

ONLY NATURAL

Student Design Competition 2024

[home - furniture]

D01 Chair

DESIGN DOCUMENTATION



**The D01 Chair is a densified radiata pine chair,
the first of its kind.**

For this project the relatively unknown technique of wood densification was brought to the design landscape as a means of **making the most of the already most sustainable material in the world**, as well as explore the **opportunities** that wood densification presents to **furniture design**.

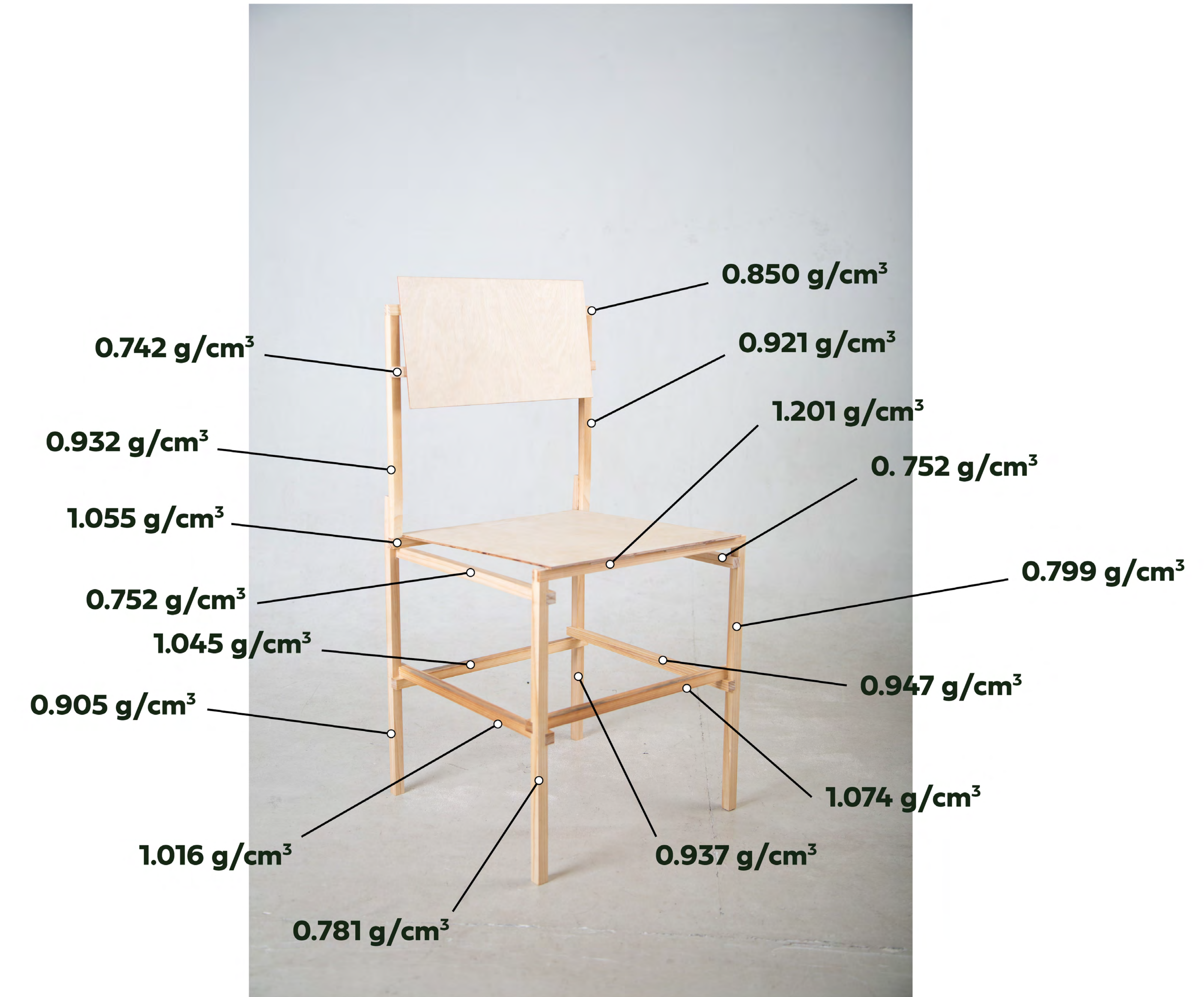


Platforms to densify wood were designed and built as part of the Dense Project, **wood densification proved capable of taking radiata pine from a low value disposable soft wood to a greatly improved material**, as its greater density provides improved mechanical properties as well as an evolved sensory profile with distinct coloration, finish and scent. All through a purely hydro-thermo-mechanical process that **keeps wood in its completely natural state.**





D01 chair proves even expendable **soft woods like radiata pine can have their place in furniture** and simultaneously help to **relieve demand for endangered wood species** that are sought after for their durability. It also demonstrates the ability to **optimize material usage** through specific density profiles for each member of the chair, allowing for **great weight management and efficiency** with a total chair weight of only **2.3 kilograms**.





The D01 chair is composed of 16 elements with a 16x16mm section which grant it its **memorably slender appearance** whilst maintaining complete structural resilience through subtle joinery that comes together without relying on metal fasteners, keeping with its **pure wood innovation and sustainable spirit**.

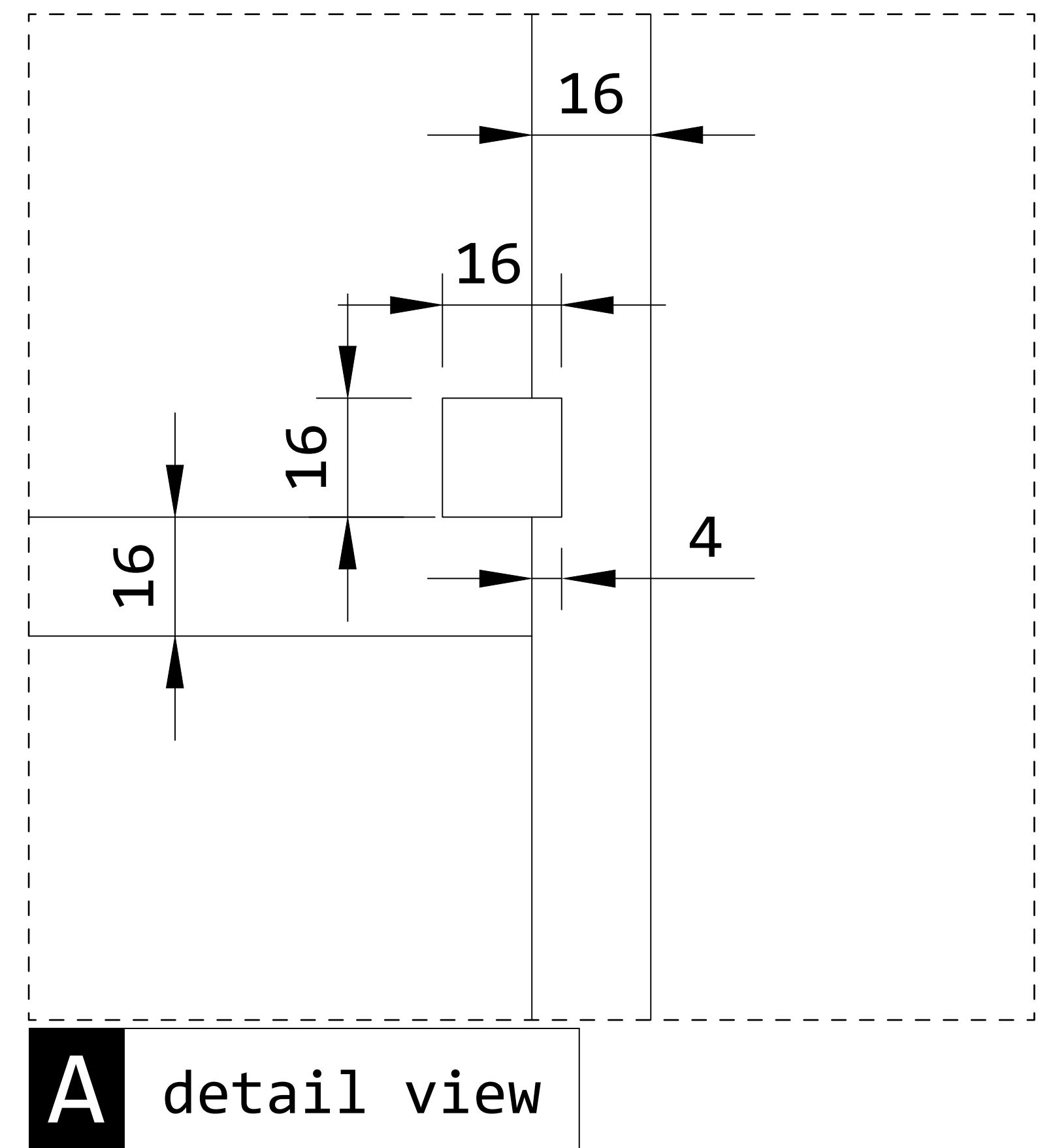
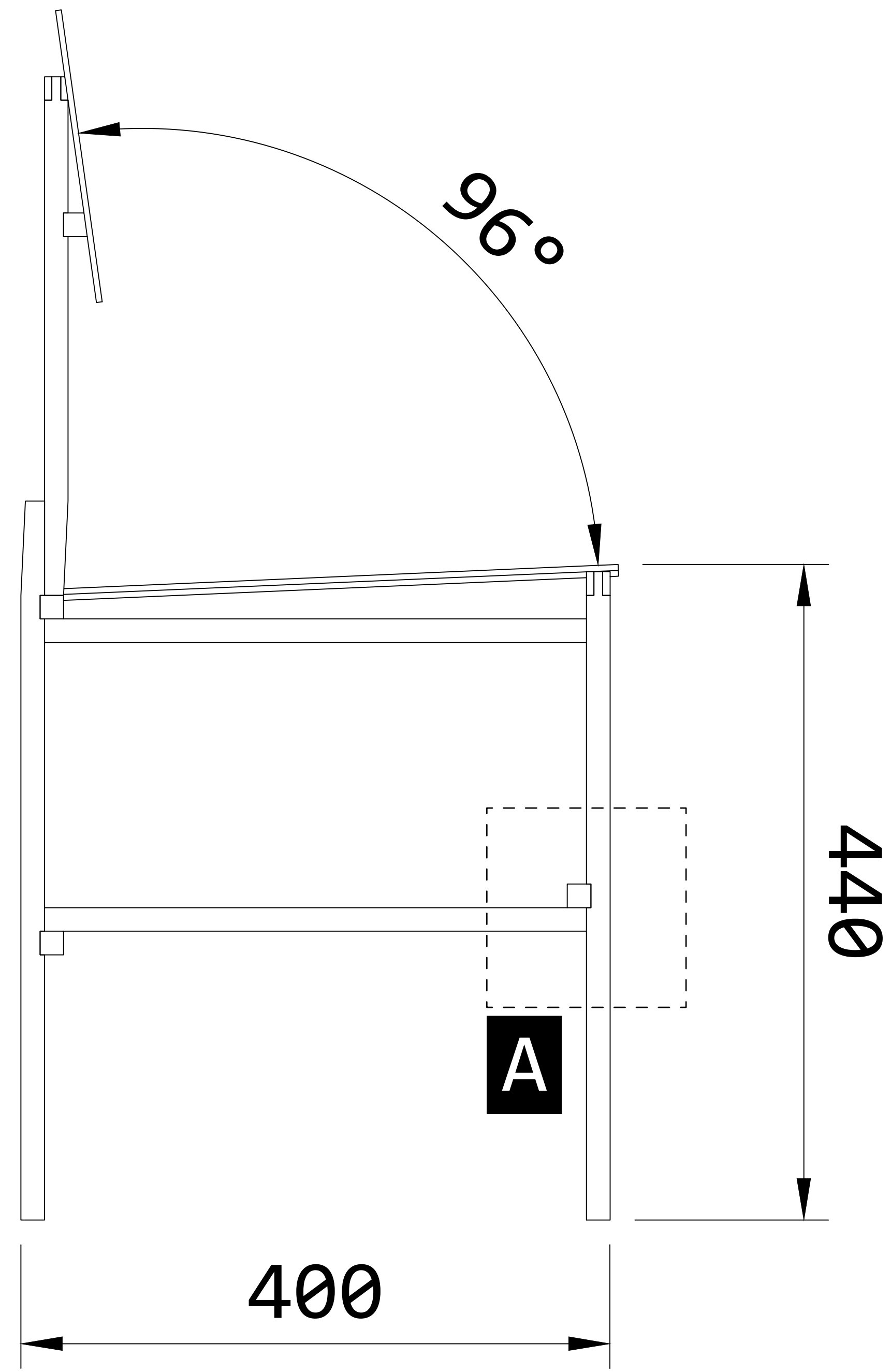
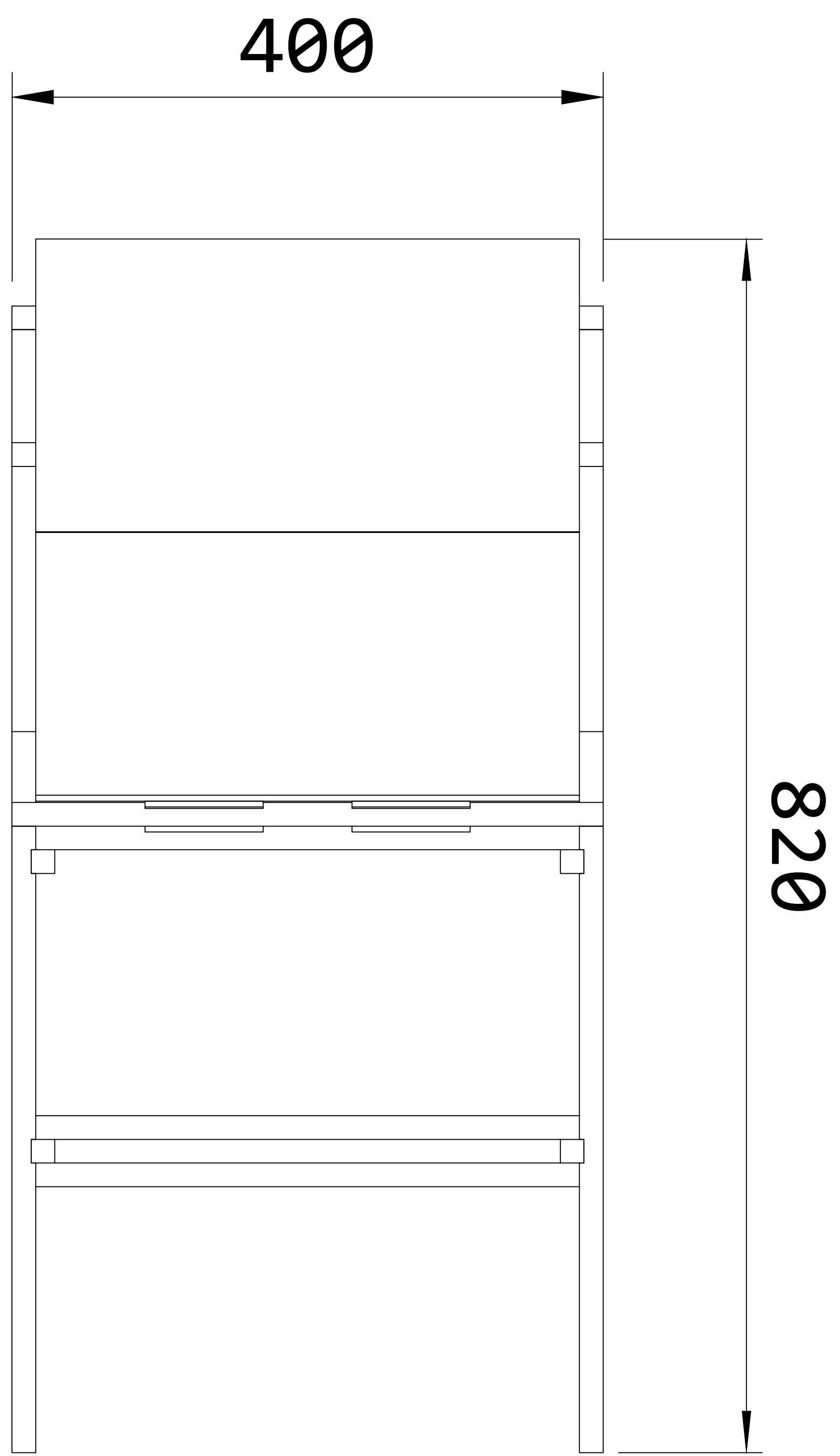
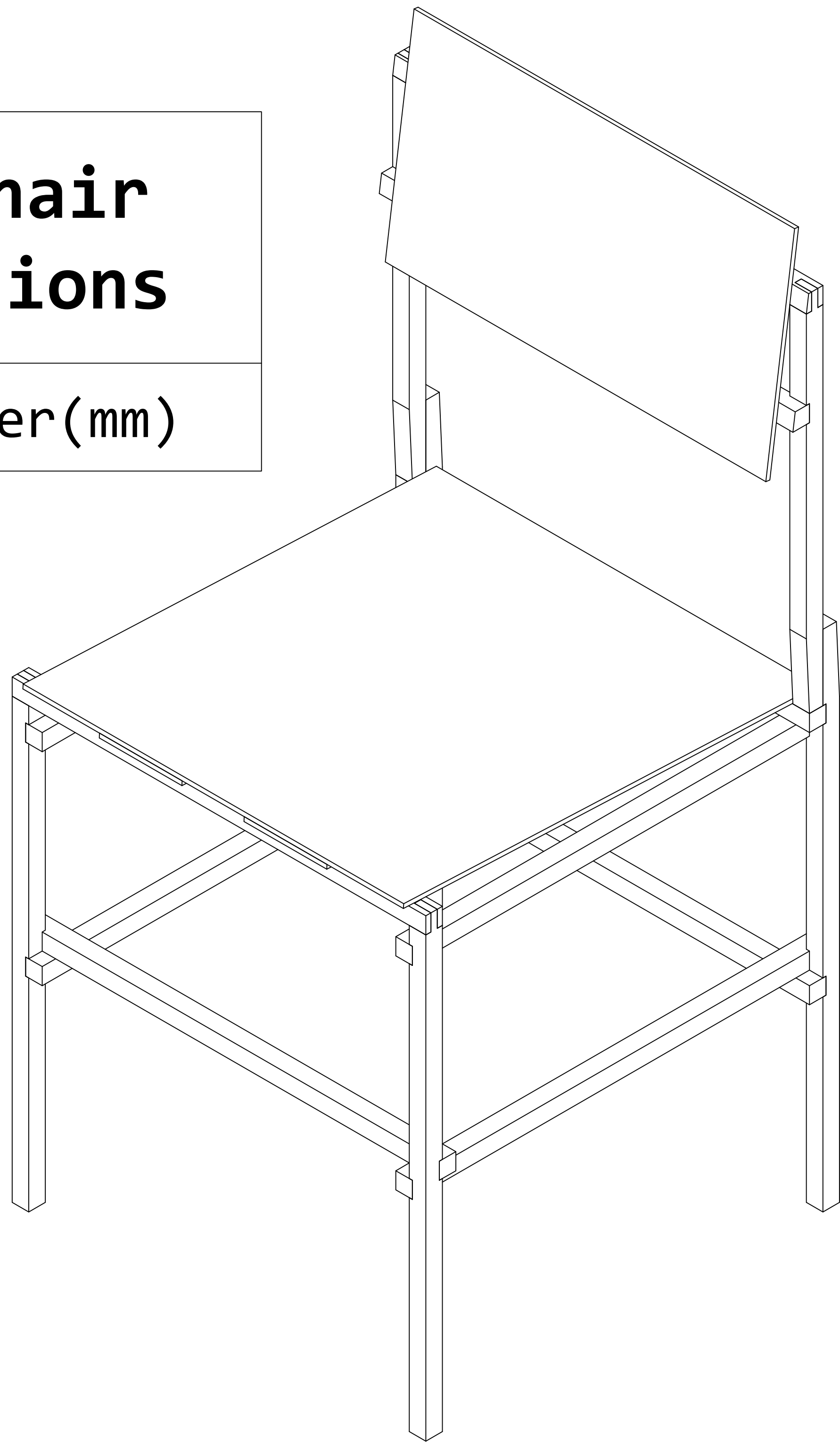


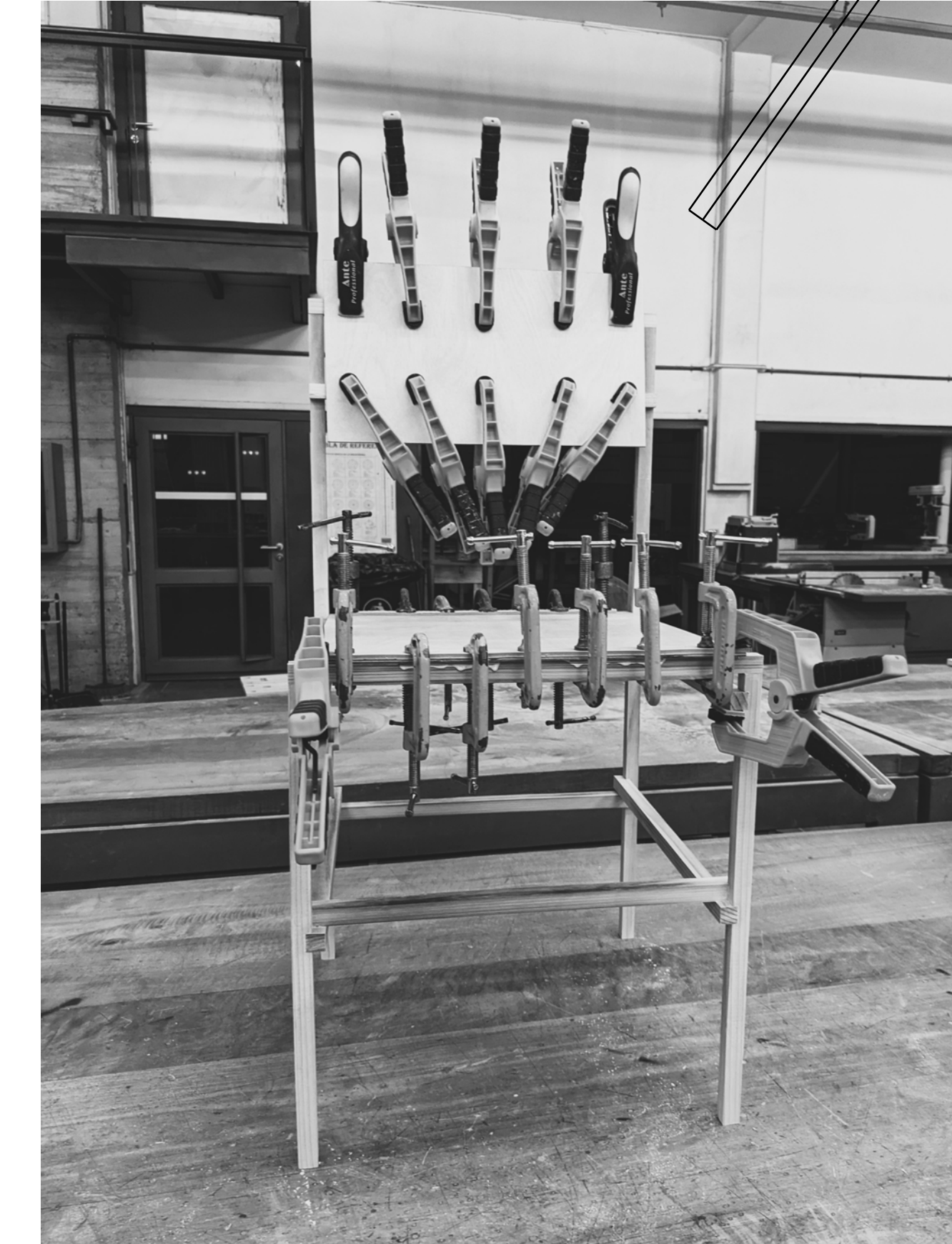
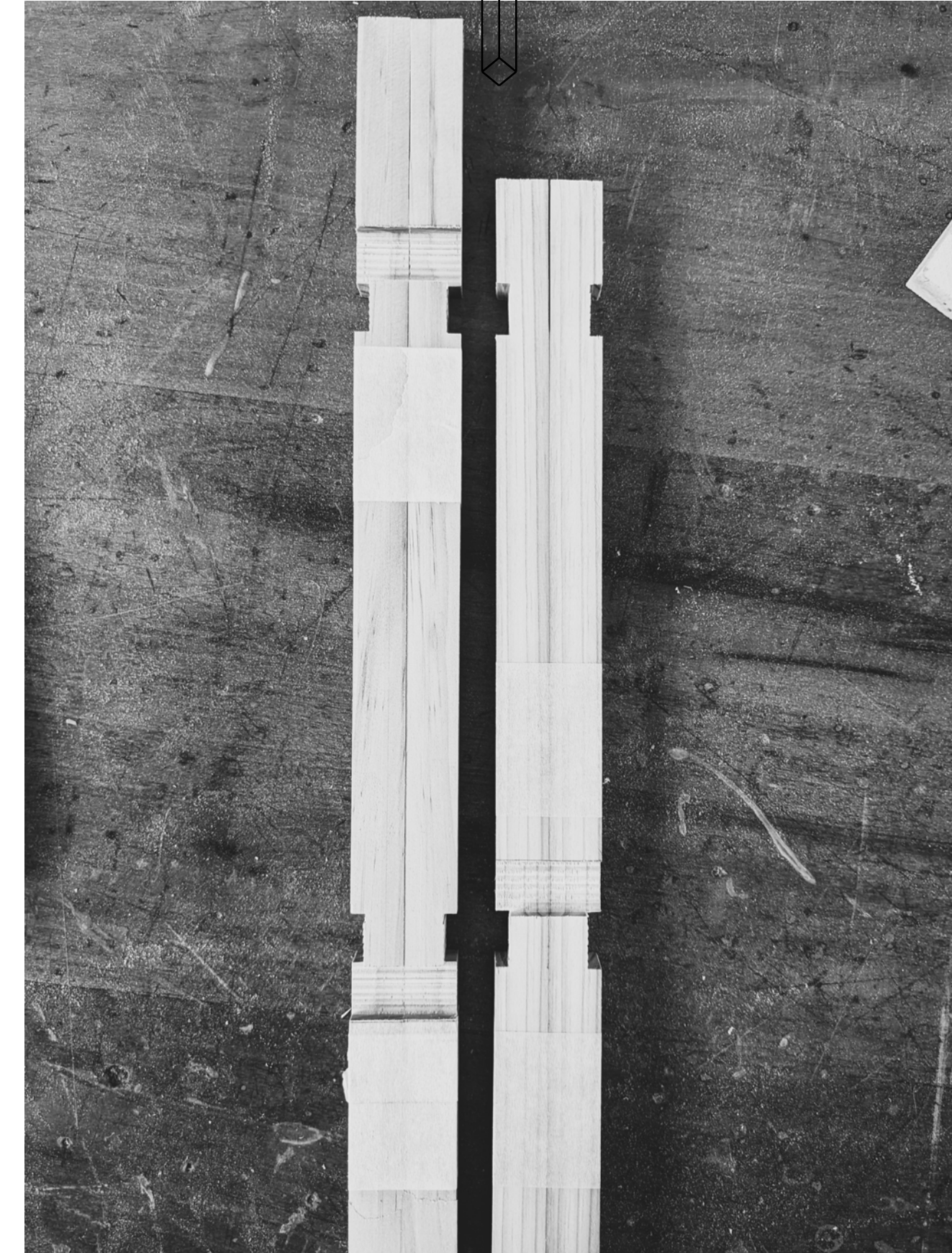
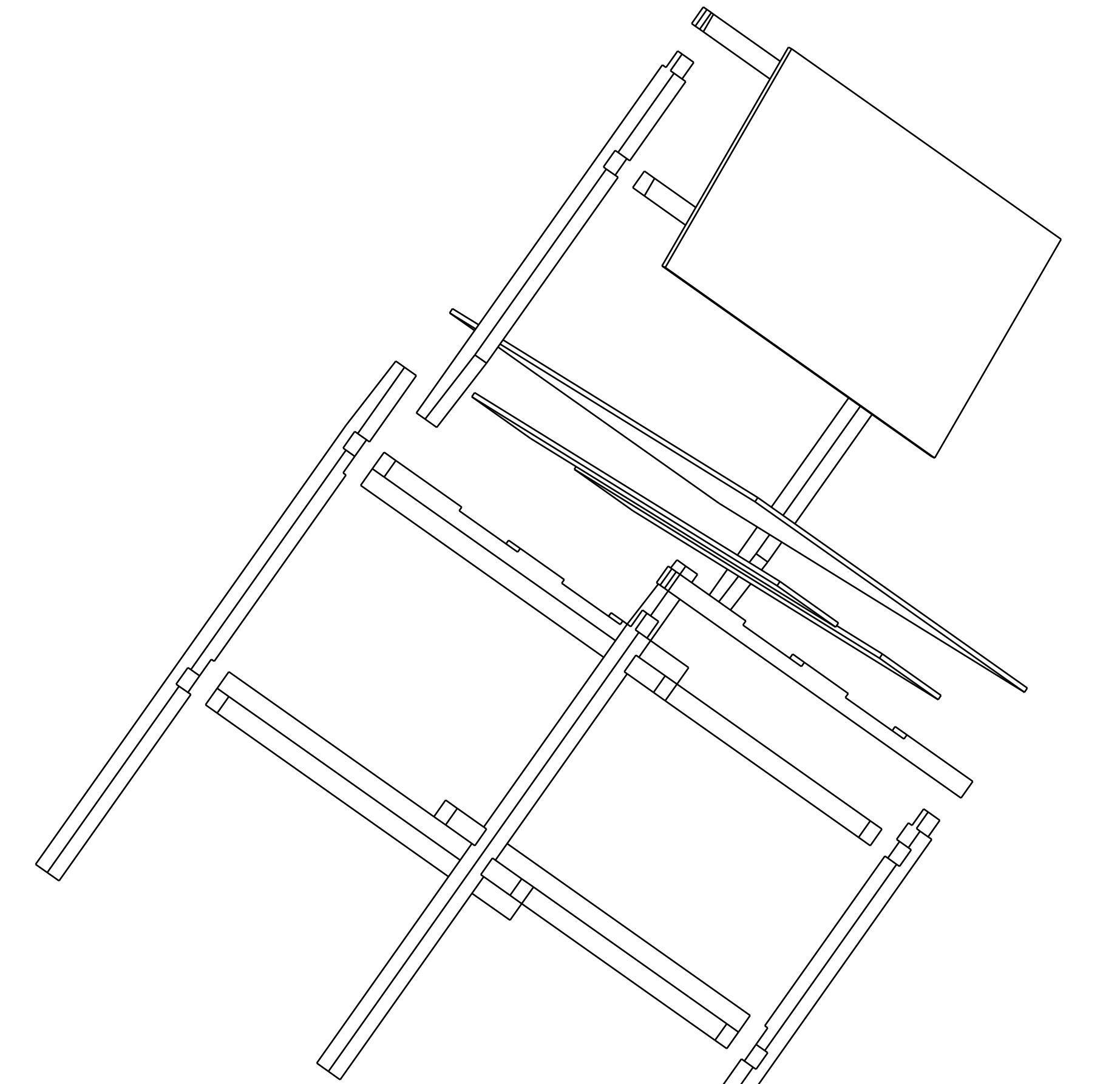
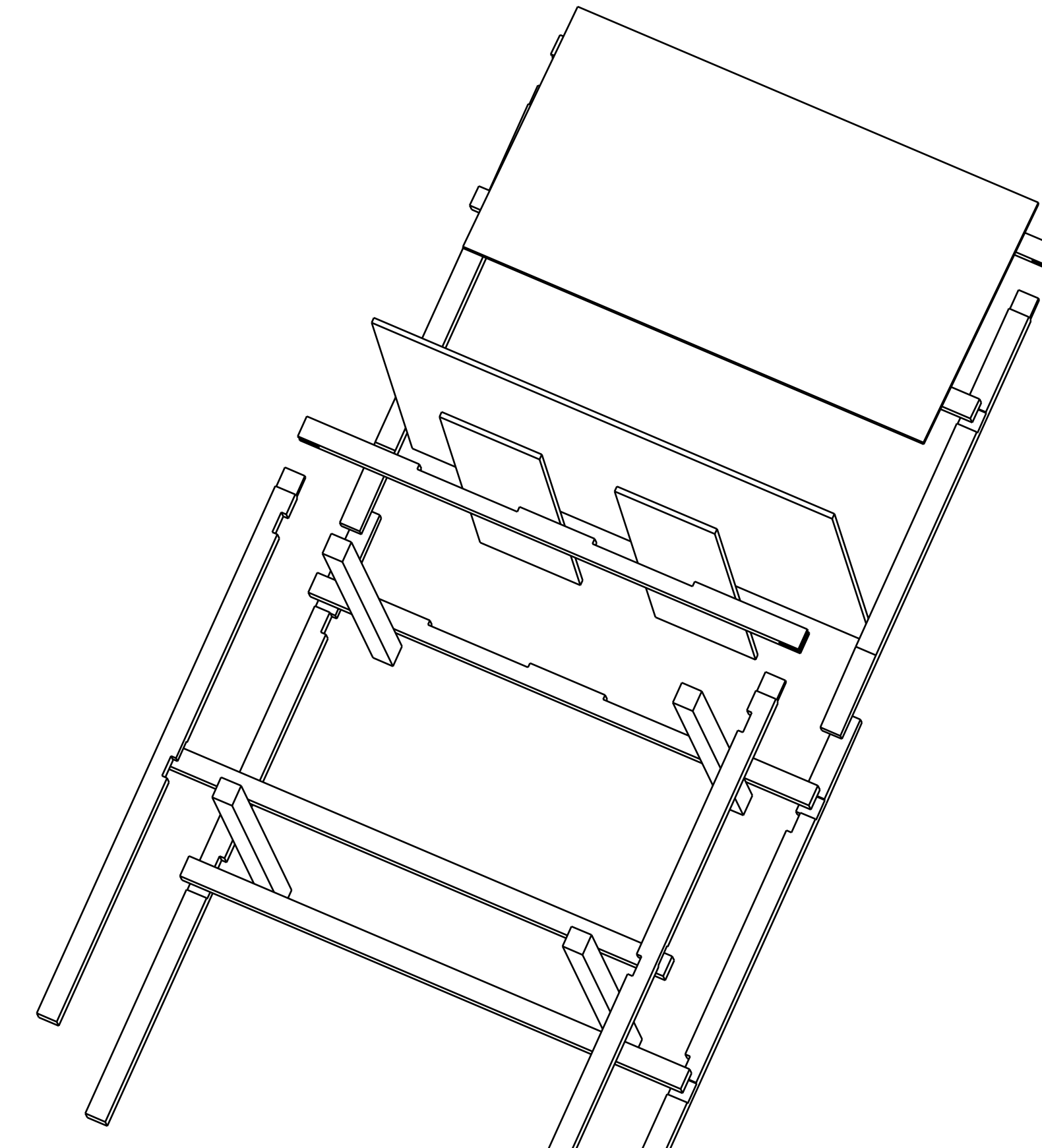
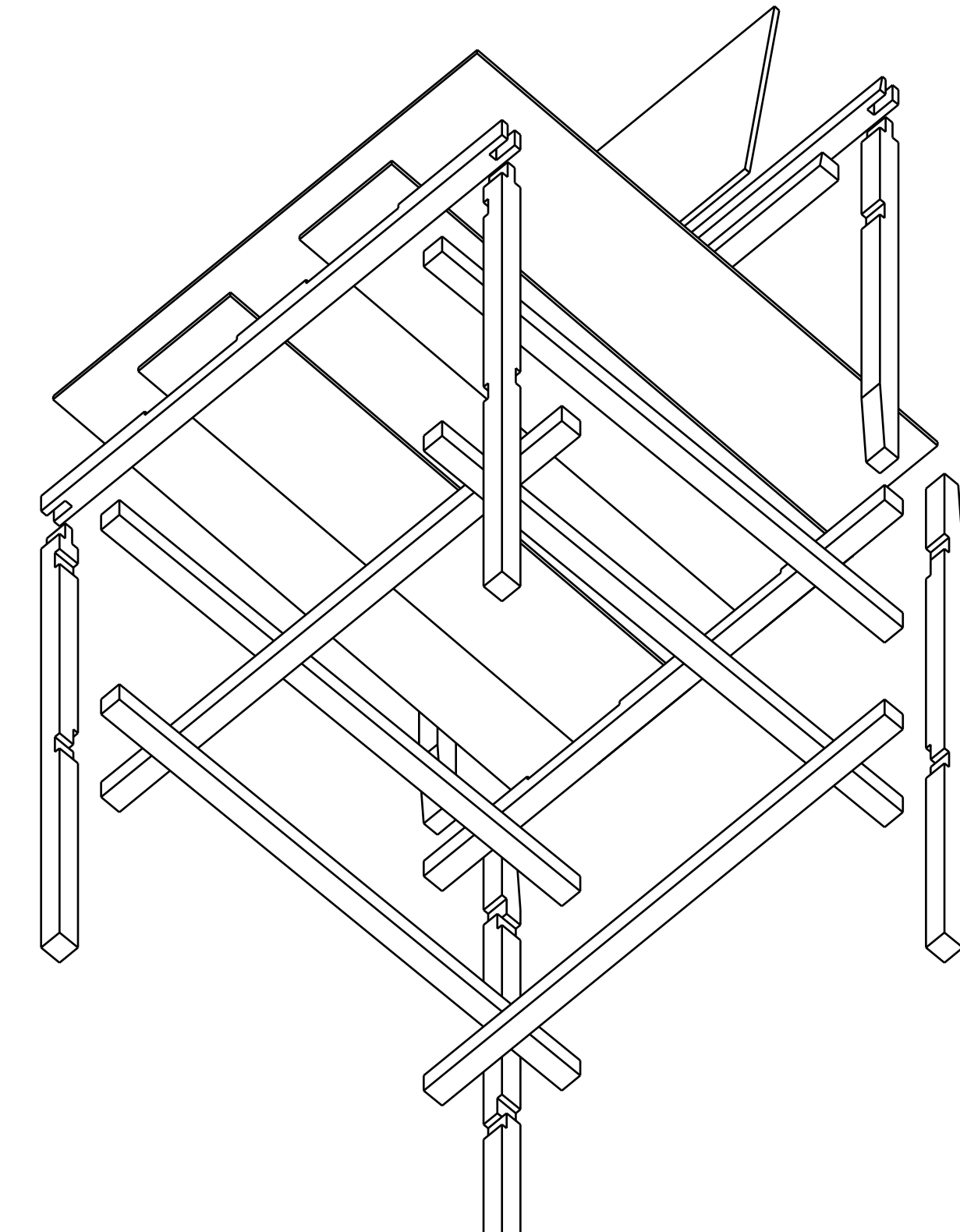
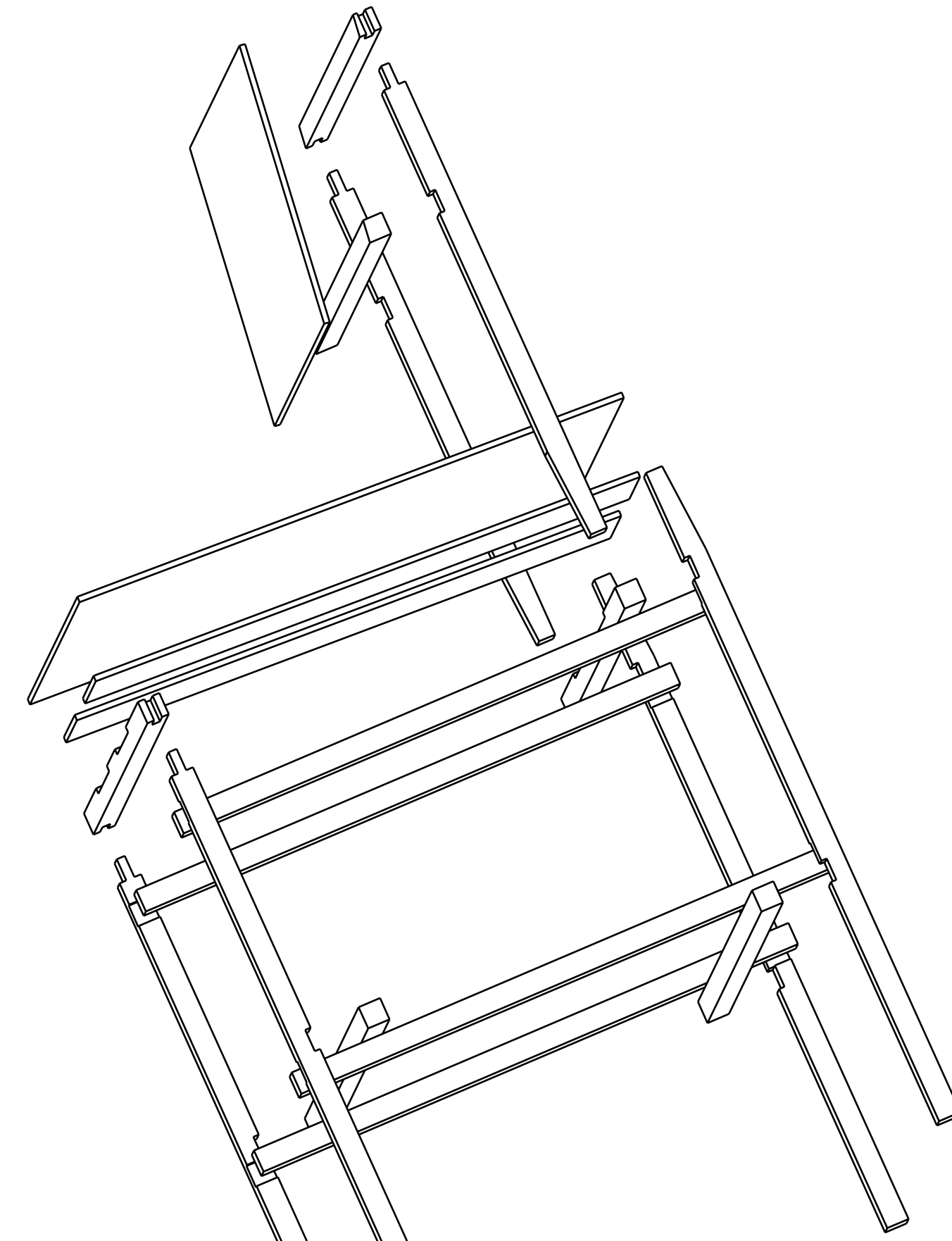
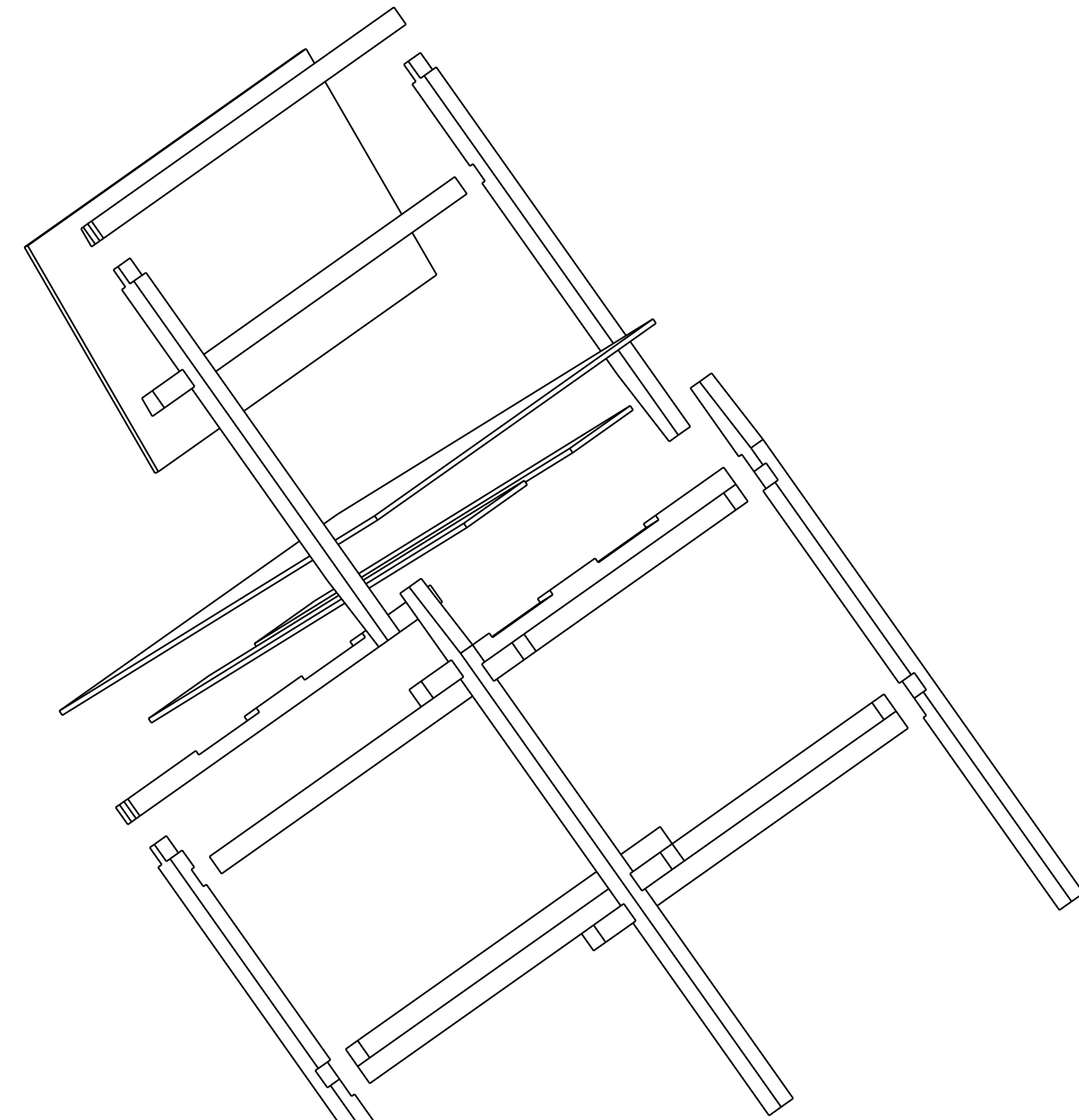
D01's value lies in its **structure and careful composition, avoiding any single standout feature** or fine detail to **not disrupt the delicate poise** granted by the **orthogonal configuration of its elements.**

Manufacturing is a relatively **simple process without need for great material removal or energy-intensive milling operations**, readily available 2x2" dimensional lumber can be subject to densification through the Dense Project platforms which **provide densified wood with much greater durability**, and all the **same ecological and recyclability credentials that are expected from natural wood.**



**D01 Chair
Dimensions**
millimeter(mm)





Respaldo.
 Pata
 Pata
 Tercera.
 Cross +
 Cross +
 Cross +

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the
first

A line drawing of the D01 Chair, showing its simple wooden frame and backrest. The drawing is positioned behind the text 'the first'.

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