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GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
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SKILL COUNCIL
कुशल • सक्षम • आत्मनिर्भर

Sector
Interiors, Furniture and Fixtures

Sub-Sector
Furniture Business Development, Installation & After Sales

Occupation
Furniture Installation & After Sales

Referece ID: **FFS/Q2206, Version 1, NSQF Level 4.5**

Technical Handbook
Carpentry

Table of Content

Skill Explanation

A carpenter generally works on commercial and residential projects predominantly undertaking tasks using timber and timber related products. Carpentry is closely associated with other trades that make up the construction industry, working both individually and as part of a team to complete projects. A carpenter undertakes work both internally and externally within homes of customers and on construction sites in all weather conditions.

They are expected to interpret drawings, set out and measure, cut, form joints using both hand and power tools, assemble, and install finishes to a high standard. Carpenters also construct and install components that are seen on the inside and outside of residential or commercial buildings such as sidings, shutter, and roofing materials. They also make moulds for concrete formwork (called shuttering in some countries). Carpenters may also be involved in the design and construction of timber-framed buildings such as commercial buildings, dwellings, garages, sheds, gazebos, pergolas, and playhouses.

Work organization, self-management, communication, and interpersonal skills are integral parts of a carpenter's skill set along with problem solving, innovation and creativity. The ability to work precisely and accurately are fundamental attributes of an outstanding carpenter. Whether the carpenter is working alone or in a team, the individual takes on a high level of personal responsibility and autonomy.

Every step in the carpentry process matters; mistakes may be largely irreversible and could carry a very high cost. A Carpenter must work safely; demonstrate exceptional planning and organization skills, along with concentration and stamina paying attention to detail in order to achieve an excellent finish.

Carpenters must have technology skills to be able to use digital instruments such as GPS location devices, laser levels, electronic distance measurement devices and digital callipers. They must also be able to use specialist construction CAD software and project management (BIM) software. With the international mobility of people, the carpenter faces rapidly expanding opportunities and challenges. For a talented carpenter there are many commercial and international opportunities. However, these also carry with them the need to understand and work with diverse cultures and trends.

A Carpenter usually receives his or her training by working as an apprentice with a more experienced professional. With this training, a carpenter can complete tasks that are more intricate and achieve a higher degree of accuracy and finish.

Age limit of Competitors

The Competitors must not be older than 22 years in the year of the Competition

Applicable National Occupational Standards (NOS)

1. FFS/N2228: Interpret the work docket and demonstrate proficiency in working with drawings
2. FFS/N2229: Perform material selection and setting out work for accurate carpentry joint fabrication
3. FFS/N2230: Erect the structure and perform finishing based on drawing specifications
4. FFS/N8208: Execute carpentry work with safety, effective communication, and professional development

1. FFS/N2228: Interpret the work docket and demonstrate proficiency in working with drawings

Description

This unit describes the performance outcomes required to perform drawing docket interpretation and optimization, material identification, and working with drawings at the workplace or site.

Scope

The scope covers the following

- Drawing Docket Interpretation and Optimization
- Material Identification
- Working with Drawing

Elements and Performance Criteria

Drawing Docket Interpretation and Optimization

To be competent, the user/individual on the job must be able to:

PC1. conduct a thorough assessment of intended uses and environmental conditions based on drawing dockets, seeking clarity when needed.

PC2. interpret drawing dockets with precision, optimizing the potential for high-quality construction while considering design intent

PC3. extrapolate information from drawings and specifications to address gaps or uncertainties.

PC4. seek clarification and correct any missing or incorrect information in drawings, ensuring accuracy and eliminating potential issues in the construction process.

Material Identification

To be competent, the user/individual on the job must be able to:

PC5. identify the materials specified in drawing dockets, seeking clarification for any discrepancies.

PC6. identify materials and quantities needed for the product according to drawing docket specifications, showcasing proficiency in parts identification.

PC7. organize of all the necessary tools, materials, and equipment for the specified operations Working with Drawing

To be competent, the user/individual on the job must be able to:

PC8. produce meticulous drawings both to scale and full size, adhering to drawing docket specifications.

PC9. perform the drawing annotation with appropriate dimensional points, specification, conventions and notes on the full-scale drawing

PC10. utilize geometric methods adeptly to determine missing complex angles, joints, and intersections

PC11. perform checking of angles, shapes and dimensions against specifications

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Drawing Docket Interpretation and Optimization	6	18	8	**1**
PC1. conduct a thorough assessment of intended uses and environmental conditions based on drawing dockets, seeking clarity when needed.	-	4	2	-
PC2.interpret drawing dockets with precision, optimizing the potential for high quality construction while considering design intent	2	4	2	-
PC3. extrapolate information from drawings and specifications to address gaps or uncertainties.	2	6	4	**1**
PC4. seek clarification and correct any missing or incorrect information in drawings, ensuring accuracy and eliminating potential issues in the construction process.	2	4	-	**2**
Material Identification	6	14	6	**2**
PC5. identify the materials specified in drawing dockets, seeking clarification for any discrepancies.	2	4	-	**1**
PC6. identify materials and quantities needed for the product according to drawing docket specifications, showcasing proficiency in parts identification.	2	6	4	-
PC7. organize of all the necessary tools, materials, and equipment for the specified operations	2	4	2	**1**
Working with Drawing	8	20	8	**3**
PC8. produce meticulous drawings both to scale and full size, adhering to drawing docket specifications.	2	6	4	**1**
PC9. perform the drawing annotation with appropriate dimensional points, specification, conventions and notes on the full scale drawing	**2**	**6**	**4**	**1**

2. FFS/N2229: Perform material selection and setting out work for accurate carpentry joint fabrication

Description

This unit describes the performance outcomes required to execute accurate setting out, apply calculations and formulas, and engage in material selection and joint fabrication at the workplace or site.

Scope

The scope covers the following:

- Accurate Setting Out
- Calculation and Formula Application
- Material Selection and Joint fabrication

Elements and Performance Criteria

Accurate Setting Out

To be competent, the user/individual on the job must be able to:

PC1. set out relevant aspects of construction projects accurately and clearly using conventional and digital tools

PC2. implement strategies to avoid cumulative and compounded errors during the setting out process

Calculation and Formula Application

To be competent, the user/individual on the job must be able to:

PC3. use appropriate calculations and formulae to set-out dimensions and measurements accurately

PC4. apply mathematical principles to validate and adjust measurements, ensuring alignment with project specifications.

Material Selection and Joint fabrication

To be competent, the user/individual on the job must be able to:

PC5. ensure proper selection of appropriate timber and timber-based materials, considering factors such as strength, durability, and aesthetic considerations.

PC6. prepare a cutting list of product components based on materials and design specifications

PC7. perform the measurement and marking on timber and timber-based materials for joint fabrication

PC8. select and safely use hand and power tool to cut joints safely and accurately.

PC9. prepare joints that are parallel, clean, and correct in size to the drawing

PC10. ensure proper checking of joints for strength and durability

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Accurate Setting Out	2	10	6	**1**
PC1. set out relevant aspects of construction projects accurately and clearly using conventional and digital tools	-	4	2	-
PC2. implement strategies to avoid cumulative and compounded errors during the setting out process	2	6	4	**1**
Calculation and Formula Application	4	10	4	**1**
PC3. use appropriate calculations and formulae to set-out dimensions and measurements accurately	2	6	4	**1**
PC4.apply mathematical principles to validate and adjust measurements, ensuring alignment with project specifications.	2	4	-	-
Material Selection and Joint fabrication	12	30	16	**4**
PC5. ensure proper selection of appropriate timber and timber-based materials, considering factors such as strength, durability, and aesthetic considerations.	2	4	2	**1**
PC6. prepare a cutting list of product components based on materials and design specifications	2	6	4	-
PC7. perform the measurement and marking on timber and timber - based materials for joint fabrication	2	6	4	**1**
PC8. select and safely use hand and power tool to cut joints safely and accurately.	2	4	2	**1**
PC9. prepare joints that are parallel, clean, and correct in size to the drawing	2	6	4	**1**
PC10. ensure proper checking of joints for strength and durability	2	4	-	**-1**
NOS Total	**18**	**50**	**26**	**6**

3. FFS/N2230: Erect the structure and perform finishing based on drawing specifications

Description

This unit outlines the performance outcomes required to execute accurate assembly and erection, as well as finishing to specification at the workplace or site.

Scope

The scope covers the following:

- Accurate Assembly and Erection
- Finishing to Specification

Elements and Performance Criteria

Accurate Assembly and Erection

To be competent, the user/individual on the job must be able to:

PC1. perform the assembly and erect structures according to project specifications, ensuring precision in alignment and fit.

PC2. execute assembly tasks without causing damage to components, minimizing personal risk, risk to others, and potential damage to property.

PC3. select and use specified fasteners as outlined in project drawings

Finishing to Specification

To be competent, the user/individual on the job must be able to:

PC4. produce accurate joints and intersections with no gaps

PC5. attach members neatly using appropriate fasteners, ensuring a clean and professional appearance.

PC6. finish carpentry work to the surface finish specifications outlined in project drawings

PC7. avoid damage or unsightly marking of components during the finishing process

PC8. conduct regular quality checks during the finishing process

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Accurate Assembly and Erection	4	20	8	1
PC1. perform the assembly and erect structures according to project specifications, ensuring precision in alignment and fit.	-	8	4	-
PC2. execute assembly tasks without causing damage to components, minimizing personal risk, risk to others, and potential damage to property.	-	6	4	-
PC3. select and use specified fasteners as outlined in project drawings	4	6	-	1
Finishing to Specification	20	32	12	3
PC4. produce accurate joints and intersections with no gaps	4	6	4	1
PC5. attach members neatly using appropriate fasteners, ensuring a clean and professional appearance.	4	6	4	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC5. attach members neatly using appropriate fasteners, ensuring a clean and professional appearance.	4	6	4	1
PC6. finish carpentry work to the surface finish specifications outlined in project drawings	4	8	4	-
PC7. avoid damage or unsightly marking of components during the finishing process	4	6	-	-
PC8. conduct regular quality checks during the finishing process	4	6	-	1
NOS Total	**24**	**52**	**20**	4

4. FFS/N8208: Execute carpentry work with safety, effective communication, and professional development

Description

This unit describes the performance outcomes required to perform safety at the worksite, ensuring safety in tool and equipment usage, efficient project completion, stakeholder engagement through transparent communication, effective problem resolution, and professional advancement.

Scope

The scope covers the following :

- Safety at Worksite
- Safety in Tool and Equipment Usage
- Efficient Project Completion
- Stakeholder Engagement and Transparent Communication
- Problem Resolution and Professional Advancement

Elements and Performance Criteria

Safety at Worksite

To be competent, the user/individual on the job must be able to:

PC1. produce work in conformity with pertinent health and safety legislation, regulations, and obligations governing construction activities.

PC2. implement robust risk management approaches, including the elimination, isolation, or minimization of potential risks.

PC3. select and utilize suitable Personal Protective Equipment (PPE) when required, ensuring alignment with safety protocols.

Safety in Tool and Equipment Usage

To be competent, the user/individual on the job must be able to:

PC4. prudently use, uphold, manage, and warehouse tools, equipment, and materials on-site, in accordance with established safety protocols.

PC5. conduct regular assessments of tools and equipment for their secure operational state, reporting any anomalies or issues expeditiously.

Efficient Project Completion

To be competent, the user/individual on the job must be able to:

PC6. perform construction projects securely, precisely, and proficiently, in adherence to stipulated standards and within anticipated timelines.

PC7. curtail the environmental impact of projects through resourceful work methodologies, waste reduction, and the utilization of pertinent equipment.

Stakeholder Engagement and Transparent Communication

To be competent, the user/individual on the job must be able to:

PC8. engage proficiently with pertinent entities involved in construction projects, encompassing clients, contractors, and other stakeholders.

PC9. clearly communicate project requirements and expectations to all involved parties in construction projects, ensuring mutual understanding.

Problem Resolution and Professional Advancement

To be competent, the user/individual on the job must be able to:

PC10. foresee and forestall commonplace variables in construction projects, such as material selection, to preclude potential predicaments.

PC11. rectify problems at their foundational source, tackling underlying issues rather than surface-level symptoms.

PC12. uphold currency in industry knowledge and trends through persistent research, skill augmentation, lifelong training, and/or educational pursuits.

PC13. supervise individual work proficiently, showcasing autonomy and accountability for assigned project tasks.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Safety at Worksite	4	14	6	2
PC1. producework in conformity with pertinent health and safety legislation, regulations, and obligations governing construction activities.	2	4	2	1
PC2. implement robust risk management approaches, including the elimination, isolation, or minimization of potential risks.	-	4	2	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC3. select and utilize suitable Personal Protective Equipment (PPE) when required, ensuring alignment with safety protocols.	2	6	2	**1**
Safety in Tool and Equipment Usage	4	10	2	**1**
PC4. prudently use, uphold, manage, and warehouse tools, equipment, and materials on - site, in accordance with established safety protocols.	2	6	2	**1**
PC5. conduct regular assessments of tools and equipment for their secure operational state, reporting any anomalies or issues expeditiously.	2	4	-	-
Efficient Project Completion	2	10	2	**1**
PC6. perform construction projects securely, precisely, and proficiently, in adherence to stipulated standards and within anticipated timelines.	-	6	2	-
PC7. curtail the environmental impact of projects through resourceful work methodologies, waste reduction, and the utilization of pertinent equipment.	2	4	-	**1**
Stakeholder Engagement and Transparent Communication	-	8	4	-
PC8. engage proficiently with pertinent entities involved in construction projects, encompassing clients, contractors, and other stakeholders.	-	**4**	**2**	-

Working Instructions to Competitors

For Construction of the task

- After face marking and setting out of the case competitors must bring them to the experts for marking.
- Before gluing, must present the frames to the experts for marking.
- The surface should be fit for the polishing
- The competitors must keep track of the time by themselves.
- The timing will be stop by experts, only in cases of illness and accidents.
- Your own measuring equipment rulers etc. Can be available after finishing your test for controlling of the measurements.
- Workshop Installation-Tools & Equipment positioned by Organizers
- Tool Kit-Tool & Equipment allowed to be brought by competitors for competitions
- All equipment and material will be provisioned by the Organizers at site including raw material; pine wood.
- Hand tools can be utilized for finishing your work.

Product Execution Template

Section A: Product Overview

1. Product Details

Product Name	Carpentry House Project
Dimensions	Length: 60” (1536 mm), Width: 48” (1200 mm), Height: 69” (1730 mm)
Materials	Frame: Solid Softwood (Pine)-Panel-Pre-laminated MDF
Design Features	Carpentry structure with Roofing
Intended Use	Outdoor installation, Park & Garden, Moderate humidity environment, Flat and level floor base required

Section B: Pre-Execution Readiness

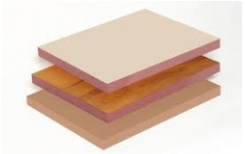
2. Pre-Production Checklist

Ensure all these are addressed before beginning production:

Task	Status (✗/✓)	Remarks
Final approval of product drawings	✓	Must include plan, elevation, section views
On -site space cleaned and prepared	✓	No obstructions or ongoing construction
All raw materials, hardware delivered and checked	✓	Verify quality, quantity, moisture content
Availability of Power tools, hand tools	✓	–
Availability of power outlets	✓	For power tool operation (220V preferred)

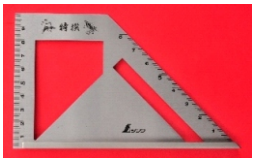
Section C: Materials & Resources

3. Raw Materials Required

Item	Specification/Use	Description	Image
Wood and Panels			
Solid wood	pine wood	Used in carpentry structure	
Pre-laminated MDF	7.5mm Thick	Used in Roof	
		Hardware	
Screws	Various sizes	Used for fixing Carpentry structure	
Adhesives & Consumables			

Resin Glue	For joint fixing	PVA-based wood adhesive for edge bonding & surface gluing	
Fast spray glue	Template holding for few minutes	A permanent contact adhesive in an aerosol format	

4. Tools & Equipment

Tool	Specification/Use	Description	Image
Hand Tools			
Measuring Tape	3m/5m	For accurate measurements of wood panels	
Steel Ruler	300mm or 600mm	Precision steel measuring tool	
Marking Gauge	150 mm	Precision marking tool For mortise/Tennon joint	
Mitre Square	Adjustable angle tool	Used to mark and check angles	

Try Square	6"/8"	For marking and checking right angles	
F-clamps	6" to 12"	Holding materials during cutting or glueing	
Power Tools			
Drill Machine	With wood bits	For drilling screw holes or dowel joints	
Hand Router	For edge profiling	Used for shaping decorative edges on panels	
Compound Mitre Saw	Cutting at 90-& 45-degree angle	For accurate cutting	
Stand Light	15000 luminus power	Dewalt stand light	
Stand - For Hand Tools	–	Used for tools storage on a arranged manner	

Clamp Stand	Metal body stand	Using for clamp holding	
MFT Table	Using for tools uses	Multifunction table for machine uses	
Working Table	Hard wood working table	–	 
Accessories			
Carpenter's Pencil	Marking	Flat pencil for marking wood without rolling off	
Protractor Angle Finder	Angle marking	Stainless Steel 180 Degree Protractor Angle Finder Rotary Measuring Ruler	
Spirit Level	600mm or 1200mm	For ensuring level alignment	
Safety Gears			
Dust Masks	N95 or similar	Protection from MDF dust	

Nitrile Gloves	Medium/Large	Prevent glue/chemical contact with skin	
Safety Goggles	ANSI-rated	Eye protection from dust and splinters	
Noise Protection Plugs	Foam type	Ear protection during power tool use	
Fire Extinguisher	CO2 or dry powder	For immediate response to workshop fires	

Section D: Construction Workflow

6. Step-by-Step Build Process

1. Sizing & Shaping

Surface planning at 90-degree angle

Thickness planning in accurate required size

Objective: Sizing at accurate dimensions from design drawings to the raw panel materials.

1. Cutting

Objective: Cut all to precise sizes ensuring clean edges and squareness

- Place the wood on an elevated base to avoid material damage and accidents.
- Rough trim all wood by 5–10 mm first, then finalize cuts to correct size.
- Ensure edges are straight (check visually and with a straight edge).

		
Raw materials for carpentry structure	Start cutting 5mm for right angle	Final cutting according to Drawing for making joint

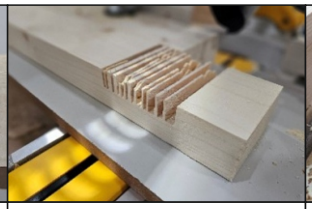
Tips:

- Use F-clamps to stabilize material.
- Replace or clean saw blade regularly to avoid burn marks.

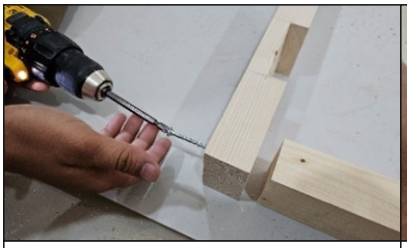
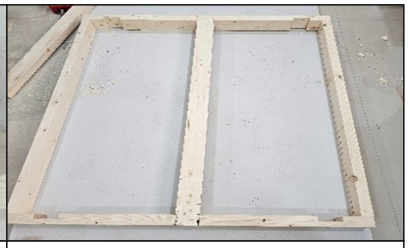
1. Module 1 - Half lap joint

Objective: Half lap joint is simple or stronger joint in carpentry

- Marking for half lap dovetail joint

			
Half lap joint marking for joining base of structure	Use bevel for marking line to cut the part for lap joint	Use mitre saw for cutting the half lap joint	Use firmer chisel for removing the cut part

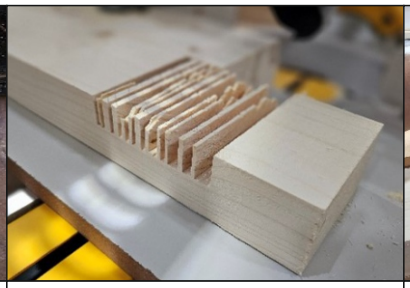
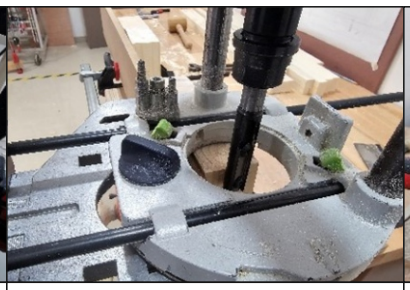
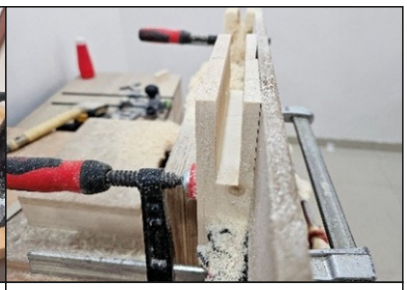
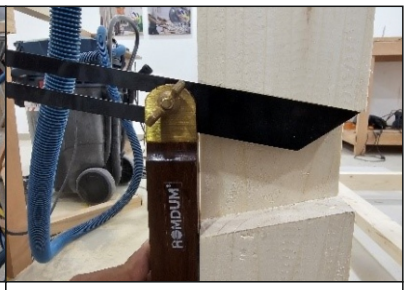
		
Check half lap dovetail joint by placing inside the cutout properly	Then fix the base frame with 70 mm screw	Use drill machine for drill hole for screw

		
Then, use drill machine with star bit for fixing screw	Fix the all screw properly in base frame	Now, module 1 is ready by fixing the centre part

2. Module 2 – Bridle Joint

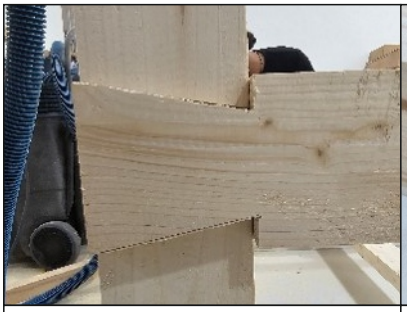
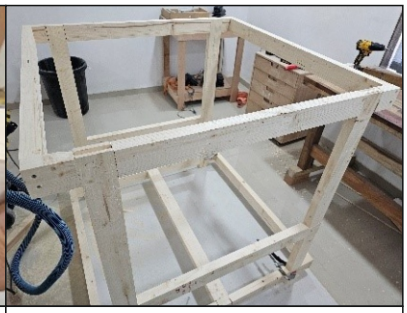
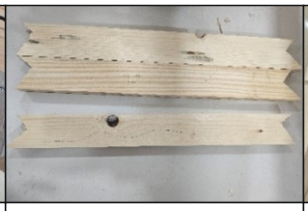
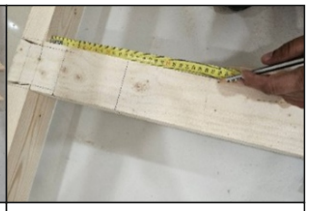
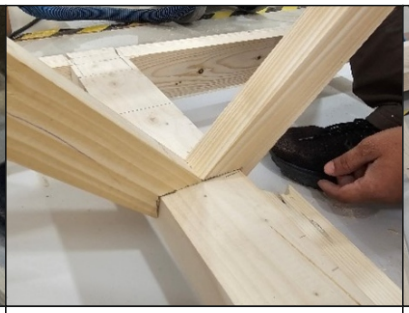
Objective: Bridle joint is using for connecting the side rail

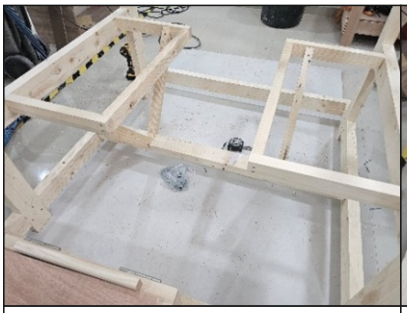
- Marking for T-bridle joints

		
Marking for T-bridel joint in top rail	Use mitre saw for cutting the remaining part of joint	Use a flush trim bit in router machine for smoothing joint
		
Use f-clamp for chiselling the joint	Use 16mm trim bit in router machine grooving the Pillar	Final look after routing the piece
		
Start fixing the base frame & Pillar with screw	After fixing the Pillar in base frame	Set the bevel square with Pillar for marking

- Marking & Cutting: Half - lap Dovetail

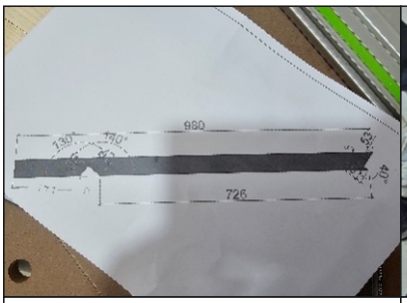
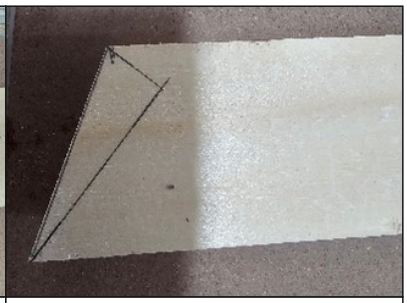
		
Make on the side bottom rail by using bevel square	After marking properly	Use rip hand saw for cutting the dovetail joint

		
Fix side bottom rail with screw	Fix side top rail by sliding bridle joint	After that, use drill machine for connecting the front top rail by drill hole
		
Then use screws for fixing it	Fix all the sides properly	After that start cutting the sitting part
			
Use angle protector for marking	Use hand saw for cutting the marking	Sitting support part is ready	Marking for fixing the sitting support
		
Use drill machine for drill & fixing with screw	Fix both supports properly with base frame	Now fix all the support part properly with base frame

		
Fixing top sitting rail with bottom side rail	Fix sitting support connecting rail	Finaly fix the support part with top part of sitting frame
		
Fix all the remaining screws in sitting frame	Start fixing the top panel on the siting frame	Fix with all the screws properly in sit frame

3. Module 3

- Marking & Cutting: Rafter of Roof

		
Drawing of rafter for marking & cutting	Use angle protractor for marking at angle	Cutting done by hand saw
		
Making at bottom end of rafter	Angle must be at 90 degrees	Using hand saw for cutting the marked line

		
Use drill machine for drilling or fixing screw in rafter	Fix all the screws properly	Fix the centre beam of roof with the support of rafter
		
Centre beam screw properly done	Cut the centre support of beam & fix with screws properly	Cut the vertical support & fix with centre beam for more stability
		
Cut the root panel & fix properly with Screw	Carpentry House plan is ready	

6. Estimated Time Per Stage

Activity	Estimated Time (Hours)
Measurement & Marking	1
Cutting & joining	5
Drawing sketching	2
On-site Installation	2
Total	10

Section E: Quality Assurance

7. Quality Checks

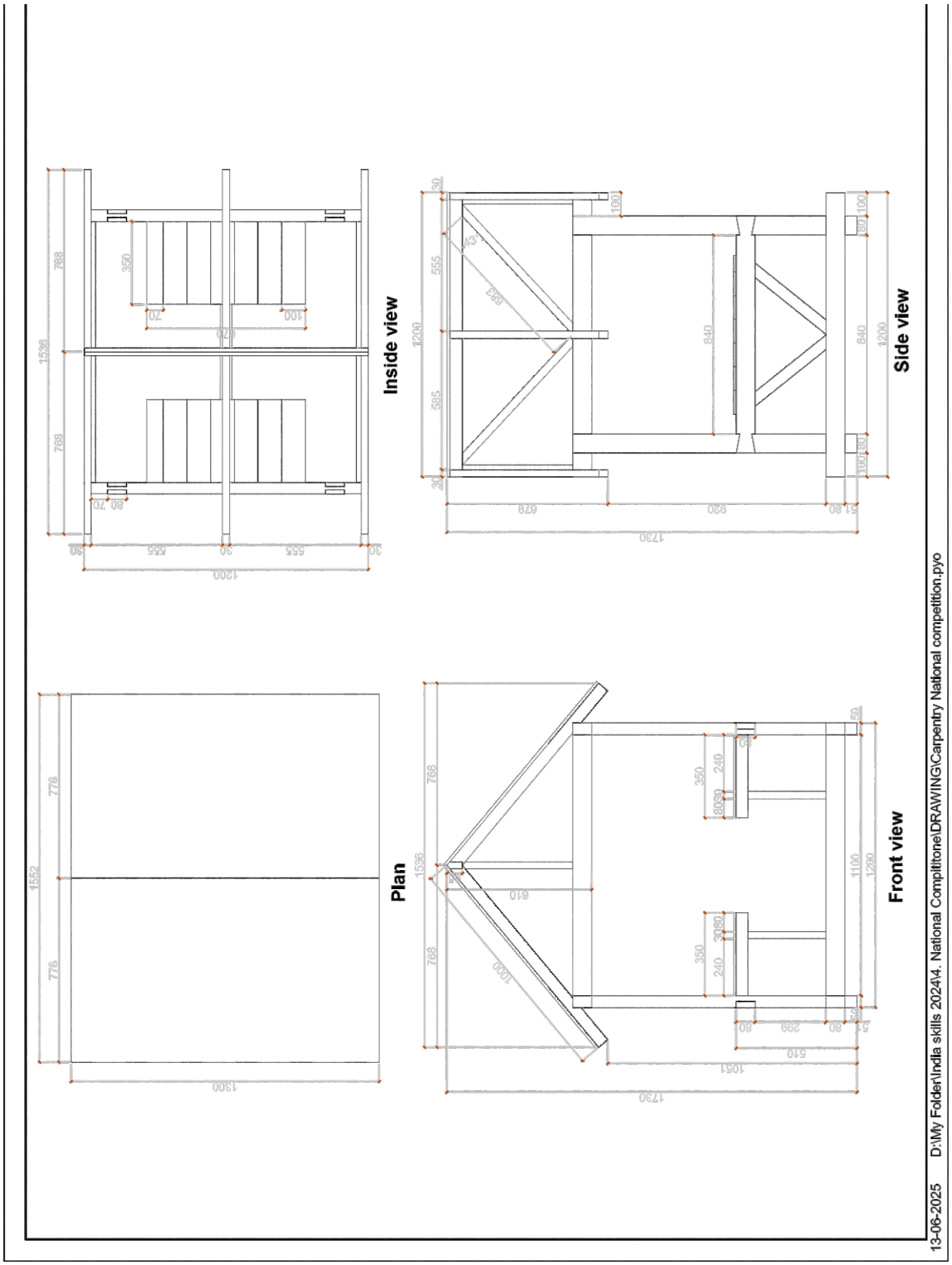
Stage	Checkpoint	Inspection Method
Cutting	Accuracy ± 2mm, no burn marks	Tape measure, visual
Joinery	Flush joints, no glue seepage	Visual + feel test
Assembly	Square structure, proper levelling	Carpenter's square, level
Final Inspection	Smooth surfaces, aligned components	Visual & checklist-based

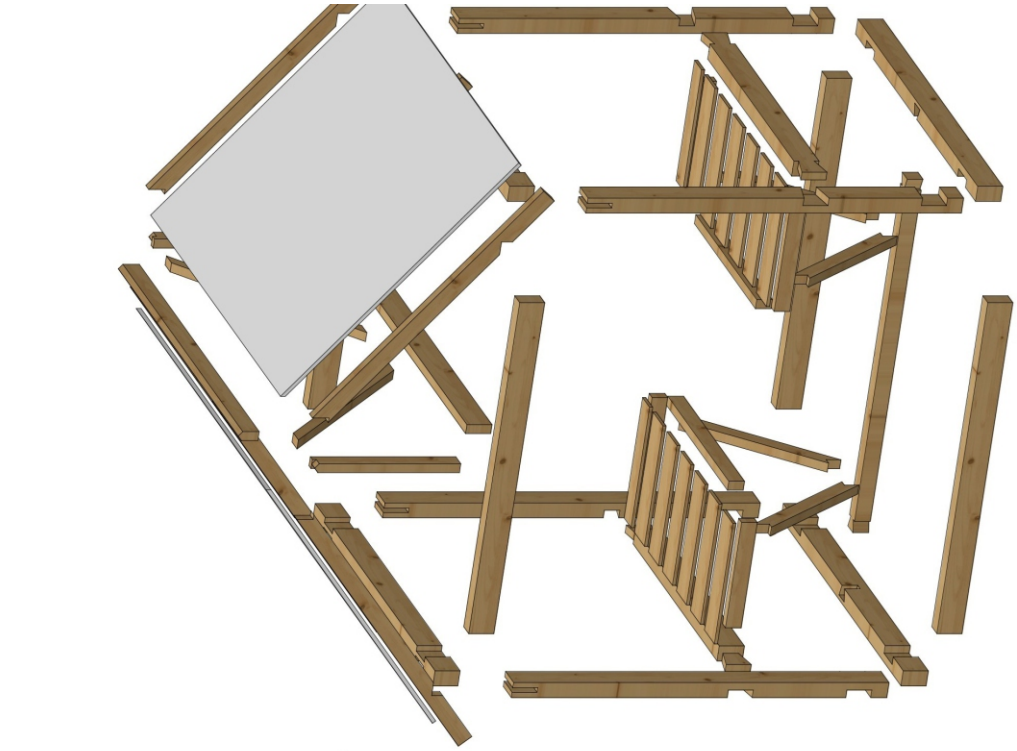
Section F: Handover & Documentation

8. Inspection & Handover Checklist

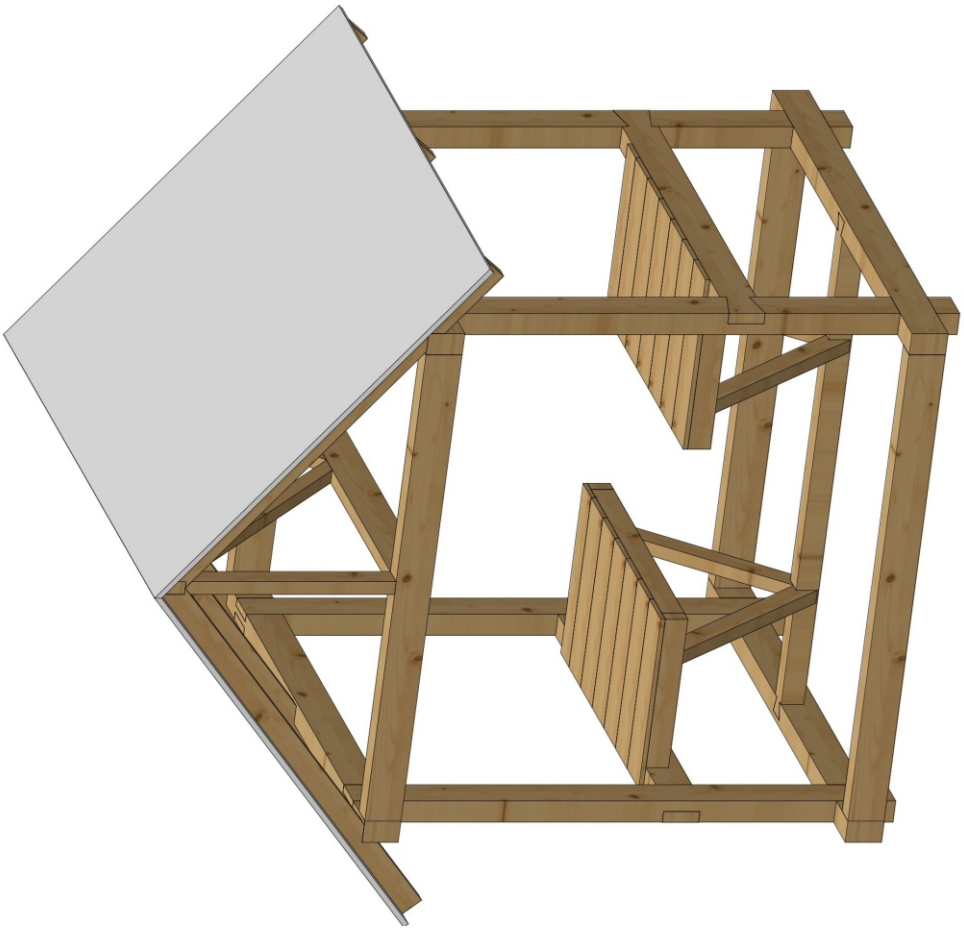
Parameter	Status (✗/✓)	Notes
Roof level & aligned	✓	–
All the part fix properly with Screw	✓	–
All components damage-free	✓	–
Room cleaned after work	✓	–

Annexure 1: Furniture Measured Drawings





Exploded View



Axonometric view

Annexure 2: Cutting List

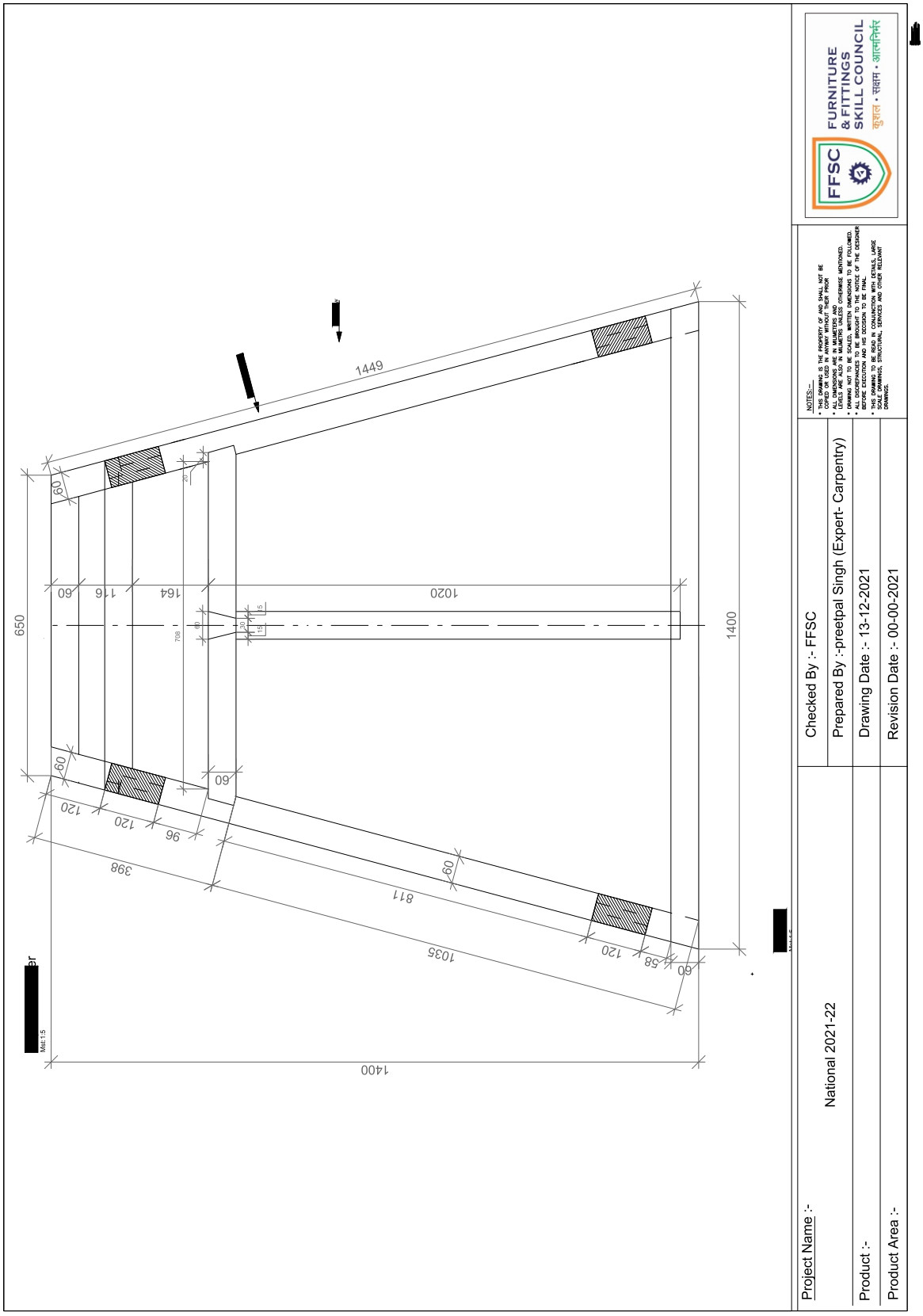
Qty		Part name	Length		Width		Thickness	
				Module 1				
	1	Barrier		1175		50		50
	2	Barrier		1100		80		50
	2	Barrier		1200		80		50
	4	Post		1200		80		50
				Module 2				
	1	Barrier		1100		80		30
	2	Barrier		1100		80		50
	2	Barrier		1200		80		50
	2	Tie		1000		80		50
	14	Sitting top patti		400		100		10
				Module 3				
	2	Brace		719.37		34.05		30
	1	Post		464.91		50		30
	6	Rafter		980.47		50		30
	1	Ridge		1200		65.09		30

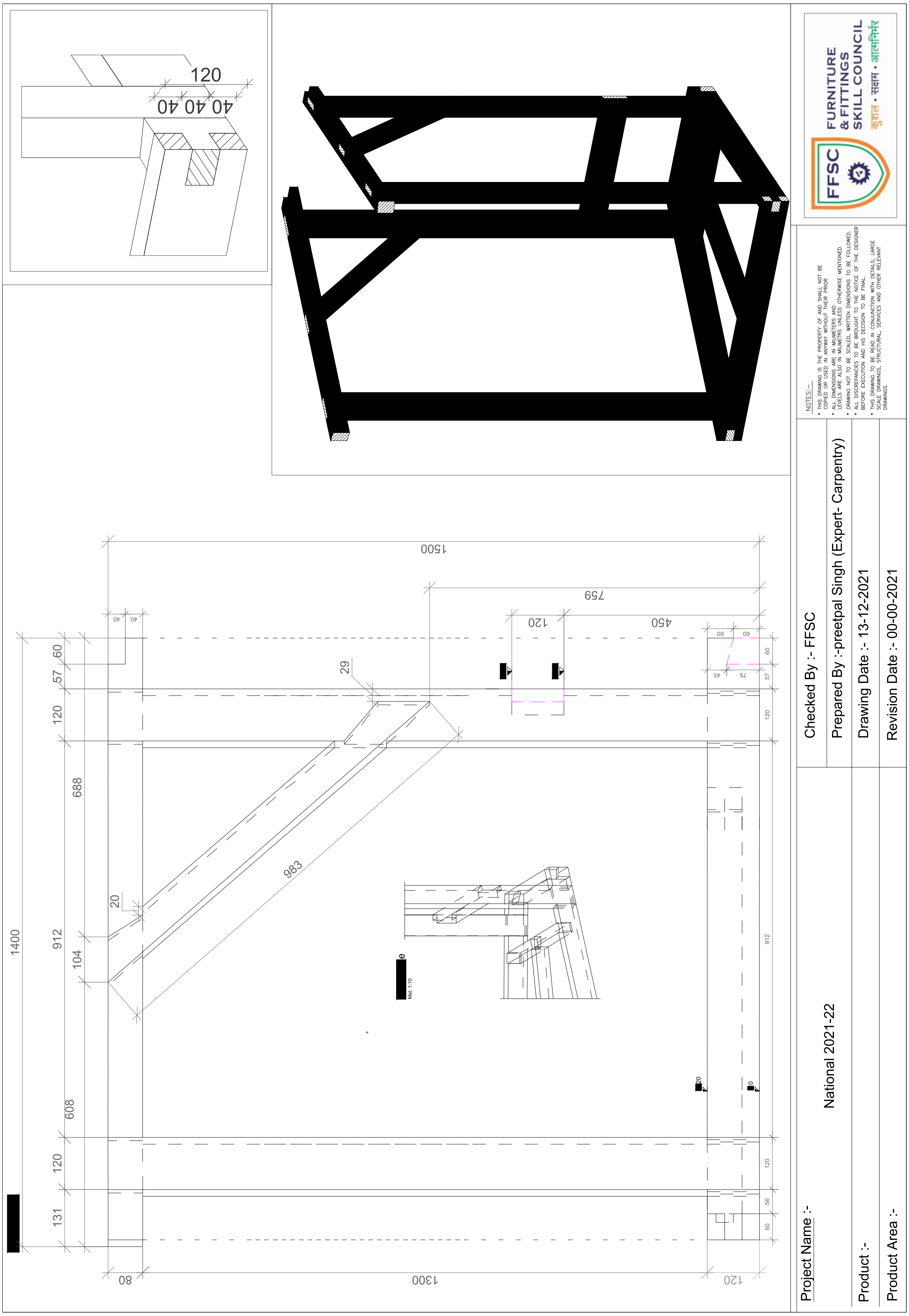
Annexure 3: Bill of Materials

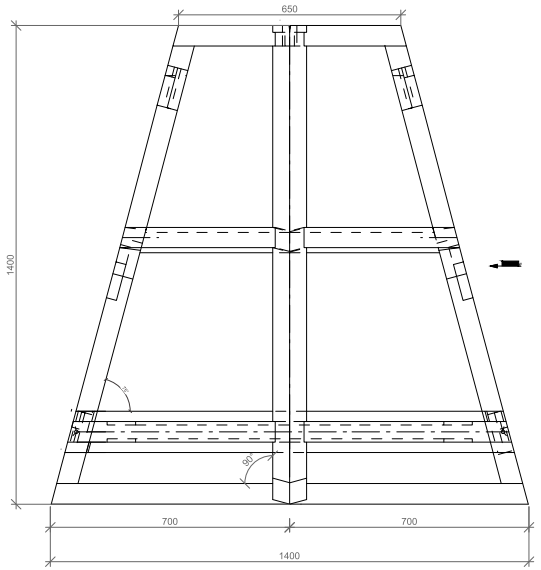
		FFSC Furniture & Fittings Skill Council BILL OF MATERIAL (BOM)			
Project Code			2025_1319		Project
		Prototype			
S. No.	Category / sku code	Material Description	Make	Qty	Unit
1	PAN 1210	PLM PB INT 7.5MM X 8'X4' BSL WHITE	HERITAGE	1	NOS
2	WOOD	PINE WOOD	HERITAGE	1	NOS
7	HNF 1573	Screw 50x4 mm ss finish	Ebco	100	NOS

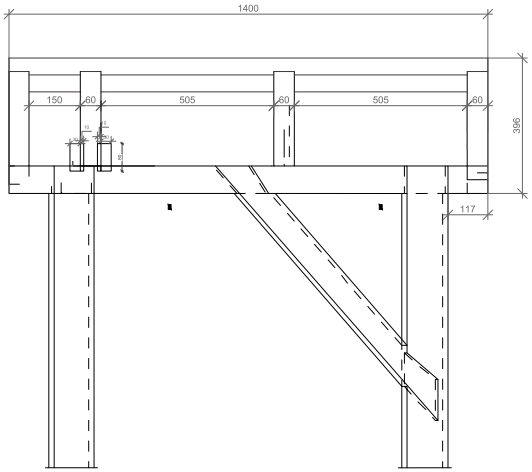
Annexure 4 Sample Drawing

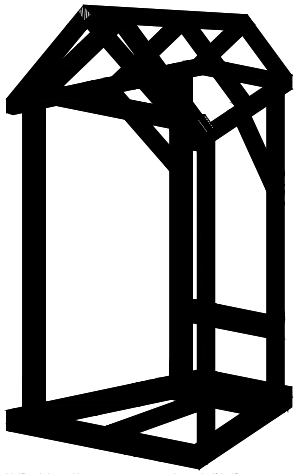
India skills Test Project Drawing



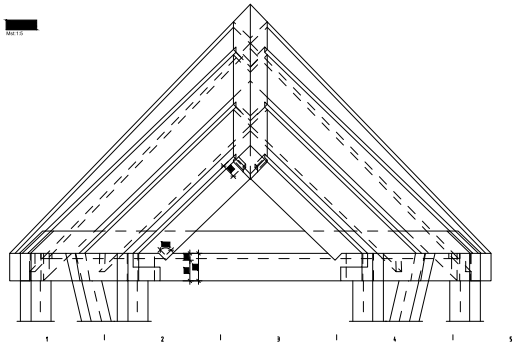

Project Name :-
National 2021-22
Checked By :- FFSC
Prepared By :-preetpal Singh (Expert- Carpentry)
Product :-
Drawing Date :- 13-12-2021
Product Area :-
Revision Date :- 00-00-2021
FURNITURE & FITTINGS SKILL COUNCIL
1500
759
450
120
1400
1300
983
912
688
608







-Halfing joints without messurements always half-half!
Nr. Cuttinglist/ width (mm) x Height (mm) / length (mm)



Project Name :- National 2021-22	Checked By :- FFSC
	Prepared By :-preetpal Singh (Expert- Carpentry)
Product :-	Drawing Date :- 13-12-2021
Product Area :-	Revision Date :- 00-00-2021

NOTES:-
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- DRAWING NOT TO BE SCALED, WRITTEN DIMENSIONS TO BE FOLLOWED.
- ALL DISCREPANCIES TO BE BROUGHT TO THE NOTICE OF THE DESIGNER BEFORE EXECUTION AND HIS DECISION TO BE FINAL.
- THIS DRAWING TO BE READ IN CONJUNCTION WITH DETAILS, LARGE SCALE DRAWINGS, STRUCTURAL, SERVICES AND OTHER RELEVANT DRAWINGS.

FFSC FURNITURE & FITTINGS SKILL COUNCIL
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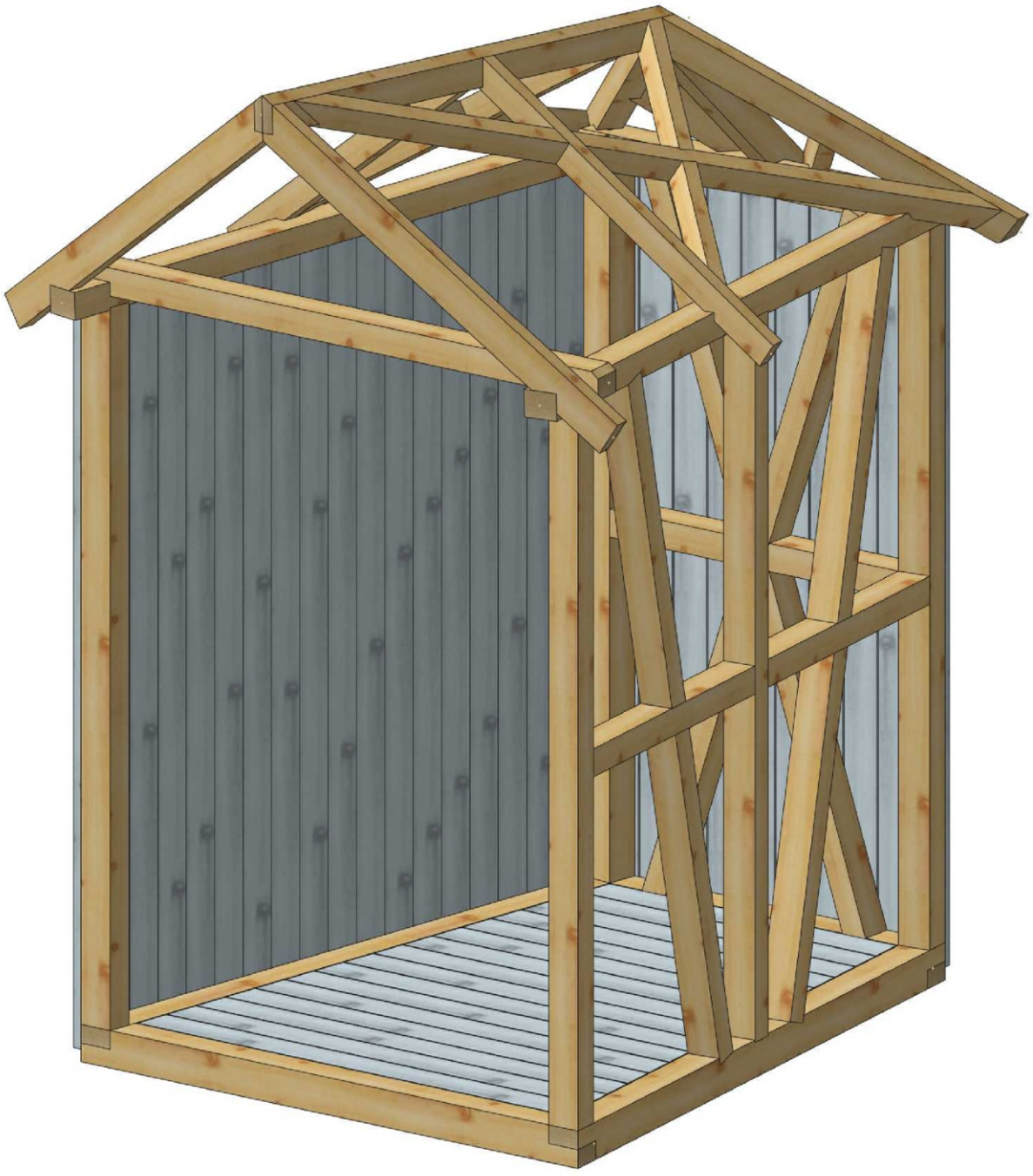
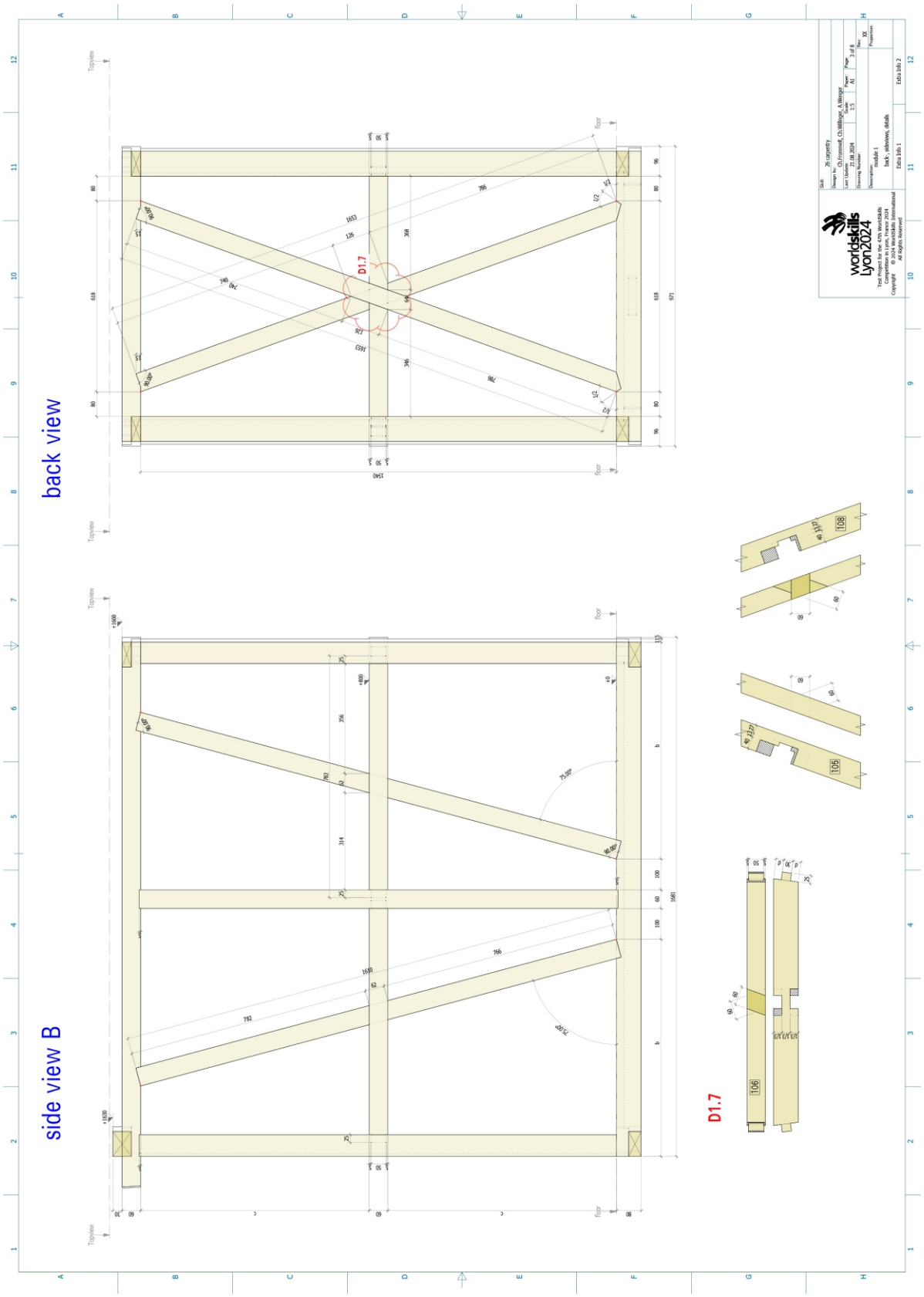
Worldskills Test Project Drawing




back view
side view B
D1.7
D1.7
worldskills Lyon2024
Skill: 26 carpentry
Design by: Ch.Frommelt, Ch.Wilfinger, A.Weigert
Last Update: 21.08.2024
Scale: 1:5
Paper: A1
Page: 3 of 8
Rev: 00
Drawing Number:
Description: module 1
back , sideviews, details
Extra Info 1
Extra Info 2
Provision:
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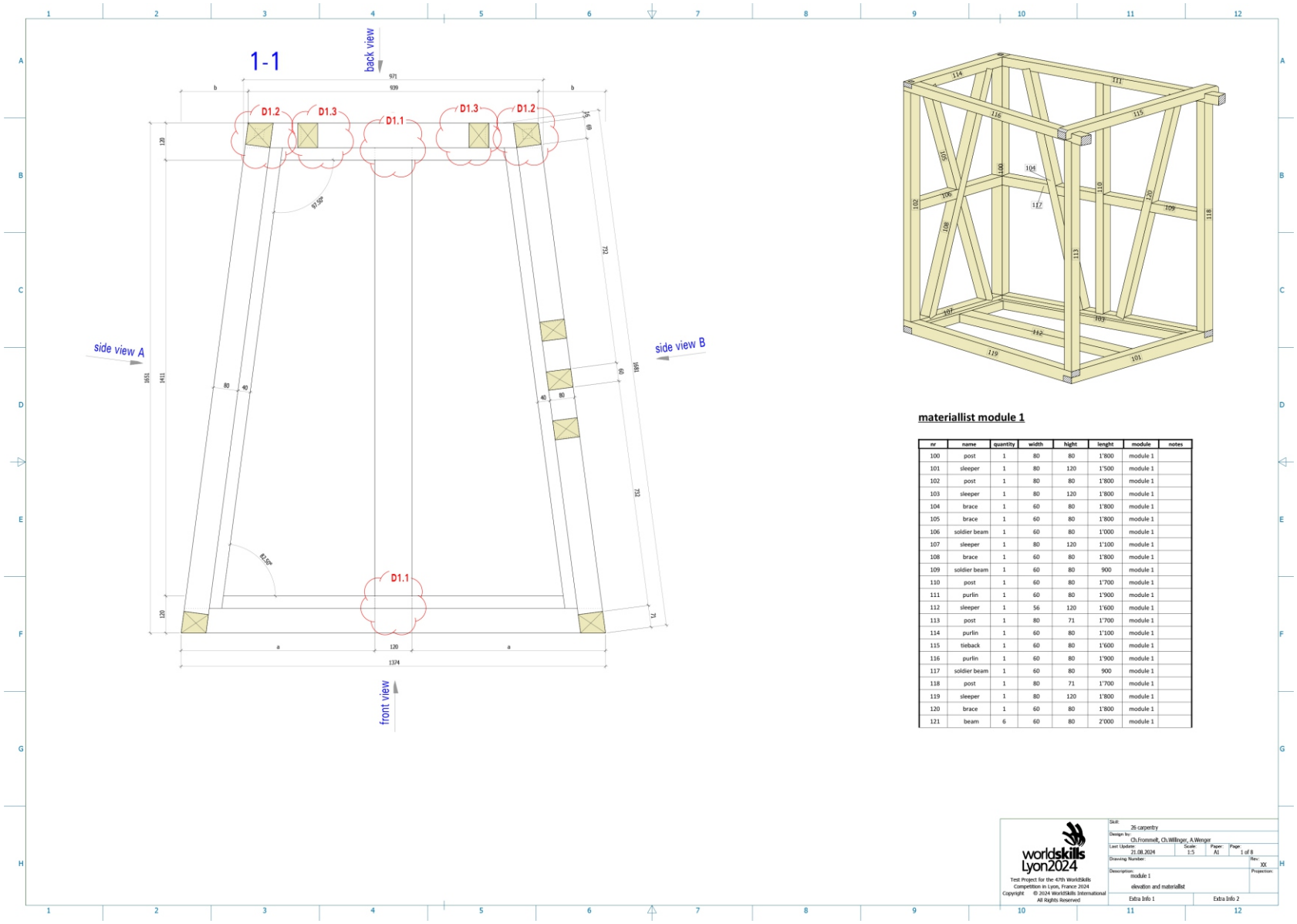

materiallist module 1

nr	name	quantity	width	hight	lenght	module	notes
100	post	1	80	80	1'800	module 1	
101	sleeper	1	80	120	1'500	module 1	
102	post	1	80	80	1'800	module 1	
103	sleeper	1	80	120	1'800	module 1	
104	brace	1	60	80	1'800	module 1	
105	brace	1	60	80	1'800	module 1	
106	soldier beam	1	60	80	1'000	module 1	
107	sleeper	1	80	120	1'100	module 1	
108	brace	1	60	80	1'800	module 1	
109	soldier beam	1	60	80	900	module 1	
110	post	1	60	80	1'700	module 1	
111	purlin	1	60	80	1'900	module 1	
112	sleeper	1	56	120	1'600	module 1	
113	post	1	80	71	1'700	module 1	
114	purlin	1	60	80	1'100	module 1	
115	tieback	1	60	80	1'600	module 1	
116	purlin	1	60	80	1'900	module 1	
117	soldier beam	1	60	80	900	module 1	
118	post	1	80	71	1'700	module 1	
119	sleeper	1	80	120	1'800	module 1	
120	brace	1	60	80	1'800	module 1	
121	beam	6	60	80	2'000	module 1	

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Skill: 26 carpentry

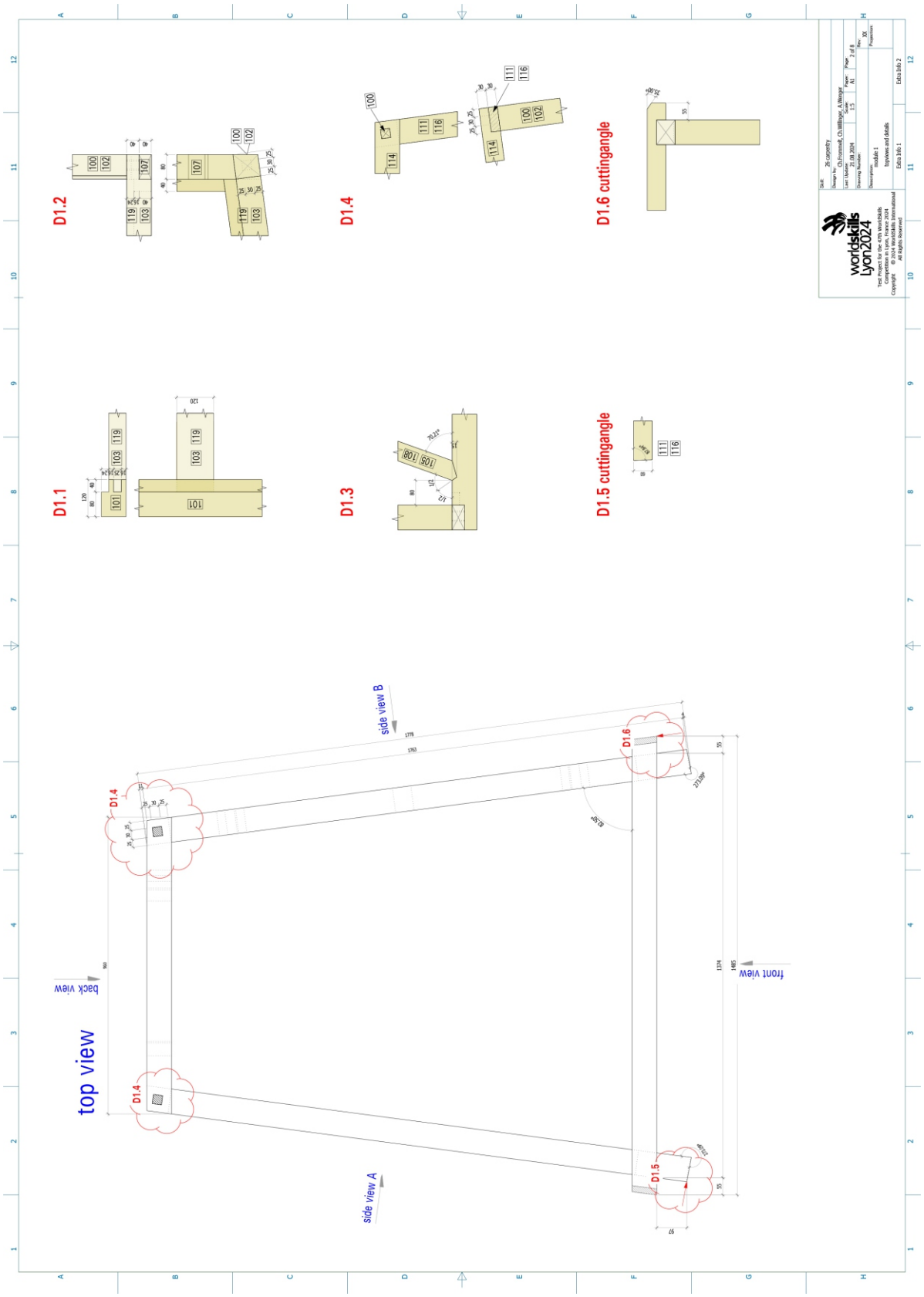
Design by: Ch.Frommelt, Ch.Willinger, A.Wenger

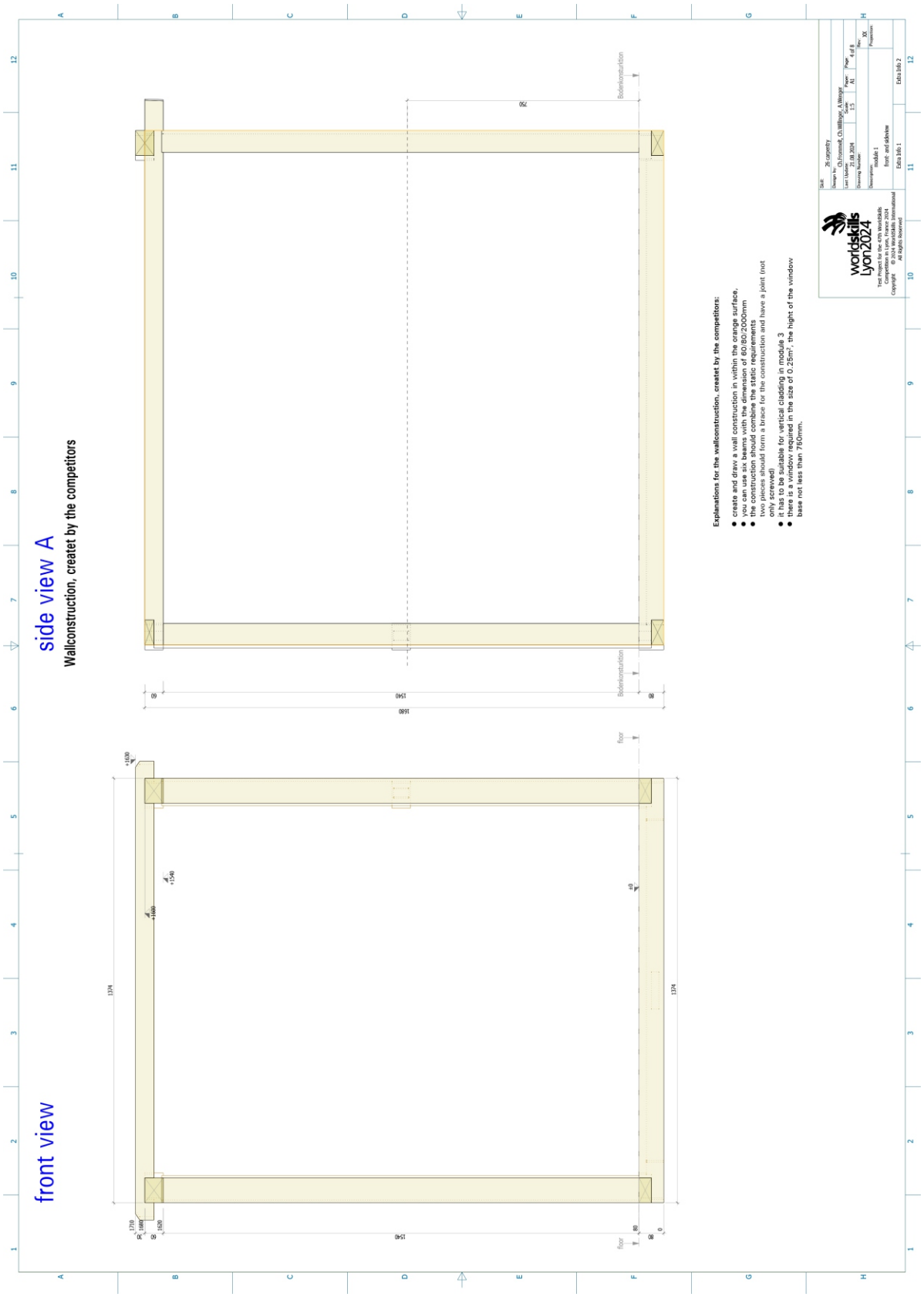
Last Update: 21.08.2024 | Scale: 1:5 | Paper: A1 | Page: 1 of 8

Drawing Number: XX | Rev: Projection:

Description: module 1 elevation and materiallist

Extra Info 1 | Extra Info 2


D1.2
D1.4
D1.6 cuttingangle
D1.1
D1.3
D1.5 cuttingangle
side view B
D1.6
D1.4
back view
top view
front view
D1.4
side view A
D1.5


side view A
Wallconstruction, createt by the competitors
front view
Explanations for the wallconstruction, createt by the competitors:
create and draw a wall construction in within the orange surface,
you can use six beams with the dimension of 60/80/2000mm
the construction should combine the static requirements
two pieces should form a brace for the construction and have a joint (not only screwed)
it has to be suitable for vertical cladding in module 3
there is a window required in the size of 0.25m², the hight of the window base not less than 700mm.
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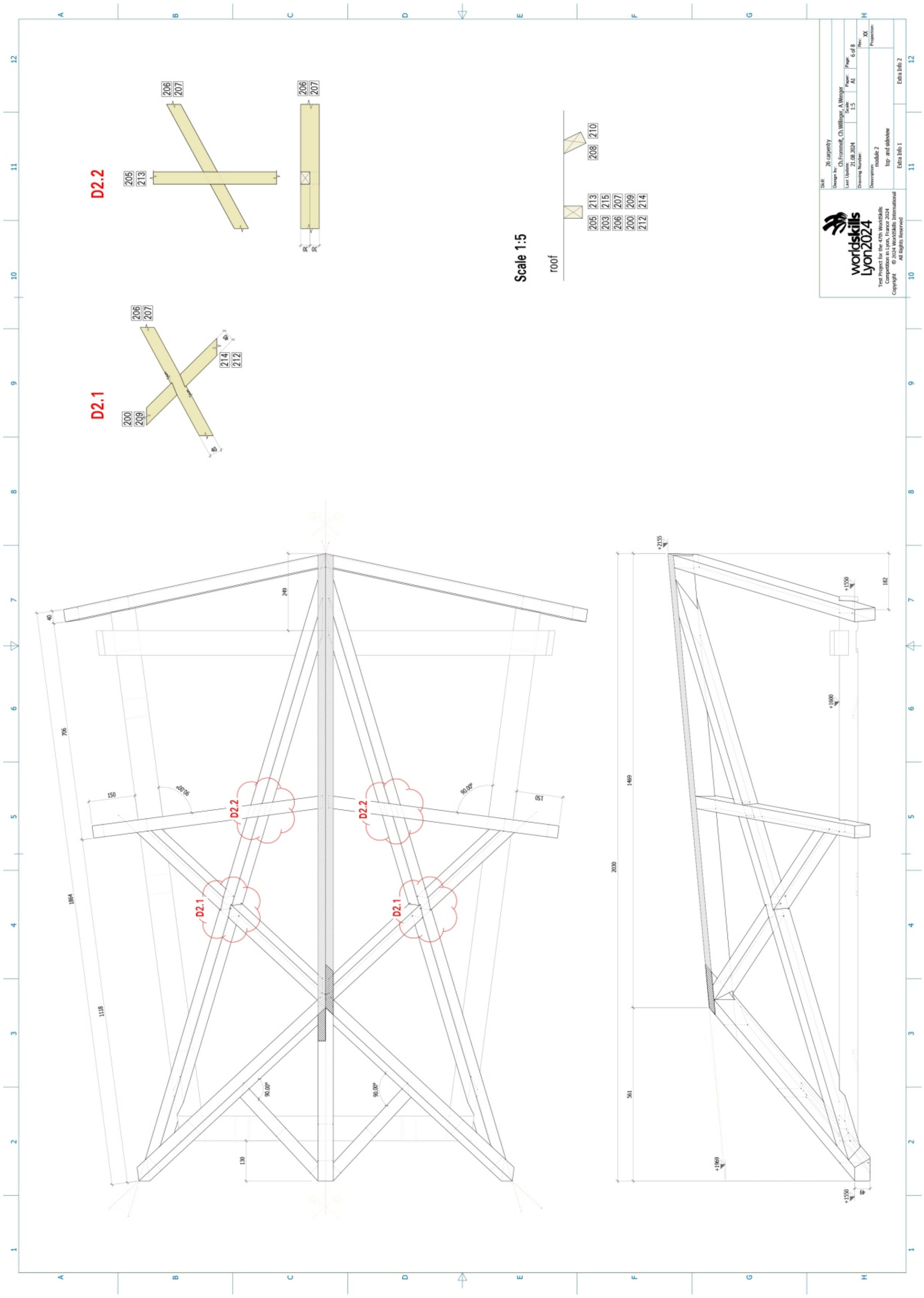
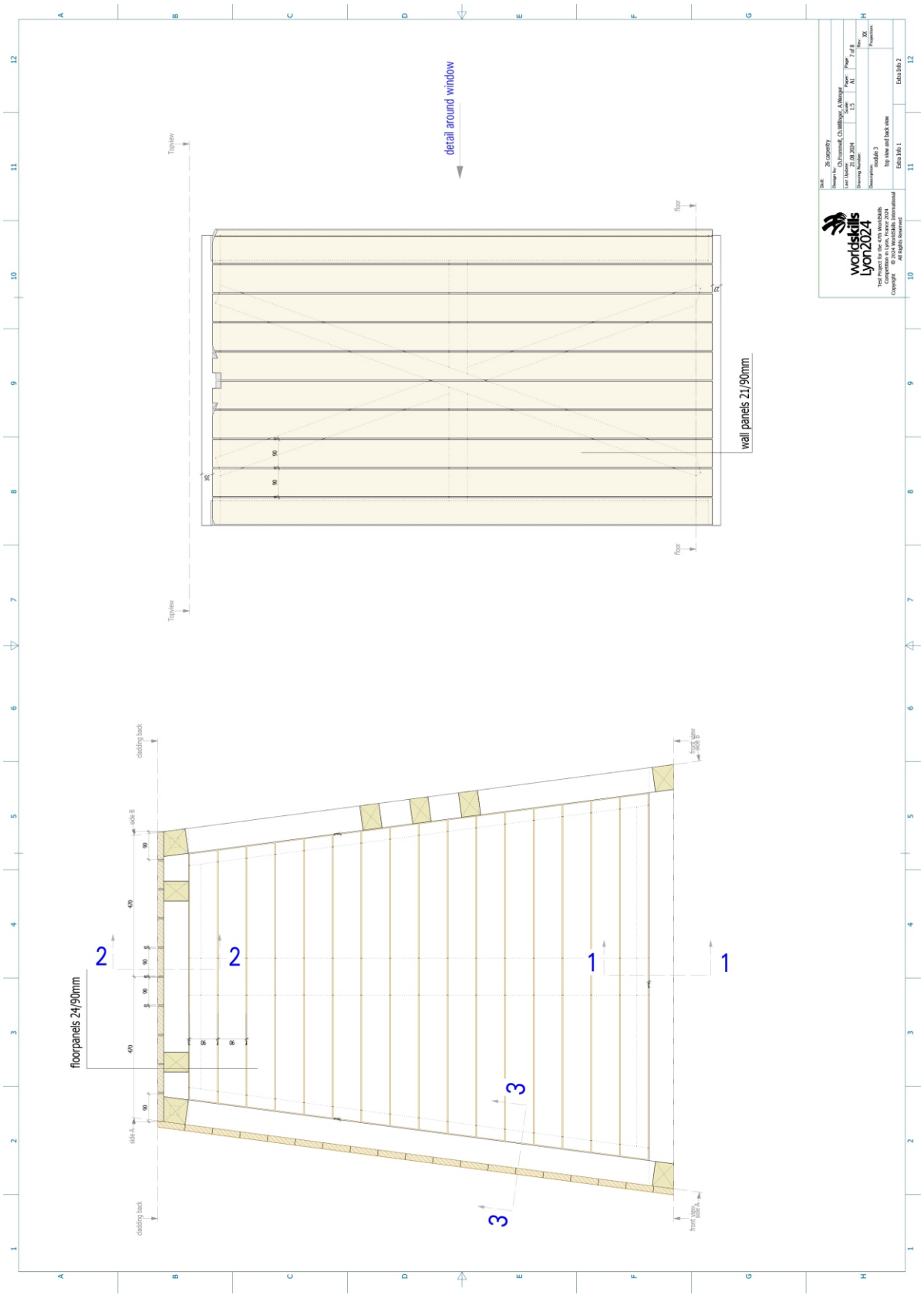
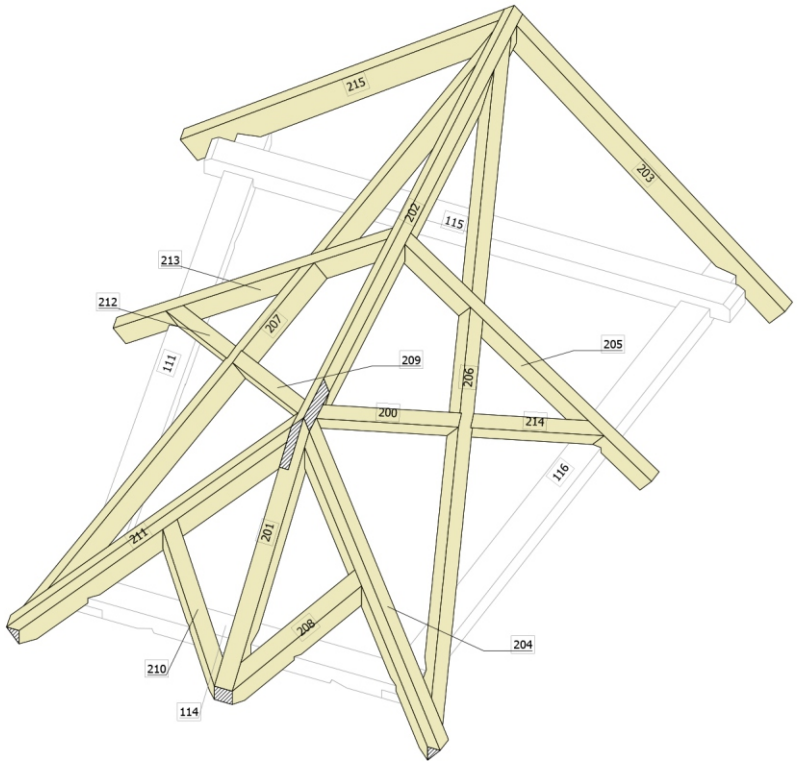
Skill: 26 carpentry
Design by: Ch.Frommelt, Ch.Willinger, A.Weniger
Last Update: 23.08.2024
Drawing Number:
Description: module 1 front- and sideview
Scale: 1:5
Paper: A1
Page: 4 of 8
Rev: 00
Possession:
Extra Info 1
Extra Info 2



D2.2
D2.1
Scale 1:5
roof


detail around window
wall panels 21/90mm
floorpanels 24/90mm
1
2
3



materiallist module 2

nr	name	quantity	width	hight	lenght	module	notes
200	rafter	1	40	60	600	module 2	
201	rafter	1	50	80	1000	module 2	
202	ridge purlin	1	50	80	1700	module 2	
203	rafter	1	40	80	1200	module 2	
204	ridge	1	60	80	1100	module 2	
205	rafter	1	40	60	1000	module 2	
206	rafter	1	40	60	2200	module 2	
207	rafter	1	40	60	2200	module 2	
208	rafter	1	40	80	600	module 2	
209	rafter	1	40	60	600	module 2	
210	rafter	1	40	80	600	module 2	
211	ridge	1	60	80	1100	module 2	
212	rafter	1	40	60	600	module 2	
213	rafter	1	40	60	1000	module 2	
214	rafter	1	40	60	600	module 2	
215	rafter	1	40	80	1200	module 2	

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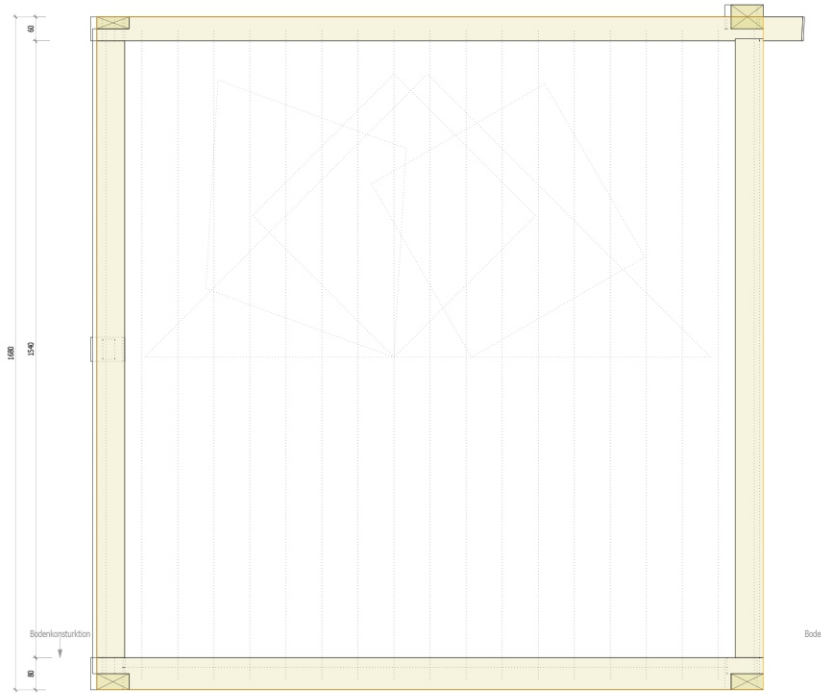
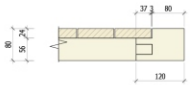
Last Update: 21.08.2024 | Scale: 1:5 | Paper: A1 | Page: 5 of 8
Drawing Number: | Rev: XX
Description: module 2 elevation and materiallist | Projection:
Extra Info 1 | Extra Info 2

materiallist module 3

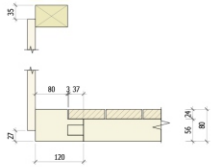
nr	name	quantity	width	hight	lenght	module	notes
300-315	floorpanel	16	90	24	900-1300	module 3	
316	windowfacing	1	40	90	700	module 3	
317	windowfacing	3	25	70	700	module 3	
318	wall panel backwall	11	90	21	1700	module 3	
319	wall sheeting left	20	90	21	1700	module 3	



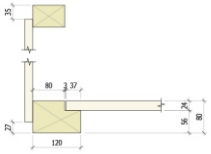
1-1



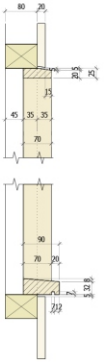
2-2



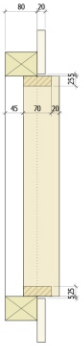
3-3



window sideview



windowdetail topview



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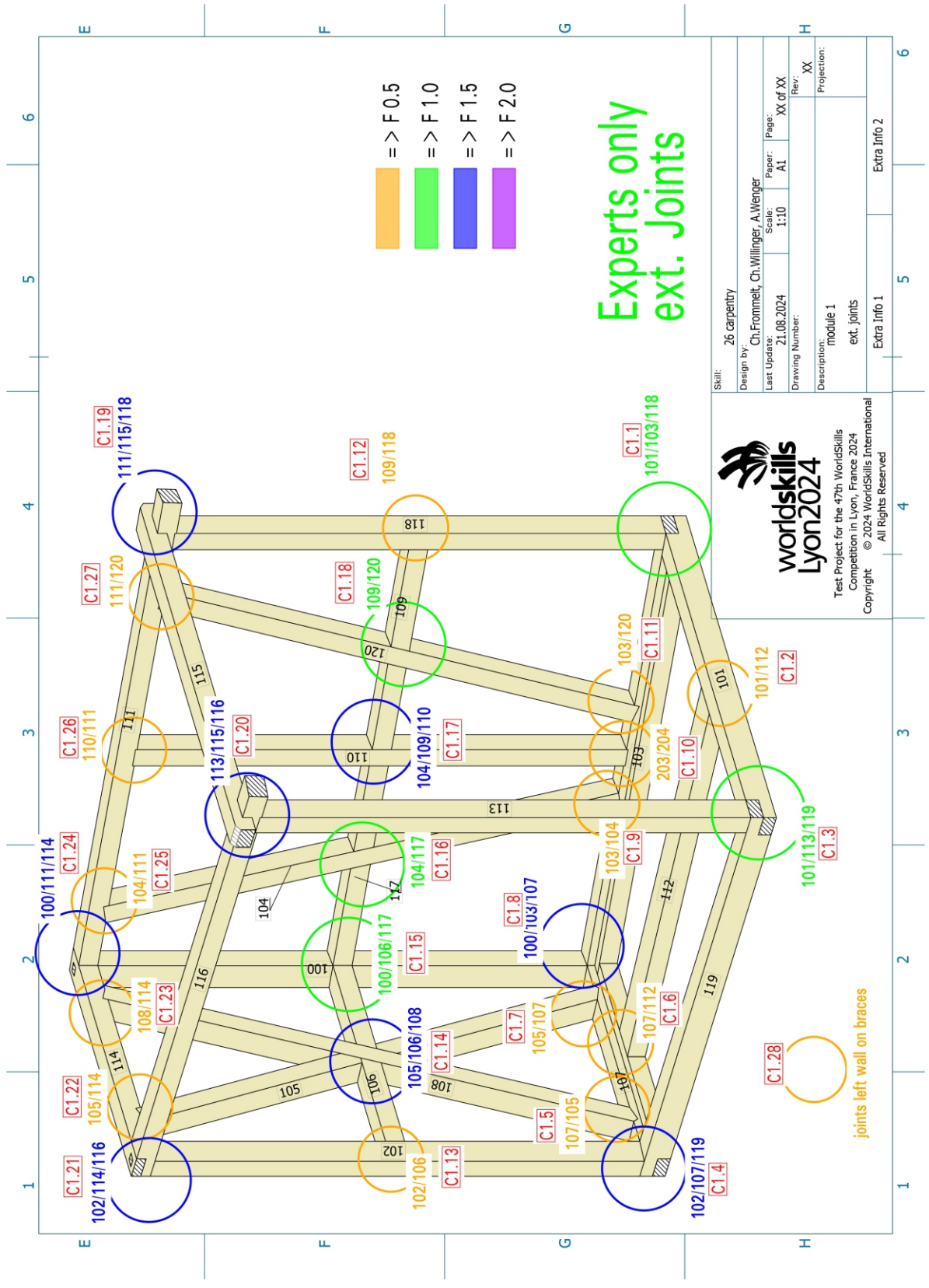
Skill:	26 carpentry
Design by:	Ch.Frommelt, Ch.Willinger, A.Wenger
Last Update:	21.08.2024
Scale:	1:5
Paper:	A1
Page:	8 of 8
Drawing Number:	
Rev:	XX
Description:	module 3
Projection:	
	wall left and details
Extra Info 1	Extra Info 2


Experts only
ext. Joints
=> F 0.5
=> F 1.0
=> F 1.5
=> F 2.0
joints left wall on braces
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Lyon2024
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Competition in Lyon, France 2024
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Skill: 26 carpentry
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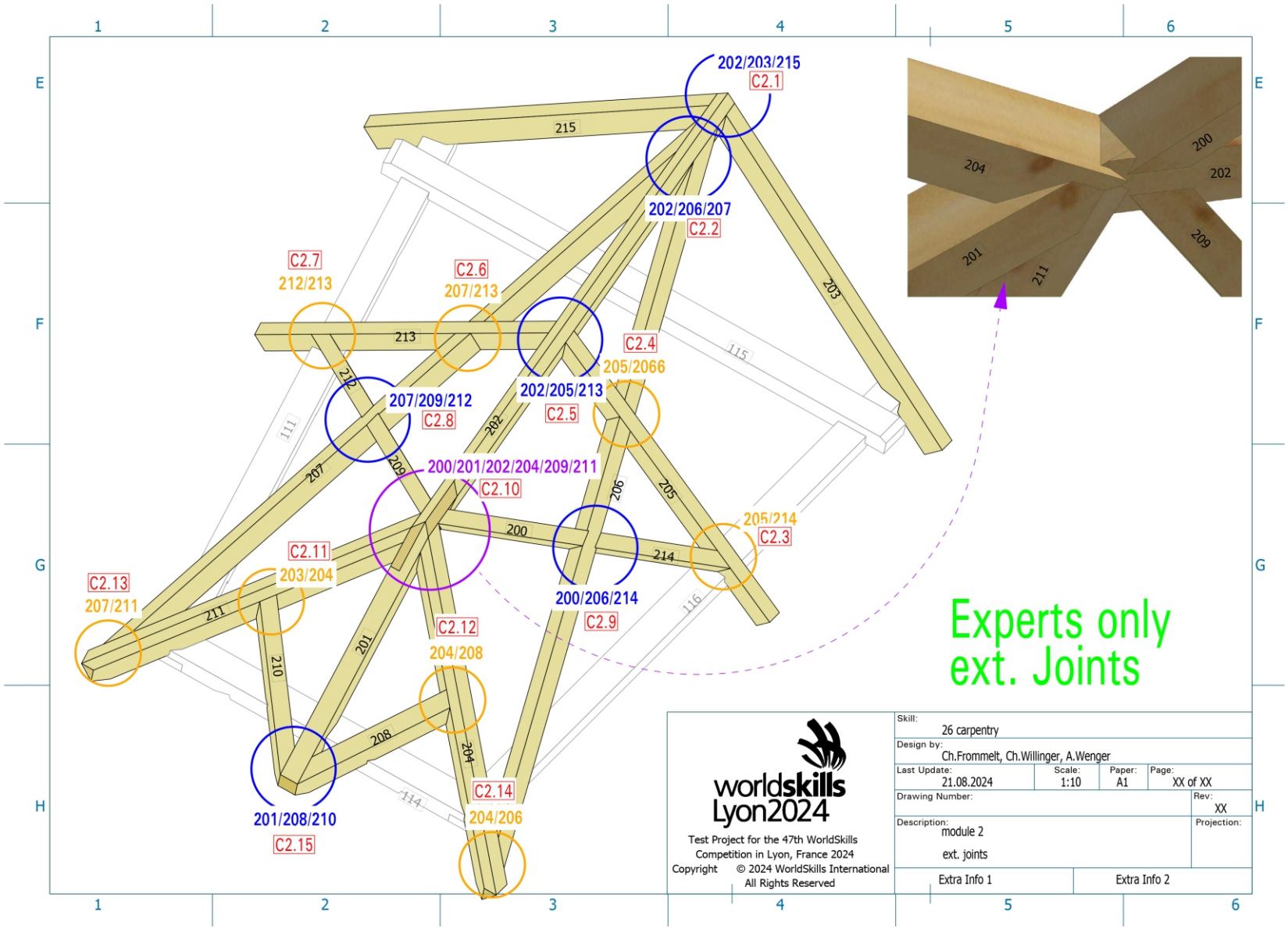
Last Update: 21.08.2024
Scale: 1:10
Paper: A1
Page: XX of XX
Drawing Number:
Rev: XX
Projection:
Description: module 1 ext. joints
Extra Info 1
Extra Info 2


1
2
3
4
5
6
E
F
G
H
202/203/215
C2.1
215
202/206/207
C2.2
203
C2.7
212/213
C2.6
207/213
213
C2.4
205/2066
202/205/213
C2.5
207/209/212
C2.8
212
111
207
209
202
206
205
115
200/201/202/204/209/211
C2.10
200
205/214
C2.3
214
C2.11
203/204
C2.13
207/211
211
210
201
200/206/214
C2.9
116
C2.12
204/208
208
204
C2.14
204/206
201/208/210
C2.15
114
200
204
202
201
211
209
Experts only
ext. Joints
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Competition in Lyon, France 2024
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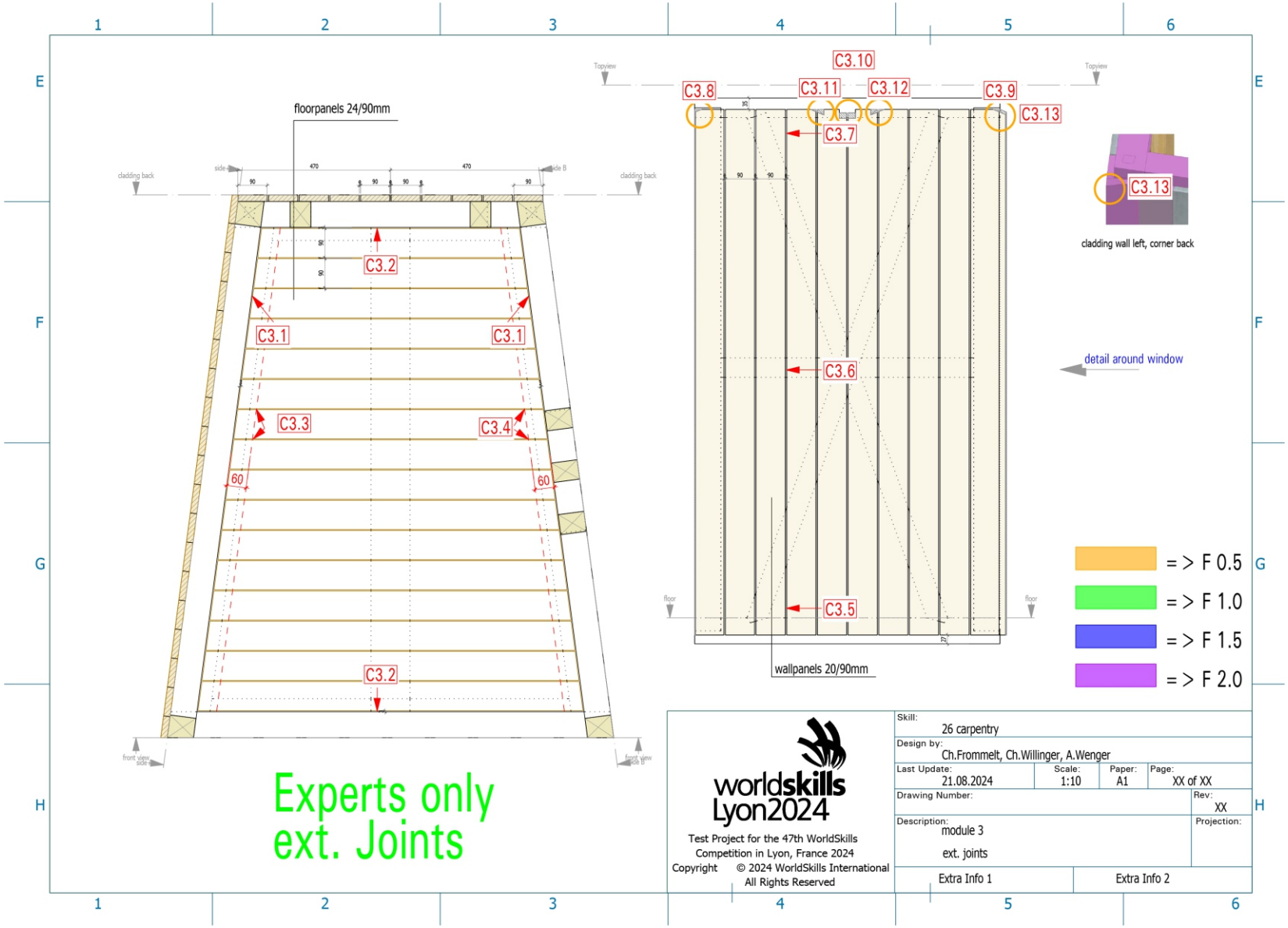
Skill:
26 carpentry
Design by:
Ch.Frommelt, Ch.Willinger, A.Wenger
Last Update:
21.08.2024
Scale:
1:10
Paper:
A1
Page:
XX of XX
Drawing Number:
Rev:
XX
Description:
module 2
ext. joints
Projection:
Extra Info 1
Extra Info 2


floorpanels 24/90mm
C3.1
C3.2
C3.3
C3.4
C3.10
C3.8
C3.11
C3.12
C3.9
C3.13
C3.7
C3.6
C3.5
detail around window
cladding wall left, corner back
wallpanels 20/90mm
= > F 0.5
= > F 1.0
= > F 1.5
= > F 2.0
Experts only
ext. Joints
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Skill: 26 carpentry
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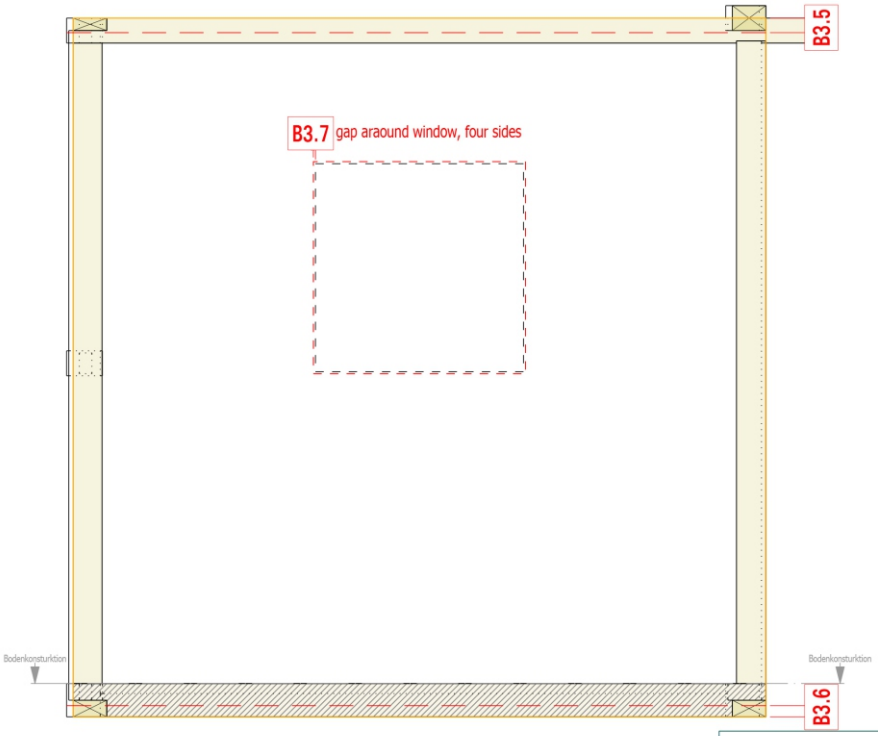
Last Update: 21.08.2024
Scale: 1:10
Paper: A1
Page: XX of XX
Drawing Number:
Rev: XX
Description: module 3 ext. joints
Projection:
Extra Info 1
Extra Info 2

side view A

Wallconstruction, createt by the competitors



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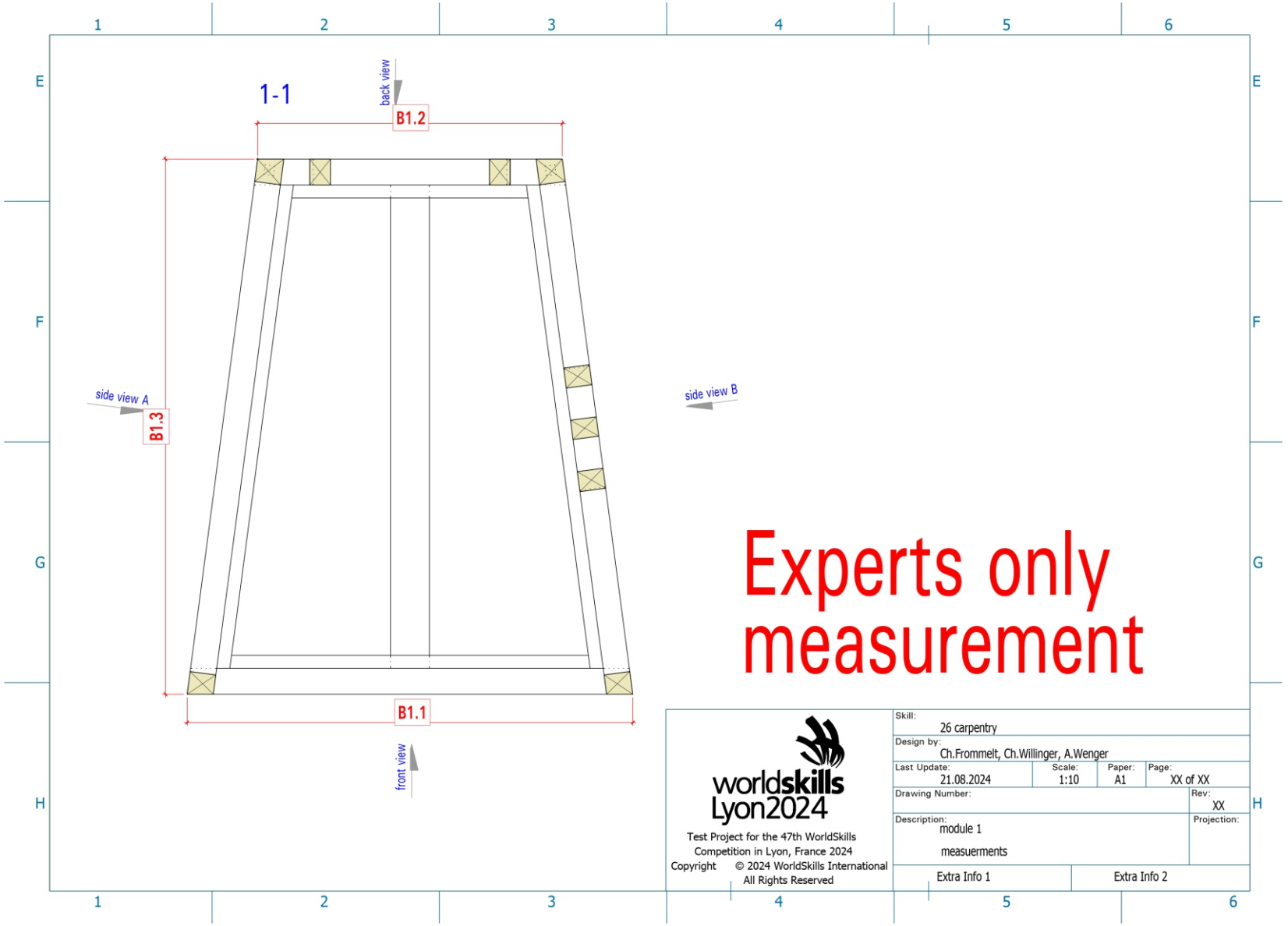
Test Project for the 47th WorldSkills Competition in Lyon, France 2024

Skill: 26 carpentry				
Design by: Ch.Frommelt, Ch.Willinger, A.Wenger				
Last Update: 21.08.2024	Scale: 1:10	Paper: A1	Page: XX of XX	
Drawing Number:				Rev: XX
Description: module 1 measuerments				Projection:
Extra Info 1		Extra Info 2		


1
2
3
4
5
6
E
F
G
H
1-1
back view
B1.2
side view A
B1.3
side view B
B1.1
front view
Experts only measurement
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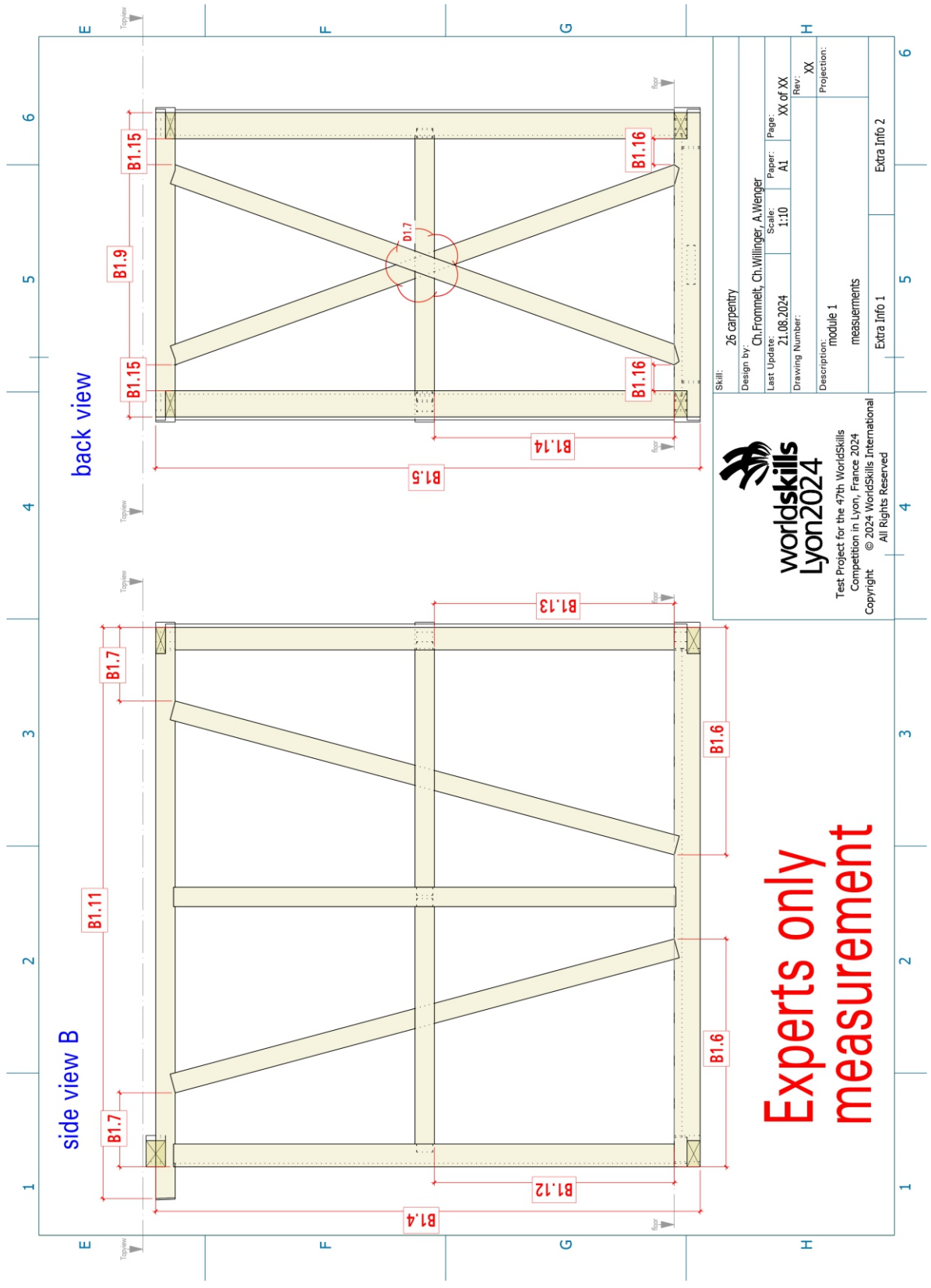
Skill: 26 carpentry
Design by: Ch.Frommelt, Ch.Willinger, A.Wenger
Last Update: 21.08.2024
Scale: 1:10
Paper: A1
Page: XX of XX
Drawing Number:
Rev: XX
Description: module 1 measuerments
Projection:
Extra Info 1
Extra Info 2


back view
side view B
B1.15
B1.9
B1.15
B1.16
B1.16
B1.7
B1.14
B1.5
B1.13
B1.7
B1.11
B1.7
B1.6
B1.6
B1.12
B1.4
Experts only measurement
Skill: 26 carpentry
Design by: Ch.Frommelt, Ch.Willinger, A.Wenger
Last Update: 21.08.2024
Scale: 1:10
Paper: A1
Page: XX of XX
Drawing Number:
Rev: XX
Description: module 1 measurements
Projection:
Extra Info 1
Extra Info 2
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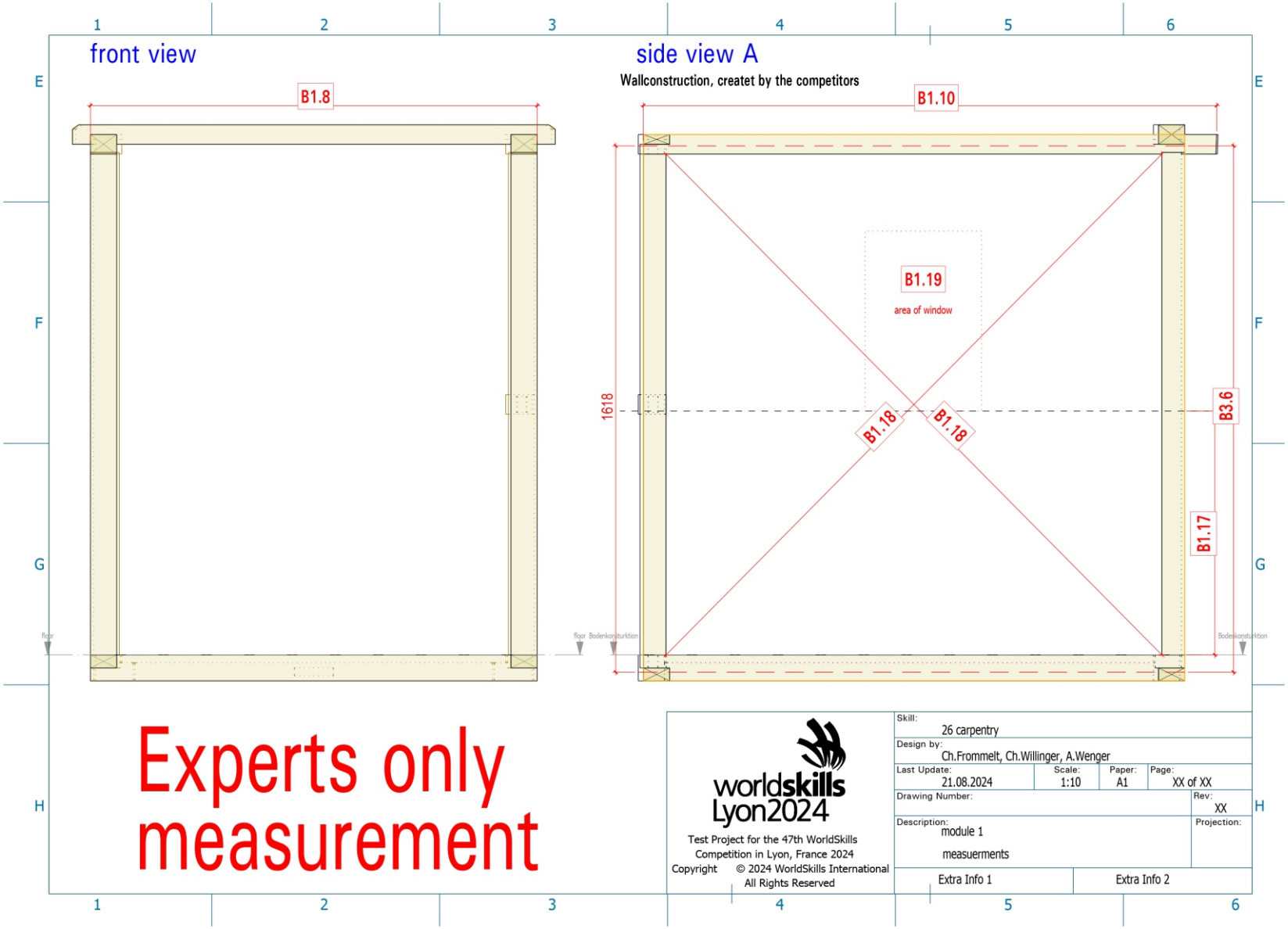
front view
B1.8
side view A
Wallconstruction, createt by the competitors
B1.10
B1.19
area of window
1618
B1.18
B1.18
B3.6
B1.17
floor
floor Bodenkonstuktion
Bodenkonstuktion
Experts only measurement
worldskills Lyon2024
Test Project for the 47th WorldSkills Competition in Lyon, France 2024
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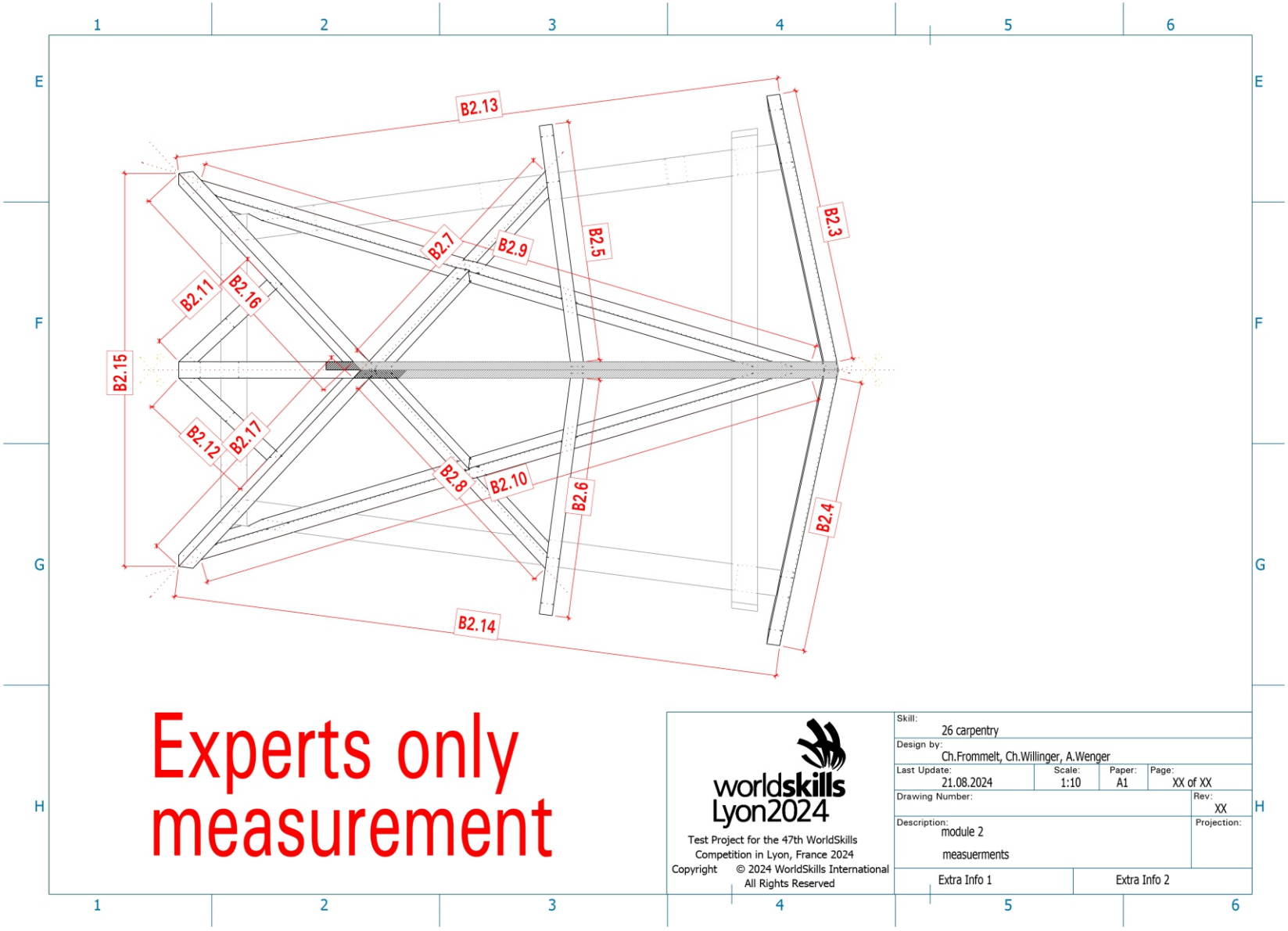
Skill: 26 carpentry
Design by: Ch.Frommelt, Ch.Willinger, A.Wenger
Last Update: 21.08.2024
Scale: 1:10
Paper: A1
Page: XX of XX
Drawing Number:
Rev: XX
Description: module 1 measuerments
Projection:
Extra Info 1
Extra Info 2



Experts only measurement

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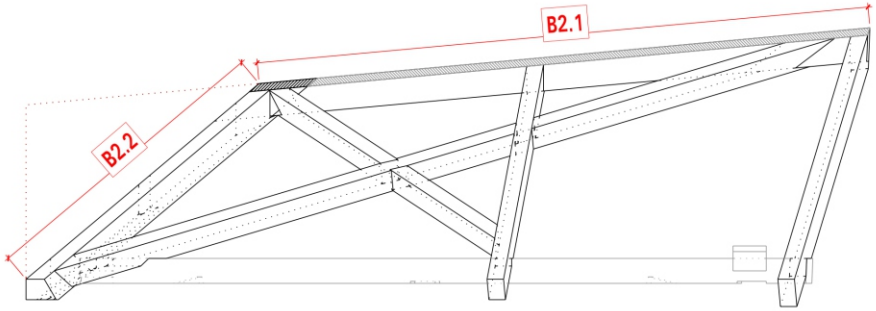
Last Update: 21.08.2024	Scale: 1:10	Paper: A1	Page: XX of XX	
Drawing Number:				Rev: XX
Description: module 2 measuerments				Projection:
Extra Info 1		Extra Info 2		



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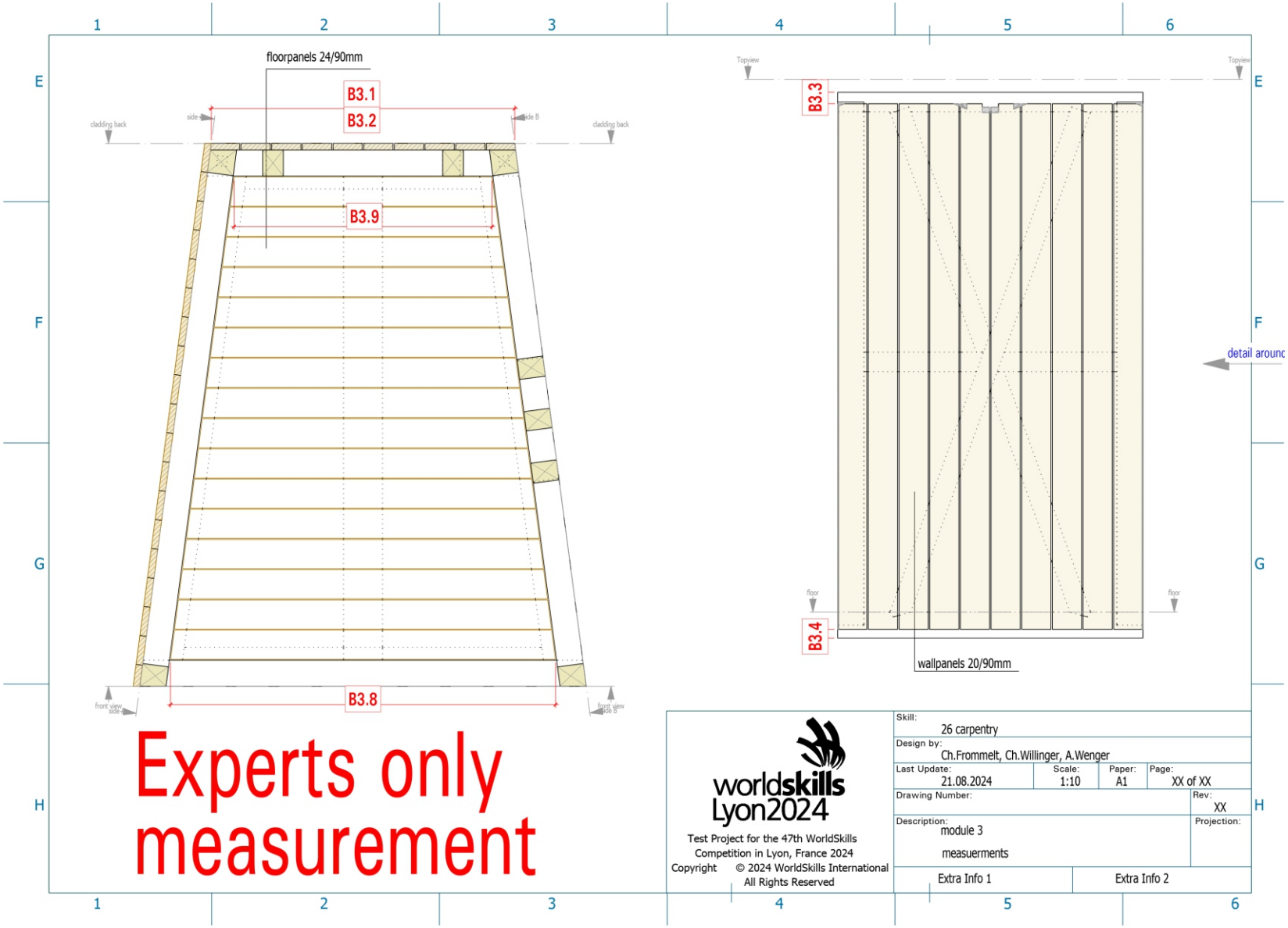
Description: module 2 measuerments				Projection:
Extra Info 1		Extra Info 2		



Experts only measurement

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Drawing Number:				Rev: XX
Description: module 3 measuerments				Projection:
Extra Info 1		Extra Info 2		

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