetic requirements for furniture.	
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • Timber quality standards. • Types of non - wood materials used in the manufacture of furniture. • Wood processing technologies. • Influence of various wood defects on the 	





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	<p>structural and aesthetic quality of furniture. The individual shall be able to:</p> <ul style="list-style-type: none"> • Assess the compliance of material quality to standards • Assess the compliance of material quality with the requirements of the technological solution and constructive and aesthetic requirements for furniture. 	
6.	<p>Ability to select and manufacture the necessary aids (templates, presses, pads, etc), and auxiliary materials (abrasives, glue etc) as well as to choose them, in accordance with the technological requirements of the project and furniture manufacturing</p>	
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • Types of aids, their meaning, and principles of operation. • Methods of manufacturing aids. • Types of auxiliary materials. • Properties of auxiliary materials. • Furniture mounts and fittings <p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Choose the most suitable aids, considering the possible types of finishing. • Assemble the necessary mounts and fittings. 	
7.	<p>Ability to make furniture component blanks in accordance with the requirements of the technological process.</p>	
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • Technological requirements to produce various types and designs of furniture. • Fundamentals of computerized digital control (CNC) woodworking machines. • Differences in technical properties and texture of different species of solid wood in different trunk sections. • Technical properties of wood - based panel materials. • Principles of sawn timber processing. • Woodworking machines, cutting tools, equipment, accessories and working 	





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	<p>methods.</p> <ul style="list-style-type: none"> • Glues and gluing technology. • Woodworking electric hand tools, their cutting tools, accessories and working methods. • Carpenters' non - mechanized hand cutting tools, their sharpening and working methods. • Carpentry measuring and marking instruments. • Geometrical layouts of veneer and the order of their creation. • Veneering methods for different types of templates with straight and curved surfaces. • Types of abrasive materials. • Wood bending techniques. • Techniques for making of curved glued parts and the necessary templates. <p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Carry out sawing and widening of sawn timber, if necessary - also aging (conditioning). • Perform lumber processing works (straightening, thickening). • Glue wooden templates. • To cut, process and grind board materials. • Calibrate furniture templates. • Veneer furniture templates. • Make the necessary markings on the blanks for mechanical treatments, using measuring and marking instruments. 	
8.	<p>Ability to make furniture parts according to the drawing.</p>	
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • Correspondence of various connections and fastenings to furniture materials and construction specifics. • Construction of connections and assemblies used in furniture constructions, their optimal parameters, design and implementation principles. 	





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	<p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Make the necessary markings on the templates for mechanical treatments, using measuring and marking instruments. • Mechanically process furniture blanks (saw, mill, plane, drill). • Produce joints of parts. • Use woodworking equipment, machine tools, appropriate cutting tools, electric hand tools, non-mechanized hand tools, various types of equipment and accessories, evaluating the efficiency of the process. • Constantly control the correspondence of furniture blanks with required technological and quality standards. 	
9.	<p>Ability to finish the edges of furniture parts in accordance with the drawing and technological and quality requirements.</p>	
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • Types of finishing materials for furniture edges. • Methods of fastening the edges of furniture parts. <p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Prepare the glue for the gluing process • Glued / embed furniture parts edge finishing. • Perform post-processing of the glued part edges 	
10.	<p>Ability to make decorative and functional elements for furniture</p>	
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • Carpentry techniques for making furniture decorative elements. • Woodworking machines, hand - held power tools and hand - operated mechanized tools. • Types of cutting tools, templates, accessories and safe working methods for making furniture decorative elements. <p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Profile straight and curvilinear parts. 	





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	<ul style="list-style-type: none"> Perform other processing of decorative and functional elements with machine tools, handheld power tools or mechanized tools. 	
11.	Ability to create decorative veneer compositions and veneer various furniture surfaces.	
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> Intarsia, inlay manufacturing equipment and techniques. Specifics of different wood species and types of veneers, their processing and gluing Geometric assemblies of furniture veneers. Veneering techniques. <p>The individual shall be able to:</p> <ul style="list-style-type: none"> To create geometric compositions of all types of furniture veneers, using different types of wood and different types of veneers. Perform decorative veneering of furniture surfaces. 	
12.	Ability to check the compatibility of furniture parts in the assembly.	
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> Technological requirements for assembly of construction products. Assembly tools, accessories and their use. <p>The individual shall be able to:</p> <ul style="list-style-type: none"> Perform sequential furniture control assembly. Check joint points. Check the conformity of the furniture to the drawing. 	
13.	Ability to prepare furniture for surface finishing in accordance with the planned furniture surface finishing works.	
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> Wood surface finishing technology. Wood surface decoration types. Finishing chemicals - finishing material mutual compatibility and compatibility with the basic materials. 	





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	<ul style="list-style-type: none"> • Specific requirements for different types of finishing. • Methods tools and materials for surface preparation. • Types of finishing materials and methods of application. • Machines, tools, instruments and auxiliary materials for finishing. • Compliance of work place for specific works. • Types and use of wood protection aids. <p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Grind the surface of furniture parts. • Re-resin, deprive of fats, and decolorise surfaces of furniture parts. • Moistening of surface for sap removal. • Eliminate wood defects (branches, branch lacations, cracks, resin pockets), • Perform painting, lacquering, oiling, waxing, toning and mid-grinding works. • Check the quality of finishing coating. 	
14.	Ability to add accessories and non-wooden materials into furniture	
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • Types of non-wooden materials (metal, glass, plastic, textile) their use and methods of supplementing with furniture. • Mechanical and physical qualities of non-wooden materials. • Types and use of accessories <p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Supplement the furniture with planned accessories, • Know the choice of accessories • Perform qualitative supplement of accessories to furniture 	
15.	Ability to assemble furniture according to work task.	
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • Technological requirements of assembling of furniture • Glues and gluing methods 	





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	<ul style="list-style-type: none"> • Types of compounds and the specifics of their mounting • Mounting tools and aids • Furniture accessories (fastenings, hinges, guides, pivots, handles) and methods of their fixing <p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Choose the method of mounting • Prepare adequate auxiliary materials according to the specific of task. • Join the details using dismantable joints • Join the details using non-dismountable joints 	
16.	<p>Ability to adjust furniture and its mechanisms. Ability to ensure cleanliness and order in the facility after completion of work.</p> <p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • Instructions for installation and adjustment of fitting mechanisms • Methods of adjusting furniture mechanisms. • Cleaning equipment. <p>The individual shall be able to:</p> <ul style="list-style-type: none"> • Check the operation of furniture mechanisms and the functionality of moving parts • Adjust the installed furniture mechanisms and fittings. • Clean the furniture assembly place. 	
17.	<p>Ability to perform work tasks in compliance with work safety, electrical safety, fire safety requirements and provide first aid.</p> <p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> • Work environment risk factors and assessment methods. • Labour protection, electrical safety, fire safety regulations. • Working conditions and human health as a condition for quality of life. • Operating rules and compliance with occupational safety requirements of 	





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	<p>Technological plant, tools, and equipment. Formation of risk situations when working with woodworking equipment, machine tools, their cutting tools, equipment and auxiliary devices.</p> <ul style="list-style-type: none">• Formation of risk situations when working with hand power tools and hand mechanized tools.• The impact of individual actions and decisions on personal and other people's safety.• Types of chemicals used in the work process and their properties.• Basic laws of physics in work with tools and machines.• Requirements for work clothes.• Types of personal protective equipment. Safety signals and signs.• Occupational safety measures when working with chemicals. <p>The individual shall be able to:</p> <ul style="list-style-type: none">• Constantly assess the risks of the work environment.• Ensure safe operation of technological equipment and facilities.• Ensure safe storage and transportation of materials.• Build safe stacks of materials, blanks or parts during the work process.• Understand conditions of storage and use of chemicals used in the manufacturing process of construction products.• Use personal protective equipment as needed or as directed.• In case of fire - act in accordance with established procedure.• Work organization in accordance with the requirements of labour protection, electrical safety, fire safety and environmental protection and the impact on health.	
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	<ul style="list-style-type: none">• Assess the impact of individual actions and decisions on your personal and other people's safety.• Observe cleanliness and order in the workplace.	
Total		100%

3. ASSESSMENT PRINCIPLES

All assessment will be governed by explicit benchmarks, referenced to best practice in industry and business. Competition tasks is the assessment vehicle for the skill competition, and also follows the Standards Specification.





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SKILL ASSESSMENT SPECIFICATION

Measurement of product manufacturing connections and accuracy	
<p>1. Drawer (Swallowtail connection)</p> <p>A. B. C. D.</p> <p>Drawer (Floor groove installation)</p> <p>A. B. C. D.</p> <p>Drawer (dimensions)</p> <p>A. B. C.</p> <p>Visual appearance (Evaluation after gluing)</p>	<p>3. Surface (slatting)</p> <p>A. Slat joint (for dipping into groove)</p> <p>B. slat grooves I.surface II.slat</p> <p>C. slat configuration I.cross section II. Slope</p> <p>D. Corner joint I. II. III. IV.</p> <p>Surface (appearance) I. Saw-cut quality</p> <p>A. Dimensions I. Nominal II. Diagonal difference</p> <p>B. Processing (Grinding) I.V.plane II. Bottom plane</p> <p>III. Right long slat IV. Left long slat</p> <p>V. Right short slat VI. Left short slat</p> <p>C. Joint to the body (joint with 5 parts)</p>
<p>2. I.Leg construction (Swallowtail connection)</p> <p>A. B.</p> <p>Leg construction (dimensions)</p> <p>A. B.</p> <p>Visual appearance (Evaluation after gluing)</p> <p>II.Leg construction (Swallowtail connection)</p> <p>A. B.</p> <p>Leg construction (dimensions) (Evaluation after gluing)</p> <p>A. B.</p> <p>Installation and location of the mounting hole</p> <p>A. B.</p> <p>Visual appearance (Evaluation after gluing)</p>	<p>4. Body side parts</p> <p>A. I. Joint installation (with 3 parts) II.Slatting</p> <p>B. I. Joint installation (with 3 parts) II.Slatting</p> <p>C. Processing (Grinding) I.Outer plane II.Inner plane</p> <p>5. Body middle parts</p> <p>A. I. Joint installation (with 3 parts) II.Slatting</p> <p>B. I. Joint installation (with 3 parts) II. Slatting</p> <p>C. Processing (Grinding) I.Outer plane II.Inner plane</p> <p>6. Body back part</p> <p>A. I. Joint installation (with 6 parts)</p> <p>B. Processing (Grinding) I.Outer plane</p> <p>7. Bottom (slatting)</p> <p>A. Corner joint I. II. III. IV.</p> <p>Bottom (appearance) I. Saw-cut quality II. Slatting quality</p> <p>A. Dimensions I. Nominal II. Diagonal difference</p> <p>B. Processing (Grinding) I.V.plane II. Bottom plane</p> <p>C. Connection to the body (connection with 5 parts)</p>
<p>8. Product overview</p> <p>I. Desk body assembly (geometry of part joints) 23 places</p> <p>II. Leg assembly at the table body (structural connection geometry) 2 places</p> <p>III. Overall dimensions</p> <p>a. Height</p> <p>b. Width</p> <p>c. length</p> <p>d. leg diagonal difference</p> <p>IV. Drawer functionality</p>	





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SKILLS ASSESMENT CRITERIA

1. Joints before gluing

Drawer		
Cornice- swallowtail connection - not glued. Compatibility of contact areas between glued surfaces of connection pins and sockets, tightness of joints.		
1.	Connection of front piece and left edge	3
	One of the joint sockets is broken, there are pin shoulder cuts, the joint is too tight or very loose (falling)	0
	The joint is free, easy to fold, but it is functional.	1
	the joint is very tight, but it has insignificant processing defects that do not affect the strength.	2
	High-quality joint, conforms to the drawing using the correct working techniques. The joint is tight enough, no large mechanical force is required during assembly.	3
2	Connection of front piece and right edge	3
	One of the joint sockets is broken, there are pin shoulder cuts, the joint is too tight or very loose (falling)	0
	The joint is free, easy to fold, but it is functional.	1
	The joint is very tight, but it has insignificant processing defects that do not affect the strength.	2
	High-quality joint, conforms to the drawing using the correct working techniques. The joint is tight enough, no large mechanical force is required during assembly.	3
3	Connection of back piece and right edge	3
	One of the joint sockets is broken, there are pin shoulder cuts, the joint is too tight or very loose (falling)	0
	The joint is free, easy to fold, but it is functional.	1
	The joint is very tight, but it has insignificant processing defects that do not affect the strength.	2
	High-quality joint, conforms to the drawing using the correct working techniques. The joint is tight enough, no large mechanical force is required during assembly.	3
4	Connection of back piece and left edge	3
	One of the joint sockets is broken, there are pin shoulder cuts, the joint is too tight or very loose (falling)	0





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The joint is free, easy to fold, but it is functional.	1
The joint is very tight, but it has insignificant processing defects that do not affect the strength.	2
High-quality joint, conforms to the drawing using the correct working techniques. The joint is tight enough, no large mechanical force is required during assembly.	3

Constructions of legs		
Cornice- swallowtail connection - not glued. Compatibility of contact areas between glued surfaces of connection pins and sockets, tightness of joints.		
1.	1st joint of the right leg construction	3
	One of the joint sockets is broken, there are pin shoulder cuts, the joint is too tight or very loose (falling)	0
	The joint is free, easy to fold, but it is functional.	1
	The joint is very tight, but it has insignificant processing defects that do not affect the strength.	2
	High-quality joint, conforms to the drawing using the correct working techniques. The joint is tight enough, no large mechanical force is required during assembly.	3
2.	2nd joint of the right leg construction	3
	One of the joint sockets is broken, there are pin shoulder cuts, the joint is too tight or very loose (falling)	0
	The joint is free, easy to fold, but it is functional.	1
	The joint is very tight, but it has insignificant processing defects that do not affect the strength.	2
	High-quality joint, conforms to the drawing using the correct working techniques. The joint is tight enough, no large mechanical force is required during assembly.	3
3.	1st joint of the left leg construction	3
	One of the joint sockets is broken, there are pin shoulder cuts, the joint is too tight or very loose (falling)	0
	The joint is free, easy to fold, but it is functional.	1
	The joint is very tight, but it has insignificant processing defects that do not affect the strength.	2
	High-quality joint, conforms to the drawing using the correct working techniques. The joint is tight enough, no large mechanical force is required during assembly.	3
4.	2nd joint of the left leg construction	





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One of the joint sockets is broken, there are pin shoulder cuts, the joint is too tight or very loose (falling)	0
The joint is free, easy to fold, but it is functional.	1
The joint is very tight, but it has insignificant processing defects that do not affect the strength.	2
High-quality joint, conforms to the drawing using the correct working techniques. The joint is tight enough, no large mechanical force is required during assembly.	3

Desk surface with drawer. Evaluation before gluing		
Connections of a desk surface with a drawer corner and T - shaped and drawer partitions. Contact area of the surfaces to be glued, tightness of wooden round pins.		
1.	Joint of the left side wall to the back wall	1
	The number of connecting pins does not meet the design requirements and pin insertion inappropriate, free-falling	0
	The number of connection pins corresponds to the design requirements and the installation of the pins is tight	1
2.	Joint of left side wall to the top surface	1
	The number of connecting pins does not meet the design requirements and pin insertion inappropriate, free-falling	0
	The number of connection pins corresponds to the design requirements and the installation of the pins is tight	1
3.	Joint of the left side wall to the base.	1
	The number of connecting pins does not meet the design requirements and pin insertion inappropriate, free-falling	0
	The number of connection pins corresponds to the design requirements and the installation of the pins is tight	1
4.	Joint of left side wall to the back wall	1
	The number of connecting pins does not meet the design requirements and pin insertion inappropriate, free-falling	0
	The number of connection pins corresponds to the design requirements and the installation of the pins is tight	1
5.	Joint of the right side wall to the top surface	1
	The number of connecting pins does not meet the design requirements and pin insertion inappropriate, free-falling	0
	The number of connection pins corresponds to the design requirements and the installation of the pins is tight	1
6.	Joint of the right side wall to the base	1





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	The number of connecting pins does not meet the design requirements and pin insertion inappropriate, free-falling	0	
	The number of connection pins corresponds to the design requirements and the installation of the pins is tight	1	
7.	Left, drawer barrier, wall connection to the back wall		1
	The number of connecting pins does not meet the design requirements and pin insertion inappropriate, free-falling	0	
	The number of connection pins corresponds to the design requirements and the installation of the pins is tight	1	
8.	Left, drawer barrier, wall connection to the top surface		1
	The number of connecting pins does not meet the design requirements and pin insertion inappropriate, free-falling	0	
	The number of connection pins corresponds to the design requirements and the installation of the pins is tight	1	
9.	Left, drawer barrier, wall connection to the base		1
	The number of connecting pins does not meet the design requirements and pin insertion inappropriate, free-falling	0	
	The number of connection pins corresponds to the design requirements and the installation of the pins is tight	1	
10.	Right, drawer barrier, wall connection to the back wall		1
	The number of connecting pins does not meet the design requirements and pin insertion inappropriate, free-falling	0	
	The number of connection pins corresponds to the design requirements and the installation of the pins is tight	1	
11.	Right, drawer barrier, wall connection to the top surface		1
	The number of connecting pins does not meet the design requirements and pin insertion inappropriate, free-falling	0	
	The number of connection pins corresponds to the design requirements and the installation of the pins is tight	1	
12.	Right, drawer barrier, wall connection to the base		1
	The number of connecting pins does not meet the design requirements and pin insertion inappropriate, free-falling	0	
	The number of connection pins corresponds to the design requirements and the installation of the pins is tight	1	

Desk surface with drawer. Evaluation after gluing





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Desk surface with drawer corner and T-joint shoulder slots, connection configuration according to the drawing.		
1.	Joint of left side wall to the back wall	3
	The joint and its location do not correspond to the drawing, the shoulder of the joint does not fit into the plane ($>1\text{mm}$) or pins form displacements in the outer planes. The pin has been broken or the planes are torn.	0
	The joint and its arrangement correspond to the drawing, but the shoulder of the joint does not fit into the plane ($>1\text{mm}$) and forms a gap up to 60% of the length of the collision	1
	The joint and its arrangement correspond to the drawing, joint shoulder, gaps are insignificant, the position of the pin and socket are parallel	2
	The joint and its arrangement correspond to the drawing, no joint shoulder gaps are observed. In the section "Joints before gluing" the joint is evaluated with the maximum number of points	3
2.	Left side wall joint to the top surface	3
	The joint and its location do not correspond to the drawing, the shoulder of the joint does not fit into the plane ($>1\text{mm}$) or pins form displacements in the outer planes. The pin has been broken or the planes are torn.	0
	The joint and its arrangement correspond to the drawing, but the shoulder of the joint does not fit into the plane ($>1\text{mm}$) and forms a gap up to 60% of the length of the collision	1
	The joint and its arrangement correspond to the drawing, joint shoulder, gaps are insignificant, the position of the pin and socket are parallel	2
	The joint and its arrangement correspond to the drawing, no joint shoulder gaps are observed. In the section "Joints before gluing" the joint is evaluated with the maximum number of points	3
3.	Left side wall joint to the base	3
	The joint and its location do not correspond to the drawing, the shoulder of the joint does not fit into the plane ($>1\text{mm}$) or pins form displacements in the outer planes. The pin has been broken or the planes are torn.	0
	The joint and its arrangement correspond to the drawing, but the shoulder of the joint does not fit into the plane ($>1\text{mm}$) and forms a gap up to 60% of the length of the collision	1
	The joint and its arrangement correspond to the drawing, joint shoulder, gaps are insignificant, the position of the pin and socket are parallel	2





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	The joint and its arrangement correspond to the drawing, no joint shoulder gaps are observed. In the section "Joints before gluing" the joint is evaluated with the maximum number of points	3	
4.	Right side wall joint to the back wall		3
	The joint and its location do not correspond to the drawing, the shoulder of the joint does not fit into the plane ($>1\text{mm}$) or pins form displacements in the outer planes. The pin has been broken or the planes are torn.	0	
	The joint and its arrangement correspond to the drawing, but the shoulder of the joint does not fit into the plane ($>1\text{mm}$) and forms a gap up to 60% of the length of the collision	1	
	The joint and its arrangement correspond to the drawing, joint shoulder, gaps are insignificant, the position of the pin and socket are parallel	2	
	The joint and its arrangement correspond to the drawing, no joint shoulder gaps are observed. In the section "Joints before gluing" the joint is evaluated with the maximum number of points	3	
5.	Right side wall joint to the top surface		3
	The joint and its location do not correspond to the drawing, the shoulder of the joint does not fit into the plane ($>1\text{mm}$) or pins form displacements in the outer planes. The pin has been broken or the planes are torn.	0	
	The joint and its arrangement correspond to the drawing, but the shoulder of the joint does not fit into the plane ($>1\text{mm}$) and forms a gap up to 60% of the length of the collision	1	
	The joint and its arrangement correspond to the drawing, joint shoulder, gaps are insignificant, the position of the pin and socket are parallel	2	
	The joint and its arrangement correspond to the drawing, no joint shoulder gaps are observed. In the section "Joints before gluing" the joint is evaluated with the maximum number of points	3	
6.	Right side wall joint to the base		3
	The joint and its location do not correspond to the drawing, the shoulder of the joint does not fit into the plane ($>1\text{mm}$) or pins form displacements in the outer planes. The pin has been broken or the planes are torn.	0	
	The joint and its arrangement correspond to the drawing, but the shoulder of the joint does not fit into the plane ($>1\text{mm}$) and forms a gap up to 60% of the length of the collision	1	
	The joint and its arrangement correspond to the drawing, joint shoulder, gaps are insignificant, the position of the pin and socket are parallel	2	





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	The joint and its arrangement correspond to the drawing, no joint shoulder gaps are observed. In the section "Joints before gluing" the joint is evaluated with the maximum number of points	3
7.	Left, drawer barrier, wall joint to the back wall	3
	The joint and its location do not correspond to the drawing, the shoulder of the joint does not fit into the plane ($>1\text{mm}$) or pins form displacements in the outer planes. The pin has been broken or the planes are torn.	0
	The joint and its arrangement correspond to the drawing, but the shoulder of the joint does not fit into the plane ($>1\text{mm}$) and forms a gap up to 60% of the length of the collision	1
	The joint and its arrangement correspond to the drawing, joint shoulder, gaps are insignificant, the position of the pin and socket are parallel	2
	The joint and its arrangement correspond to the drawing, no joint shoulder gaps are observed. In the section "Joints before gluing" the joint is evaluated with the maximum number of points	3
8.	Left, drawer barrier, wall joint to the top surface	3
	The joint and its location do not correspond to the drawing, the shoulder of the joint does not fit into the plane ($>1\text{mm}$) or pins form displacements in the outer planes. The pin has been broken or the planes are torn.	0
	The joint and its arrangement correspond to the drawing, but the shoulder of the joint does not fit into the plane ($>1\text{mm}$) and forms a gap up to 60% of the length of the collision	1
	The joint and its arrangement correspond to the drawing, joint shoulder, gaps are insignificant, the position of the pin and socket are parallel	2
	The joint and its arrangement correspond to the drawing, no joint shoulder gaps are observed. In the section "Joints before gluing" the joint is evaluated with the maximum number of points	3
9.	Left, drawer barrier, wall joint to the base	3
	The joint and its location do not correspond to the drawing, the shoulder of the joint does not fit into the plane ($>1\text{mm}$) or pins form displacements in the outer planes. The pin has been broken or the planes are torn.	0
	The joint and its arrangement correspond to the drawing, but the shoulder of the joint does not fit into the plane ($>1\text{mm}$) and forms a gap up to 60% of the length of the collision	1
	The joint and its arrangement correspond to the drawing, joint shoulder, gaps are insignificant, the position of the pin and socket are parallel	2
	The joint and its arrangement correspond to the drawing, no joint shoulder gaps are observed. In the section "Joints before gluing" the joint is evaluated with the maximum number of points	3





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10.	Right, drawer barrier, wall joint to the back wall		3
	The joint and its location do not correspond to the drawing, the shoulder of the joint does not fit into the plane ($>1\text{mm}$) or pins form displacements in the outer planes. The pin has been broken or the planes are torn.	0	
	The joint and its arrangement correspond to the drawing, but the shoulder of the joint does not fit into the plane ($>1\text{mm}$) and forms a gap up to 60% of the length of the collision	1	
	The joint and its arrangement correspond to the drawing, joint shoulder, gaps are insignificant, the position of the pin and socket are parallel	2	
	The joint and its arrangement correspond to the drawing, no joint shoulder gaps are observed. In the section "Joints before gluing" the joint is evaluated with the maximum number of points	3	
11.	Right, drawer barrier, wall joint to the top surface		3
	The joint and its location do not correspond to the drawing, the shoulder of the joint does not fit into the plane ($>1\text{mm}$) or pins form displacements in the outer planes. The pin has been broken or the planes are torn.	0	
	The joint and its arrangement correspond to the drawing, but the shoulder of the joint does not fit into the plane ($>1\text{mm}$) and forms a gap up to 60% of the length of the collision	1	
	The joint and its arrangement correspond to the drawing, joint shoulder, gaps are insignificant, the position of the pin and socket are parallel	2	
	The joint and its arrangement correspond to the drawing, no joint shoulder gaps are observed. In the section "Joints before gluing" the joint is evaluated with the maximum number of points	3	
12.	Right, drawer barrier, wall joint to the base		3
	The joint and its location do not correspond to the drawing, the shoulder of the joint does not fit into the plane ($>1\text{mm}$) or pins form displacements in the outer planes. The pin has been broken or the planes are torn.	0	
	The joint and its arrangement correspond to the drawing, but the shoulder of the joint does not fit into the plane ($>1\text{mm}$) and forms a gap up to 60% of the length of the collision	1	
	The joint and its arrangement correspond to the drawing, joint shoulder, gaps are insignificant, the position of the pin and socket are parallel	2	
	The joint and its arrangement correspond to the drawing, no joint shoulder gaps are observed. In the section "Joints before gluing" the joint is evaluated with the maximum number of points	3	





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Slatting Corner joint

1.	Left front corner of the surface	2
	The corner connection does not correspond to the drawing, or the distance between adjacent planes > 1mm	0
	The corner connection corresponds to the drawing, or the distance between adjacent planes > 1mm	1
	The corner connection corresponds to the drawing, the distance between adjacent planes is observed. Such a joint performs a partial surface fixation and load-bearing function	2
2.	Left back corner of the surface	2
	The corner connection does not correspond to the drawing, or the distance between adjacent planes > 1mm	0
	The corner connection corresponds to the drawing, or the distance between adjacent planes > 1mm	1
	The corner connection corresponds to the drawing, the distance between adjacent planes is observed. Such a joint performs a partial surface fixation and load-bearing function	2
3.	Right front corner of the surface	2
	The corner connection does not correspond to the drawing, or the distance between adjacent planes > 1mm	0
	The corner connection corresponds to the drawing, or the distance between adjacent planes > 1mm	1
	The corner connection corresponds to the drawing, the distance between adjacent planes is observed. Such a joint performs a partial surface fixation and load-bearing function	2
4.	Right back corner of the surface	2
	The corner connection does not correspond to the drawing, or the distance between adjacent planes > 1mm	0
	The corner connection corresponds to the drawing, or the distance between adjacent planes > 1mm	1
	The corner connection corresponds to the drawing, the distance between adjacent planes is observed. Such a joint performs a partial surface fixation and load-bearing function	2

Slatting quality





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1.	Surface front slat		2
	The slatting doesn't correspond to the drawing, there are gaps > 1mm	0	
	The slatting corresponds to the drawing, there are gaps < 1 mm and their length does not exceed 50% of the length of the plane	1	
	The slatting corresponds to the drawing, no gaps are visible	2	
2.	Surface backt slat		2
	The slatting doesn't correspond to the drawing, there are gaps > 1mm	0	
	The slatting corresponds to the drawing, there are gaps < 1 mm and their length does not exceed 50% of the length of the plane	1	
	The slatting corresponds to the drawing, no gaps are visible	2	
3.	Surface left side slat		2
	The slatting doesn't correspond to the drawing, there are gaps > 1mm	0	
	The slatting corresponds to the drawing, there are gaps < 1 mm and their length does not exceed 50% of the length of the plane	1	
	The slatting corresponds to the drawing, no gaps are visible	2	
4.	Surface right side slat		2
	The slatting doesn't correspond to the drawing, there are gaps > 1mm	0	
	The slatting corresponds to the drawing, there are gaps < 1 mm and their length does not exceed 50% of the length of the plane	1	
	The slatting corresponds to the drawing, no gaps are visible	2	
5.	Base front slat		2
	The slatting doesn't correspond to the drawing, there are gaps > 1mm	0	
	The slatting corresponds to the drawing, there are gaps < 1 mm and their length does not exceed 50% of the length of the plane	1	
	The slatting corresponds to the drawing, no gaps are visible	2	
6.	Base back slat		2
	The slatting doesn't correspond to the drawing, there are gaps > 1mm	0	
	The slatting corresponds to the drawing, there are gaps < 1 mm and their length does not exceed 50% of the length of the plane	1	
	The slatting corresponds to the drawing, no gaps are visible	2	
7.	Base left side slat		2
	The slatting doesn't correspond to the drawing, there are gaps > 1mm	0	
	The slatting corresponds to the drawing, there are gaps < 1 mm and their length does not exceed 50% of the length of the plane	1	
	The slatting corresponds to the drawing, no gaps are visible	2	
8.	Base right side slat		2
	The slatting doesn't correspond to the drawing, there are gaps > 1mm	0	





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	The slatting corresponds to the drawing, there are gaps <1 mm and their length does not exceed 50% of the length of the plane	1	
	The slatting corresponds to the drawing, no gaps are visible	2	
9.	Left side wall front slat		2
	The slatting doesn't correspond to the drawing, there are gaps > 1mm	0	
	The slatting corresponds to the drawing, there are gaps <1 mm and their length does not exceed 50% of the length of the plane	1	
	The slatting corresponds to the drawing, no gaps are visible	2	
10.	Right side wall front slat		2
	The slatting doesn't correspond to the drawing, there are gaps > 1mm	0	
	The slatting corresponds to the drawing, there are gaps <1 mm and their length does not exceed 50% of the length of the plane	1	
	The slatting corresponds to the drawing, no gaps are visible	2	
11.	Left, drawer barrier, side wall front slat		2
	The slatting doesn't correspond to the drawing, there are gaps > 1mm	0	
	The slatting corresponds to the drawing, there are gaps <1 mm and their length does not exceed 50% of the length of the plane	1	
	The slatting corresponds to the drawing, no gaps are visible	2	
12.	Right, drawer barrier, side wall front slat		2
	The slatting doesn't correspond to the drawing, there are gaps > 1mm	0	
	The slatting corresponds to the drawing, there are gaps <1 mm and their length does not exceed 50% of the length of the plane	1	
	The slatting corresponds to the drawing, no gaps are visible	2	

Preparation of surface for finishing.

Quality after grinding.

1.	Left leg construction		2
	Finishing is not performed or veneered surfaces are damaged after grinding	0	
	Finishing is done, there is insufficient smoothing of the edges, the quality of grinding is satisfactory	1	
	The finish is of high quality, the sanding is done in the direction of the fibers and there are no visible scratches formed by the abrasive material, the roughness of the abrasive material has been chosen correctly.	2	
2.	Right leg construction		2
	Finishing is not performed or veneered surfaces are damaged after grinding	0	





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	Finishing is done, there is insufficient smoothing of the edges, the quality of grinding is satisfactory	1	
	The finish is of high quality, the sanding is done in the direction of the fibers and there are no visible scratches formed by the abrasive material, the roughness of the abrasive material has been chosen correctly.	2	
3.	The inner planes of the drawer		2
	Finishing is not performed or veneered surfaces are damaged after grinding	0	
	Finishing is done, there is insufficient smoothing of the edges, the quality of grinding is satisfactory	1	
	The finish is of high quality, the sanding is done in the direction of the fibers and there are no visible scratches formed by the abrasive material, the roughness of the abrasive material has been chosen correctly.	2	
4.	The outer planes of the drawer		2
	Finishing is not performed or veneered surfaces are damaged after grinding	0	
	Finishing is done, there is insufficient smoothing of the edges, the quality of grinding is satisfactory	1	
	The finish is of high quality, the sanding is done in the direction of the fibers and there are no visible scratches formed by the abrasive material, the roughness of the abrasive material has been chosen correctly.	2	
5.	Outer plane of the desksurface		2
	Finishing is not performed or veneered surfaces are damaged after grinding	0	
	Finishing is done, there is insufficient smoothing of the edges, the quality of grinding is satisfactory	1	
	The finish is of high quality, the sanding is done in the direction of the fibers and there are no visible scratches formed by the abrasive material, the roughness of the abrasive material has been chosen correctly.	2	
6.	The inner plane of the desk surface		2
	Finishing is not performed or veneered surfaces are damaged after grinding	0	
	Finishing is done, there is insufficient smoothing of the edges, the quality of grinding is satisfactory	1	
	The finish is of high quality, the sanding is done in the direction of the fibers and there are no visible scratches formed by the abrasive material, the roughness of the abrasive material has been chosen correctly.	2	
7.	Inner plane of the desk base		2





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	Finishing is not performed or veneered surfaces are damaged after grinding	0	
	Finishing is done, there is insufficient smoothing of the edges, the quality of grinding is satisfactory	1	
	The finish is of high quality, the sanding is done in the direction of the fibers and there are no visible scratches formed by the abrasive material, the roughness of the abrasive material has been chosen correctly.	2	
8.	Outer plane of the desk base		2
	Finishing is not performed or veneered surfaces are damaged after grinding	0	
	Finishing is done, there is insufficient smoothing of the edges, the quality of grinding is satisfactory	1	
	The finish is of high quality, the sanding is done in the direction of the fibers and there are no visible scratches formed by the abrasive material, the roughness of the abrasive material has been chosen correctly.	2	
9.	Outer plane of table side parts		2
	Finishing is not performed or veneered surfaces are damaged after grinding	0	
	Finishing is done, there is insufficient smoothing of the edges, the quality of grinding is satisfactory	1	
	The finish is of high quality, the sanding is done in the direction of the fibers and there are no visible scratches formed by the abrasive material, the roughness of the abrasive material has been chosen correctly.	2	
10.	The inner plane of the side details of the desk		2
	Finishing is not performed or veneered surfaces are damaged after grinding	0	
	Finishing is done, there is insufficient smoothing of the edges, the quality of grinding is satisfactory	1	
	The finish is of high quality, the sanding is done in the direction of the fibers and there are no visible scratches formed by the abrasive material, the roughness of the abrasive material has been chosen correctly.	2	
11.	Outer plane of the back of the desk		2
	Finishing is not performed or veneered surfaces are damaged after grinding	0	
	Finishing is done, there is insufficient smoothing of the edges, the quality of grinding is satisfactory	1	
	The finish is of high quality, the sanding is done in the direction of the fibers and there are no visible scratches formed by the abrasive material, the roughness of the abrasive material has been chosen correctly.	2	





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12.	Inner plane of the back of the desk	2
	Finishing is not performed or veneered surfaces are damaged after grinding	0
	Finishing is done, there is insufficient smoothing of the edges, the quality of grinding is satisfactory	1
	The finish is of high quality, the sanding is done in the direction of the fibers and there are no visible scratches formed by the abrasive material, the roughness of the abrasive material has been chosen correctly.	2
13.	Inner plane of the drawer parts	2
	Finishing is not performed or veneered surfaces are damaged after grinding	0
	Finishing is done, there is insufficient smoothing of the edges, the quality of grinding is satisfactory	1
	The finish is of high quality, the sanding is done in the direction of the fibers and there are no visible scratches formed by the abrasive material, the roughness of the abrasive material has been chosen correctly.	2
14.	Narrow planes of table construction details.	2
	Finishing is not performed or veneered surfaces are damaged after grinding	0
	Finishing is done, there is insufficient smoothing of the edges, the quality of grinding is satisfactory	1
	The finish is of high quality, the sanding is done in the direction of the fibers and there are no visible scratches formed by the abrasive material, the roughness of the abrasive material has been chosen correctly.	2

Assembling
Compliance with the drawing.

1.	Desk	1
	Doesn't match the drawing	0
	Matches the drawing	1

Control dimensions

Compliance with the drawings and the product geometry. Measurements are taken from the finished, assembled product.

1.	Height of the desk, 4 measurements in corners (X4)	8
	Doesn't match the drawing - <2mm	0
	Match the drawing - <1mm	1





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	Match the drawing - +/- 0,2 mm	2
2.	Length of the desk, 2 measurements (X2)	2
	Doesn't match the drawing - <2mm	0
	Match the drawing - <1mm	1
	Match the drawing - +/- 0,2 mm	2
3.	Width of the desk, 2 measurements (X2)	4
	Doesn't match the drawing - <2mm	0
	Match the drawing - <1mm	1
	Match the drawing - +/- 0,2 mm	2
4.	Diagonals of the desk, difference of 2 measurements	2
	Doesn't match the drawing - <3mm	0
	Match the drawing - <2mm	1
	Match the drawing - <1mm	2

Constructions of legs

5.	Size of the right leg structures. (Bottom)	2
	Doesn't match the drawing - <2mm	0
	Match the drawing - <1mm	1
	Match the drawing - +/- 0,2 mm	2
6.	Size of the left leg constructions. (Bottom)	2
	Doesn't match the drawing - <2mm	0
	Match the drawing - <1mm	1
	Match the drawing - +/- 0,2 mm	2
7.	Diagonals of leg constructions, difference of 2 measurements	2
	Doesn't match the drawing - <3mm	0
	Match the drawing - <2mm	1
	Match the drawing - <1mm	2

Desk surface with drawer. Evaluation after assembly.

	Desk surface with drawer, drawer compartment compliance with drawings and drawer functionality	
8.	Side compartment symmetry, differences in 2 measures	2
	Doesn't match the drawing - <2mm	0
	Match the drawing - <1mm	1
	Match the drawing - +/- 0,2 mm	2
9.	Drawer location for functional purposes	2
	Doesn't match the drawing - <3mm	0





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Match the drawing - <2mm	1
Match the drawing - <1 mm	2

Workpiece change.

Change of workpieces not more than 4 times.

1.	Workpiece change.	1
	Change of the workpiece has been noticed	0
	Change of the workpiece hasn't been noticed	1
2.	Workpiece change.	1
	Change of the workpiece has been noticed	0
	Change of the workpiece hasn't been noticed	1
3.	Workpiece change.	1
	Change of the workpiece has been noticed	0
	Change of the workpiece hasn't been noticed	1
4.	Workpiece change.	1
	Change of the workpiece has been noticed	0
	Change of the workpiece hasn't been noticed	1

Work safety

Observance of work safety requirements when working with tools or machines of public use. The violation is detected by the workshop manager, or an occupational safety specialist, or a member of the official evaluation commission. The violation must be recorded in writing.

1.	Violation of work safety regulations	1
	Violation of work safety conditions is fixed (in writing)	0
	Violation of work safety conditions is not fixed (in writing)	1
2.	Violation of work safety regulations	1
	Violation of work safety conditions is fixed (in writing)	0
	Violation of work safety conditions is not fixed (in writing)	1
3.	Violation of work safety regulations while working with machines and equipment of public use.	1
	Violation of work safety conditions has been fixed (in writing), the use of the working machines	0
	Violation of work safety conditions is not fixed (in writing)	1

Observance of work safety requirements when working with portable hand tools or non-mechanized hand tools





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1.	Violation of work safety rules	1
	Violation of work safety conditions is fixed (in writing)	0
	Violation of work safety conditions is not fixed (in writing)	1
2.	Violation of work safety regulations	1
	Violation of work safety conditions is fixed (in writing)	0
	Violation of work safety conditions is not fixed (in writing)	1
3.	Violation of work safety regulations when working with portable hand tools or non-mechanized hand tools	1
	Violation of work safety conditions has been fixed (in writing), <u>the use of the relevant work tools is prohibited.</u>	0
	Violation of work safety conditions is not fixed (in writing)	1

**The maximum number of points
obtained - 166**

The resulting scores 166

The evaluation criteria for distance evaluation are given in Annex 1.

Necessary materials for carrying out the activities

Each participant (or group working with one development of one unit) is supplied with:

1. Top surface - Veneered shield, plywood composition on top. Shield with dimensions <20mm.
2. Base - Veneered shield with dimensions <20mm.
3. Body parts (5pcs.). One-piece veneered shield with processing dimensions
4. Drawer parts (short 2pcs + long 2pcs). The cross-sectional dimensions defined in a drawing, length > 30mm.
5. Surface is slatted (4pcs.), slats without bevelling, width according to the drawing, thickness + 1mm, length > 30mm.
6. Slating material of indefinite length (it must be possible to cut the parts to the specified dimensions), width according to the drawing, thickness + 1mm.
7. Legs - cross-sectional dimensions and configuration according to the drawing, length + 60mm. (uncut).
8. Upper part of leg constructions (2 pcs.) in one blank, cross section according to the drawing, length processing dimensions (<100mm.)
9. Replacement kits.
10. Test details (marked), for the drawer and surface slatting.





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One set of materials is foreseen as set of spare parts.

The list of tools and equipment required for the competition task

Equipment:

Circular saw

Thicknesser

Surface planer

Spindle moulder

Vertical drilling machine

Mortising machine

Band saw

Oscillating edge sender

Disc sander

Veneer press

Hand electrical tools:

Hand electric screwdriver

Hand electric drill

Hand electric router

Orbital sander

Duo Dowel Joiner

Domino jointer

Hand electrical circular saw with ruler





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Hand tools:

Marking tools

Hand saws

Planes

Wood chisels

Hammers

Hand jigsaw

Claws

Work table

Accessories

Competition task - Desk

Desk is designed as a competition task. In the process of creating a desk design, its design feature, such as possibility to change difficulty level of its manufacture without changing its shape and appearance, was taken in account. The desk meets all ergonomic requirements and functional dimensions of the item. This item is meant to be as a workplace for one person, that could be used at school, office and home.

Desk constructive solution is designed so that it could be possible to use different technologies in the process of its manufacturing. The desk consists of a flat top surface - a cabinet unit with a built-in drawer to which leg structures are attached. Material used for the item: veneered board material, solid wood.

No.	Details of structure and parts	Technological description of manufacture
1.	Desk top surface	
	Desk top surface consists of a <u>top surface</u> , <u>body construction</u> . Made of veneered panel material.	
1.1.	Top surface	





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	Made of veneered panel material. Particle board, plywood, fibreboard (MDF) or blockboard, according to size or project drawing. Surface shield is slatted. It can be done before or after veneering, according to difficulty level that is set. The surface of the facade can be made in the form of a composite veneer drawing.	<ol style="list-style-type: none"> 1. Billet sawing 2. Fugue of veneer sheets 3. creation of veneer sheets 4. Veneer composing 5. Slat making 6. Slat sawing at angles 7. Gluing slats to the shield 8. Slat hanging removal 9. Plane veneering 10. Veneer hanging removal 11. Formatting of parts 12. Incorporation of a narrow surface profile 13. Installation of mounting cavities 14. Formatting of parts 15. Narrow plane veneering 16. Veneer hanging removal 17. Grinding of veneered parts 18. Incorporation of joints 19. Incorporation of backwall grooves 20. Assembly 21. Preparation for finishing works 22. Finishing works
1.2.	Body construction	
	The body is designed in the form of a box construction with a certain corner connection. Straight pin or notch, collision connection at 45 degrees with tang or collision connection with round pins. The cabinet block design provides three equal-width sections. They are intended for inserting a drawer. Back of the structure has a wall that is built into groove. The back wall is veneered. The cabinet block is connected to the surface using a round pin connection or any other suitable technology. The structure of the tabletop case is glued, non-removable.	
1.3.	Drawer	
	The drawer is made of solid wood. Drawer corner connections are secured with pins. Element of increased difficulty. One of the complicated connections – Swallow, straight through or other. Connections made with hand tools. Drawer front piece is the front part of the box body and connection incorporation is a visual design element. The floor is made of veneered panel material and is incorporated in the groove, which are located on the front detail and side details. The floor is fastened to the back of the box with screws after the drawer is mounted. The box size allows it to be placed into any of the three structural compartments.	<p><u>Mechanical work</u></p> <ol style="list-style-type: none"> 1. Billet preparation 2. Formatting of parts 3. Floor grooves incorporation 4. Floor shield formatting <p><u>Work with hand tools</u></p> <ol style="list-style-type: none"> 5. Marking connections 6. Making of joints 7. Adjustment of joints 8. Assembly, gluing of joints 9. Floor mounting 10. Drawers grinding 11. Finishing works
2.	Leg construction	
	Leg structure is composed of three parts, which are interconnected by a corner (swallowtail) joint. Prefabricated leg constructions are fixed to the side edges of the tabletop surface with decorative screws. In order to secure, precise and well-aligned screw holes must be made	





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2.1.	<p>Legs</p> <p>The legs are made of solid wood. All planes are adzed, edges are softened or chamfered. According to drawing - legs in irregular trapezoid shape. Integrated decorative joint at the upper end of the leg - connection socket. The set of legs is designed and manufactured in a mirror view.</p>	<ol style="list-style-type: none"> 1. Solid wood billet manufacturing operations 2. Manufacturing of solid wood parts according to given dimensions 3. Construction and marking of the connection parts
2.2.	<p>Stretcher</p> <p>Stretcher is a leg connecting piece, made of solid wood. All planes are adzed, edges are softened or chamfered. Joints - connecting pins are constructed and incorporated at the ends of stretchers. After manufacturing the parts of the legs, assemble the structure. Construction is glued. Creates mounting holes: in corners of the structure, in the lateral planes, at the intersections of the diagonals of the joints for connecting the leg structure to the table surface.</p>	<ol style="list-style-type: none"> 4. Adjustment of joints 5. Assembly, gluing of construction 6. Adjusting of construction to the given dimensions 7. Joining, hiding holes 8. Drilling holes 9. Construction boards profile incorporation 10. Grinding 11. Preparation for finishing works 12. Finishing works 13. Assembly

Visualisation of the task

Annex 1 Layout of the desk

Annex 2 Technical drawing and dimensions of the desk

