furniture
set
bend
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profile

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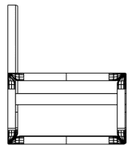




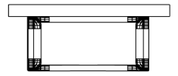
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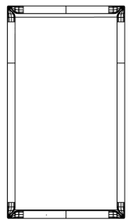
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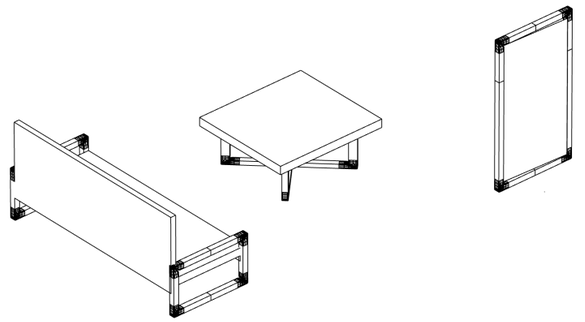
Sofa



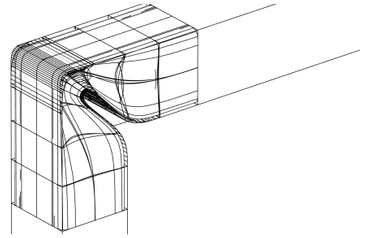
Coffee table

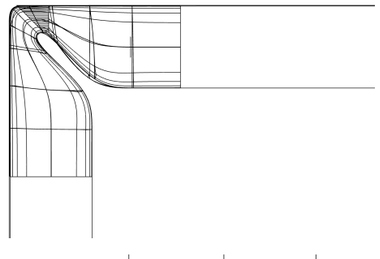


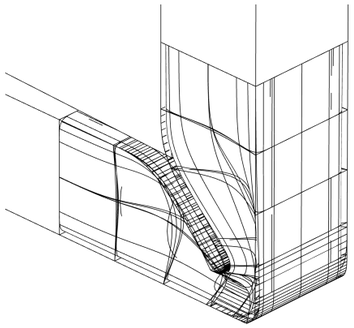
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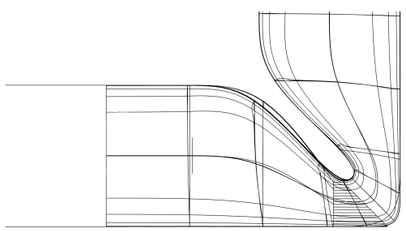


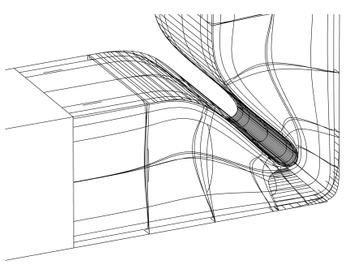
Construction











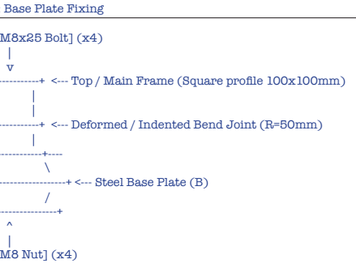


1. CORE DESIGN CONCEPT & MATERIAL FOUNDATION

* Base Material: Precision structural steel square tubing, dimensions 100x100x3 mm. The 3 mm wall thickness ensures maximum structural rigidity, load-bearing capacity, and structural integrity across all components.
* Bending & Deformation: All external and internal corners are standardized at a uniform radius of R=50 mm. Cold-pressed local deformation zones (flattened indentations) are utilized at joint intersections, allowing tight, mechanical interlocking of tubes without requiring complex secondary fittings.
* Surface Finish: Industrial electrostatic matte powder coating (available in lavender blue, mustard yellow, and matte black options). This finish provides robust resistance against mechanical abrasion, corrosion, and UV degradation.

[1. BENT COAT RACK — ASSEMBLY SEQUENCE]

Step 1: Base Plate Fixing



[2. BENT COFFEE TABLE — ASSEMBLY SEQUENCE]

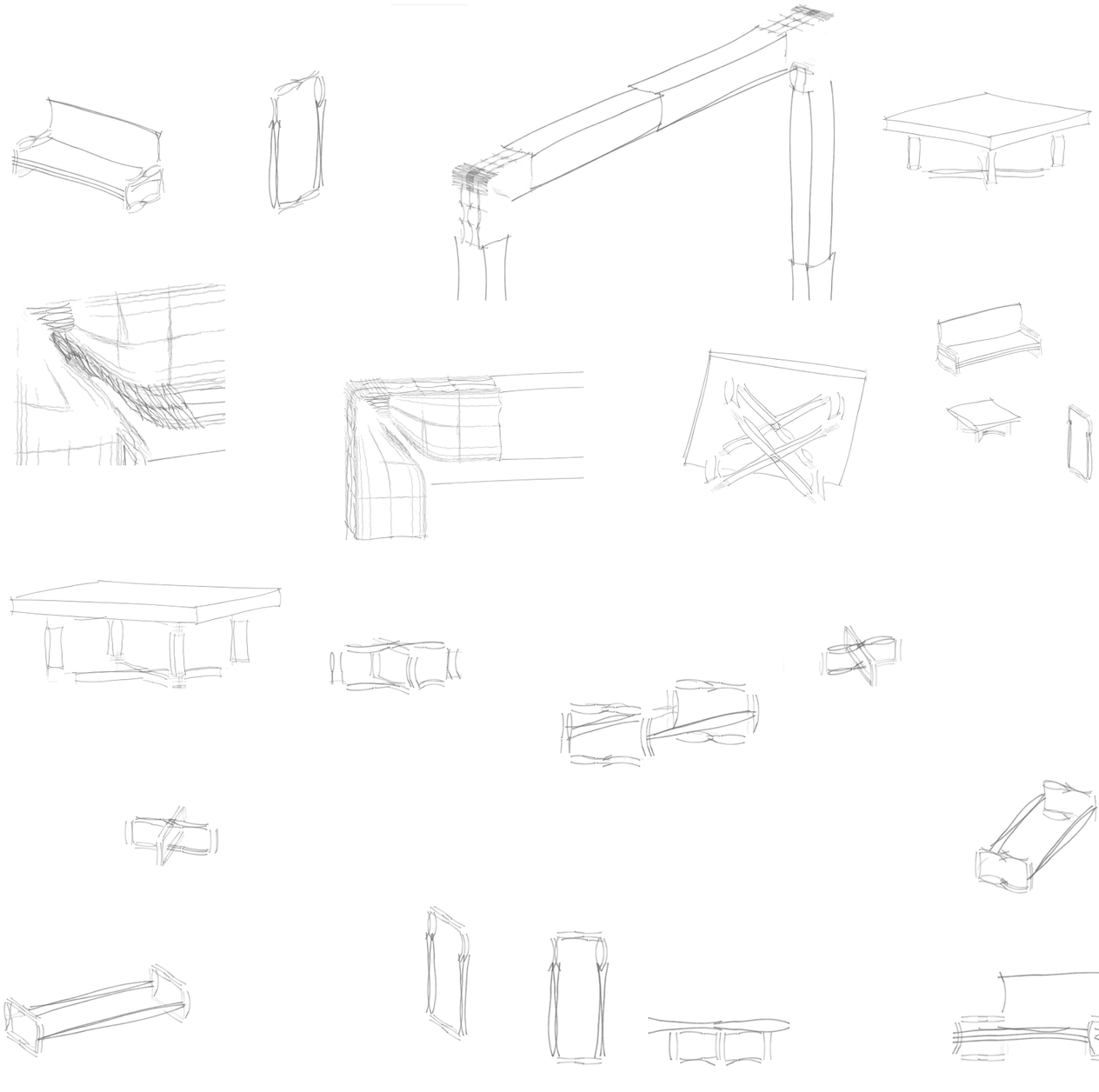
Step 1: Center Crossing Lock Step 2: Table Top Mounting

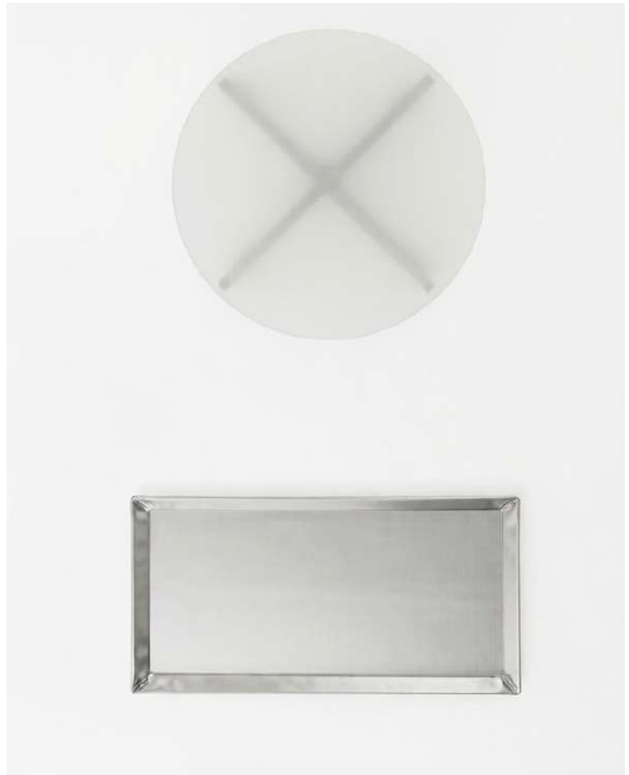


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Sketches





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TECHNICAL SPECIFICATIONS & MATERIALS REPORT
PROJECT: BENT METAL FURNITURE SERIES
==========

2. COMPONENT-SPECIFIC SPECIFICATIONS & FUNCTIONALITY

A. BENT MIRROR (PORTE-MANTEAU)
- Function: A sculptural entryway coat rack combining a vertical main frame and integrated hanging hooks.
- Construction: The main vertical rectangular frame is formed from a single continuous bent profile. The bottom is securely fastened to a heavy 10 mm steel base plate using four high-tensile M8x25 socket head screws. Coat hooks lock directly into the pre-formed cold-pressed deformation zones near the upper section of the frame to prevent shear failure.

B. BENT COFFEE TABLE (TABLE BASSE)
- Function: A low-profile living room table featuring an orthogonal center-crossing metal base and a solid tabletop.
- Construction: The base consists of two identical bent frames (upper and lower sections) that cross at a 90-degree angle. At the intersection, the profiles feature nesting indentations that lock together. A central M10x60 structural bolt and washers pass vertically through the node to lock the sub-assembly into a rigid 4-point base. The terrazzo tabletop is mounted onto the upper frame pads from underneath.

C. BENT SOFA (CANAPÉ)
- Function: A two-seater lounge couch featuring an industrial all-steel exoskeleton frame and soft upholstery.
- Construction: The armrests are structured using robust rectangular steel loops with standard R=50 mm corner bends. Both side loops are tied together via horizontal steel connecting bars using eight M8x40 screws and locking nuts, creating a rigid load-bearing sub-frame. The complete upholstered cushion unit (high-density foam core with durable fabric wrap) drops directly onto the steel structure and is bolted through internal mounting brackets.

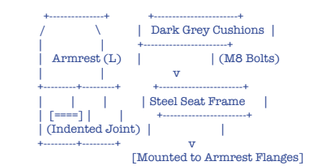
3. FASTENER SELECTION & SAFETY GUIDELINES
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* Hardware: All bolts, nuts, and flat washers are manufactured from high-tensile stainless steel to guarantee long-term joint stability and zero lateral play under load.
* Assembly Requirements: All joints use standard hex keys or open-ended wrenches. Due to the weight of the thick steel profiles, a 2-person assembly team is recommended for the coffee table and sofa.

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[3. BENT SOFA — ASSEMBLY SEQUENCE]

Step 1: Armrest & Frame Step 2: Upholstery & Cushion Lock



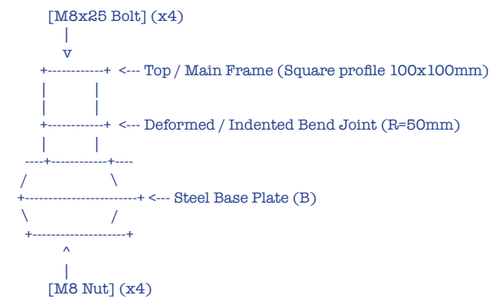
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Manual

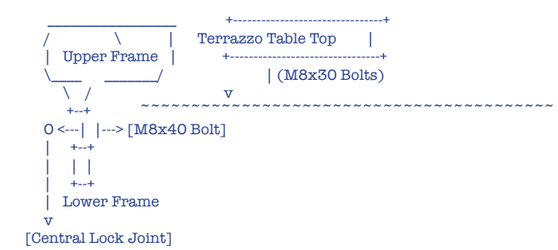
[1. BENT MIRROR — ASSEMBLY SEQUENCE]

Step 1: Base Plate Fixing



[2. BENT COFFEE TABLE — ASSEMBLY SEQUENCE]

Step 1: Center Crossing Lock Step 2: Table Top Mounting



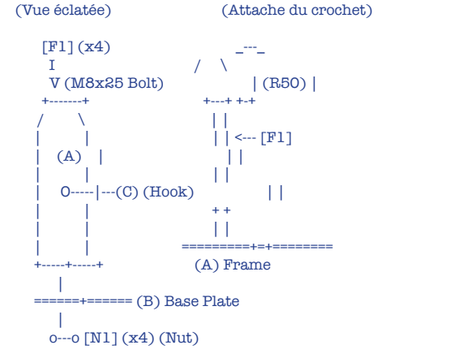
[3. BENT SOFA — ASSEMBLY SEQUENCE]

Step 1: Armrest & Frame Step 2: Upholstery & Cushion Lock



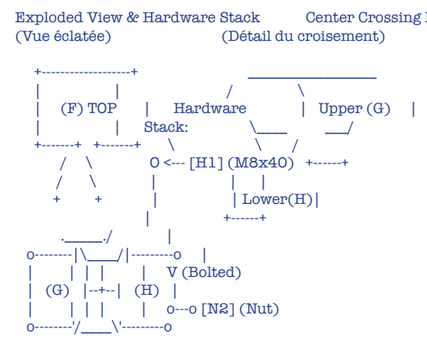
[1. BENT MIRROR/ PORTE-MANTEAU]

Exploded View & Tools Detail A: Hook Attachment
(Vue éclatée) (Attache du crochet)



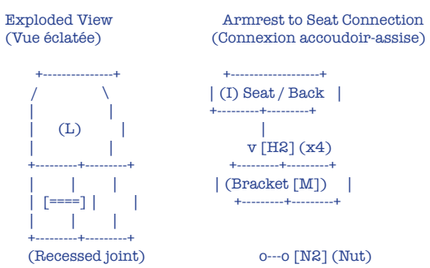
[2. BENT COFFEE TABLE / TABLE BASSE]

Exploded View & Hardware Stack Center Crossing Detail
(Vue éclatée) (Détail du croisement)

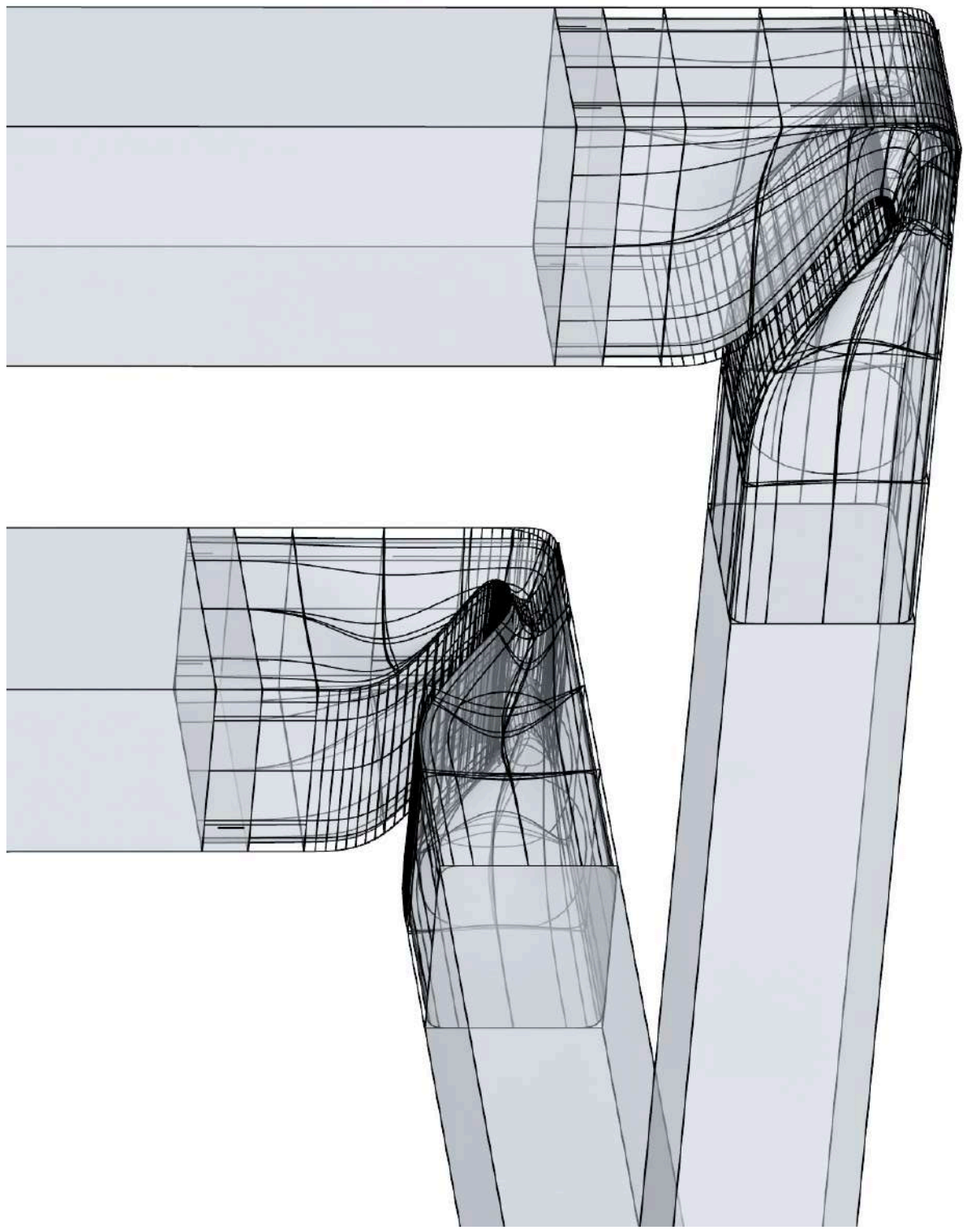


[3. BENT SOFA / CANAPÉ]

Exploded View Armrest to Seat Connection
(Vue éclatée) (Connexion accoudoir-assise)



Folded profile close up



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3D models



Metal, Fiberglass



3d Print

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EXTENDED TECHNICAL & CONCEPTUAL MANUAL: THE BENT METAL COLLECTION
COMPLETE PROJECT ARCHITECTURE, MATERIAL ANALYSIS, AND MANUFACTURING PHILOSOPHY

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1. TUBULAR STEEL AND THE PHILOSOPHY OF MASSIVE MATERIALITY

The fundamental building block of the entire „Bent Metal“ collection is the utilization of heavy-duty industrial structural steel profiles featuring a square cross-section of 100x100 mm with a 3 mm wall thickness.

* Why this specific material? Conventional furniture often relies on thin-walled tubing or hidden internal wooden frames that can feel fragile or become loose over time. The explicit design intent here was to introduce uncompromised industrial authenticity. The 100x100x3 mm profile provides an immense moment of inertia and rigidity, allowing the frames to resist extreme structural loads without the slightest sign of deflection.
* The aesthetics of strength: Furthermore, the 3 mm wall thickness enables clean structural machining without the need for bulky external reinforcements. The furniture thus feels raw, stable, and architectural, all while preserving absolute visual clarity.

2. THE MECHANICS OF BENDING AND COLD-PRESSED DEFORMATION ZONES

One of the most innovative features of the entire collection is the complete abandonment of traditional welded corners, which typically concentrate internal stress and can lead to structural failure points.

* Advantages of steel bending: Instead of cutting tubes at 45-degree angles and subsequently welding them, the primary frames are shaped through continuous cold-pressed bending. This preserves the continuous grain structure of the metal and exponentially increases overall frame stiffness.
* Standardized R=50 mm radius: All external and internal corners share a precise R=50 mm radius. This element gives the collection a unified visual rhythm—the design avoids feeling „hose-like“ or overly soft, instead maintaining sharply defined geometric contours.
* Proprietary deformation zones: At intersections where different profile sections meet (such as the leg crossing on the coffee table or the armrest attachment on the sofa), cold-pressed flat indentations are applied. These zones function as mechanical interlocking locks. Profile fits into profile without requiring complex transition fittings or welded flanges, drastically simplifying assembly and eliminating joint play.

3. THE PURPOSE OF DIGITAL 3D MODELS AND THE PROTOTYPING PHASE (CAD)

Before a single steel profile was ever placed into a bending machine, the entire collection underwent an advanced stage of digital prototyping. What was the exact purpose of these smaller 3D models and CAD simulations?

* Engineering verification and loading tests: Digital models allowed for Finite Element Analysis (FEA) to test material behavior under maximum structural loads (such as two-person seating on the sofa or static load distribution on the coffee table top).
* Fastener optimization: This phase precisely defined fastener diameters and lengths (high-tensile M8x25 for the coat rack, central M10x60 for the table, and M8x40 for the sofa frame), including precise torque specifications.
* Flat-pack design and „IKEA-style“ logic: Smaller 3D visualizations helped verify how bulky metal furniture could be broken down into flat packages. The goal was to engineer the assembly so that any end user could assemble the entire piece using only a single standard hex key, eliminating the need for professional installation while drastically reducing shipping volumes and carbon footprint.

4. ANATOMY OF THE LAYOUT AND ITS FUNCTIONALITY

The visual and technical arrangement of the presentation or manufacturing manual was not chosen at random. It is divided into three clear columns/sections (Coat Rack, Coffee Table, Sofa), each fulfilling a specific communicative role:

* Modular visual language: Each section strictly adheres to the same structural hierarchy—starting with an overall isometric view, proceeding to an exploded view drawing, and concluding with a detailed joint cross-section node.
* Instant legibility and data ergonomics: Through this layout, the viewer (whether an investor, manufacturer, or end consumer) instantly understands the load path through the material. They see precisely where the bolt passes, where it bears against the deformation zone, and what role the 10 mm steel base plate or terrazzo top plays.
* Synthesis of aesthetics and function: The layout perfectly reflects the core concept of the entire collection—bridging raw, uncompromising industrial aesthetics with maximum technical precision, legibility, and user ergonomics.

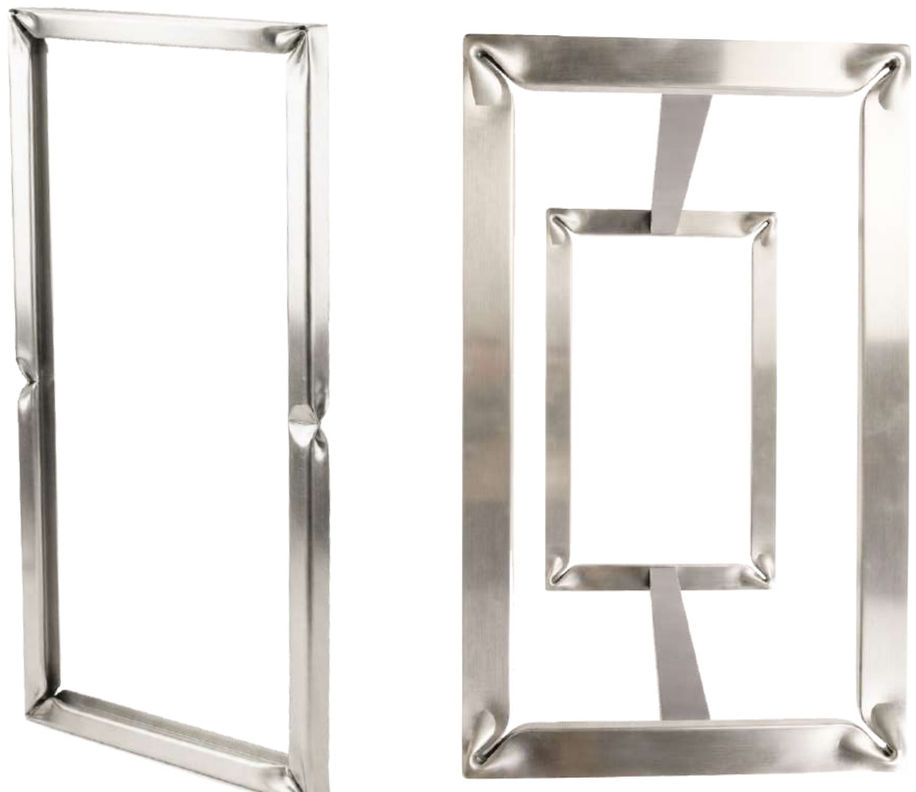
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Material construction render 1



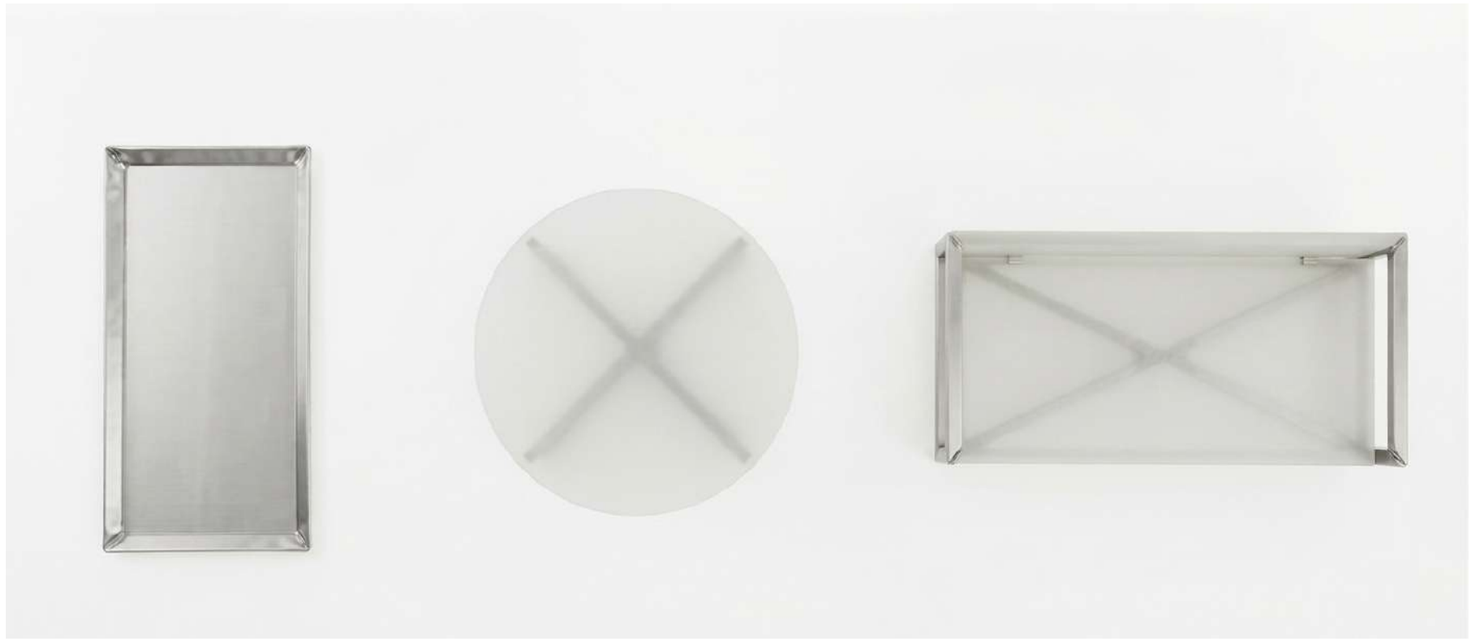
Material construction render 2,3



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Construction set, view from behind



Construction set, side view, Construction detail, metal folded profile

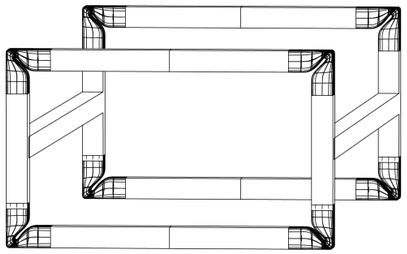


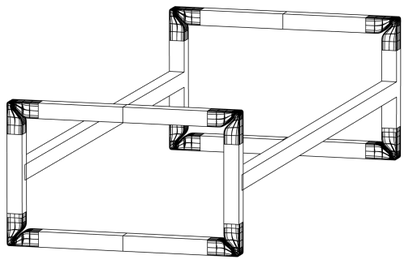


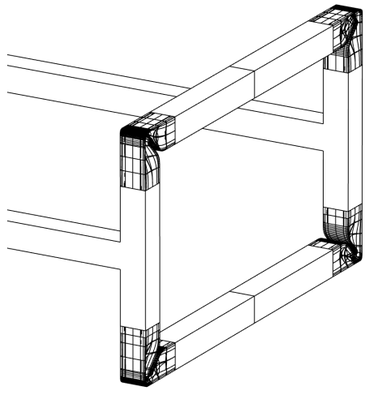


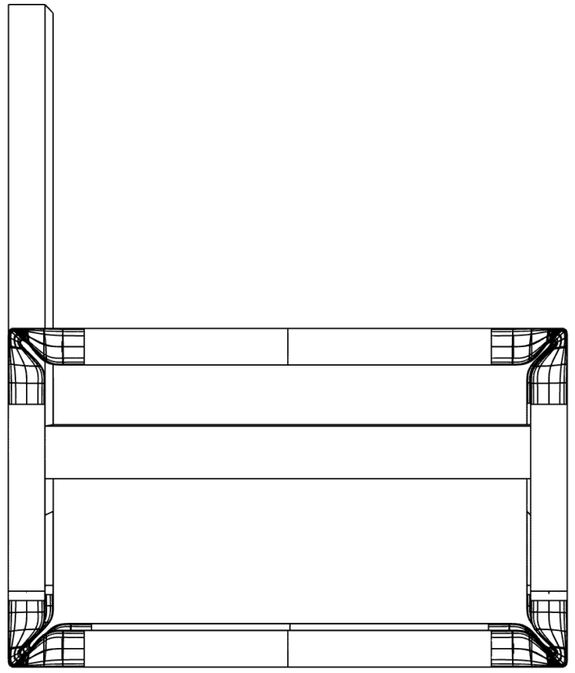
Bxd B – SOFA Situer Milano 2026

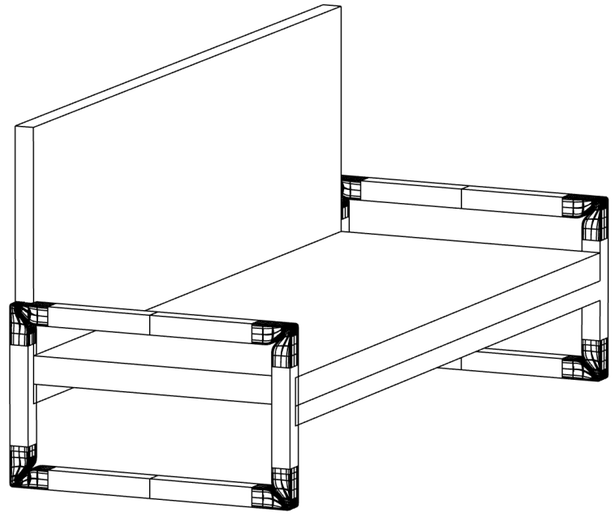
B – SOFA

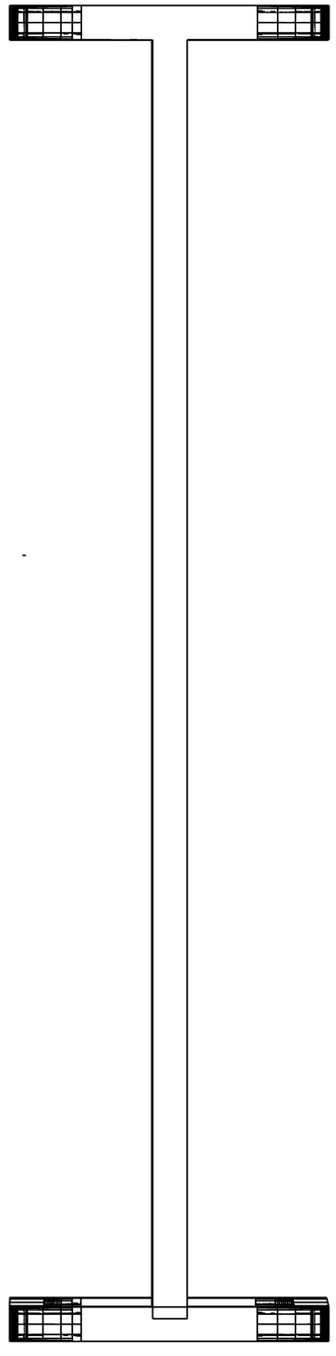












Bxd B – SOFA Situer Milano 2026

B – SOFA Material renders



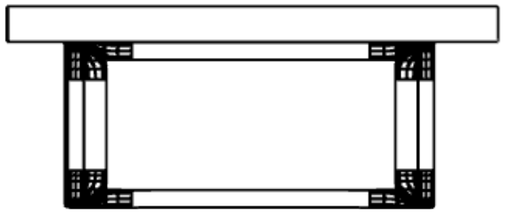
Steel Wool Sofa Cover

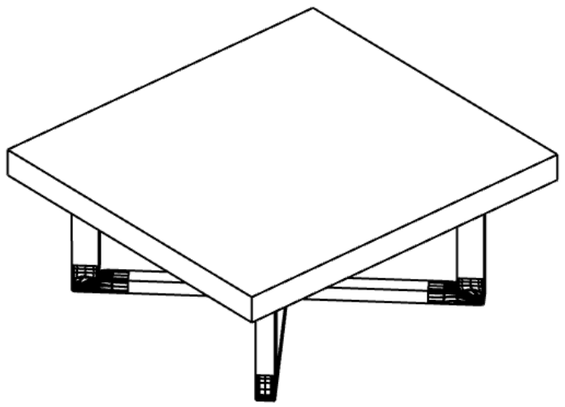


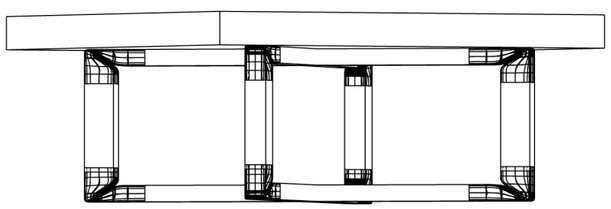
Fiber Glass Sofa Cover

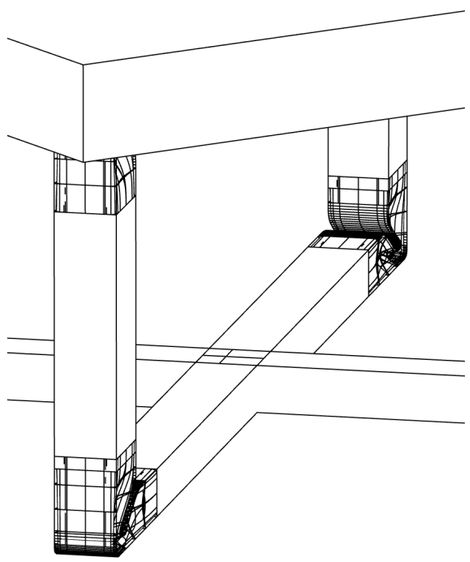
Bxd X – COFFEE TABLE Situer Milano 2026

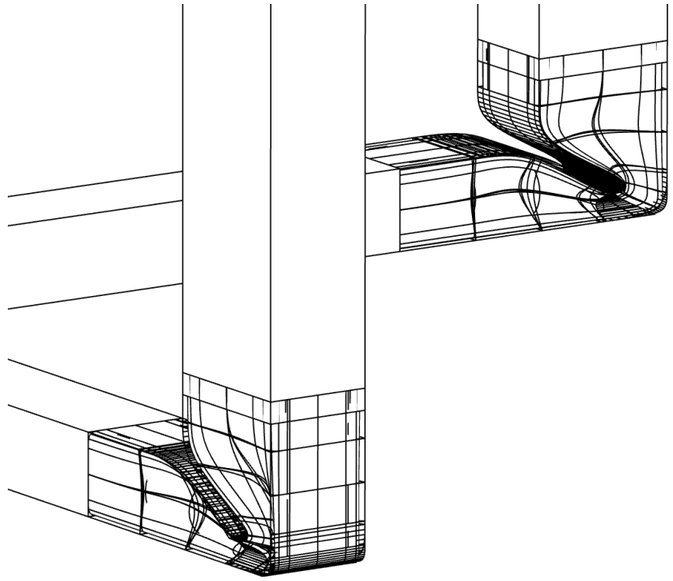
X – COFFEE TABLE

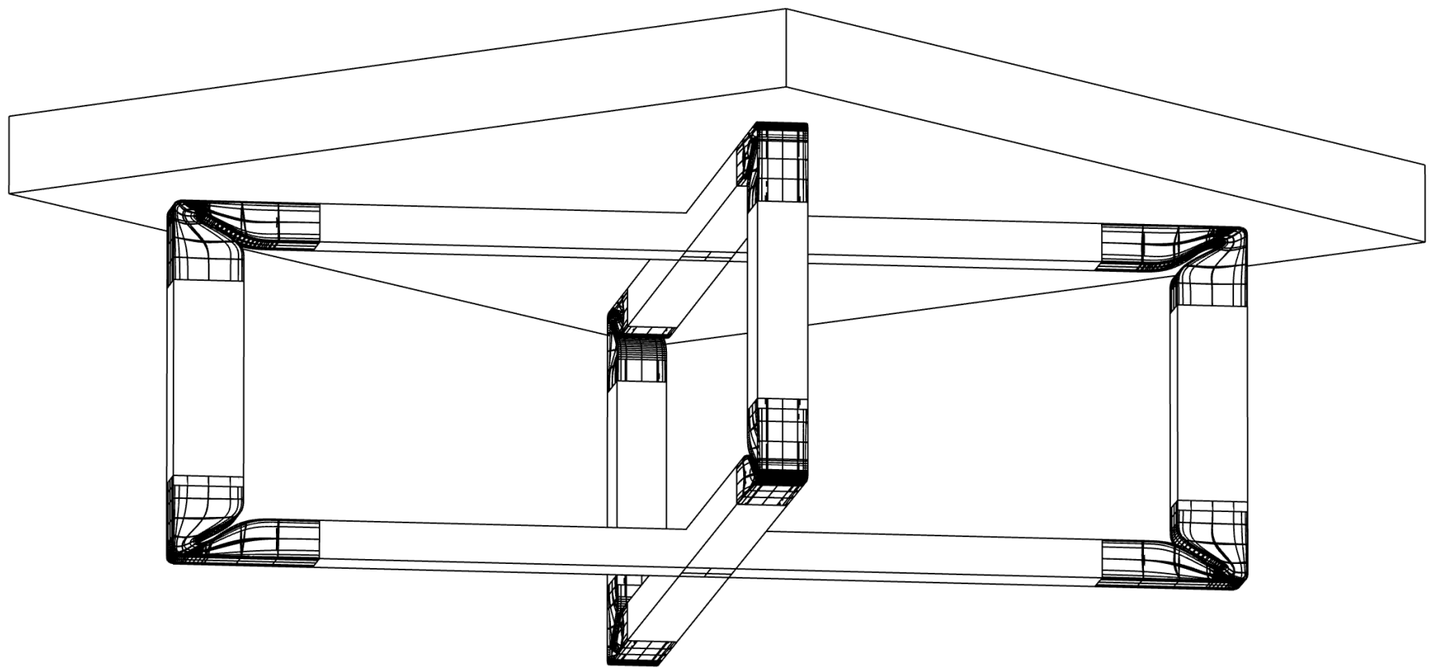












Bxd X – COFFEE TABLE Situer Milano 2026

X – COFFEE TABLE Material Renders



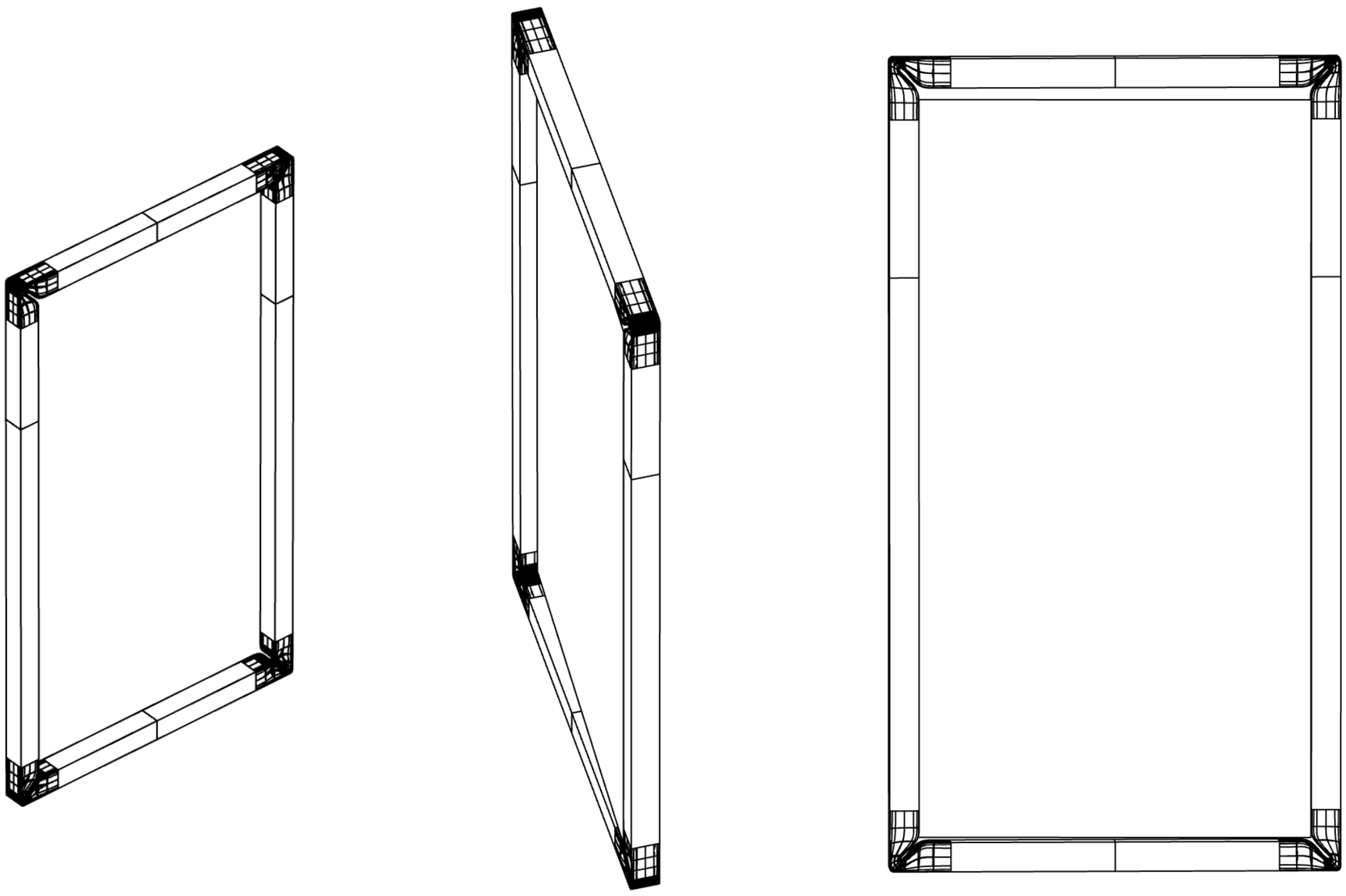
Steel Wool Table Desk



Fiber Glass Table Desk

Bxd D – MIRROR Situer Milano 2026

D – MIRROR



Bxd D – MIRROR Situer Milano 2026

D – MIRROR Material Renders



Mirror



Mirror – Extra Folded Profile

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Render





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Construction manual

Construction Illustration

```
================================================================================
ASSEMBLY MANUAL 01: BENT MIRROR
MATERIAL: 100x100x3 mm Steel Profile | BENDS: R=50 mm Indented Joints
================================================================================

PARTS & HARDWARE LIST (BOM):
--------------------------------------------------------------------------------
[A] Main Frame (Bent Steel Profile) ..... x1
[B] Steel Base Plate ..................... x1
[C] Coat Hooks ........................... x2
[D] M8x25 Socket Head Screws ............. x4
[E] Allen Key (5mm) ...................... x1


STEP 1: ATTACHING THE BASE PLATE
--------------------------------------------------------------------------------
Diagram 1.1: Underside Mounting

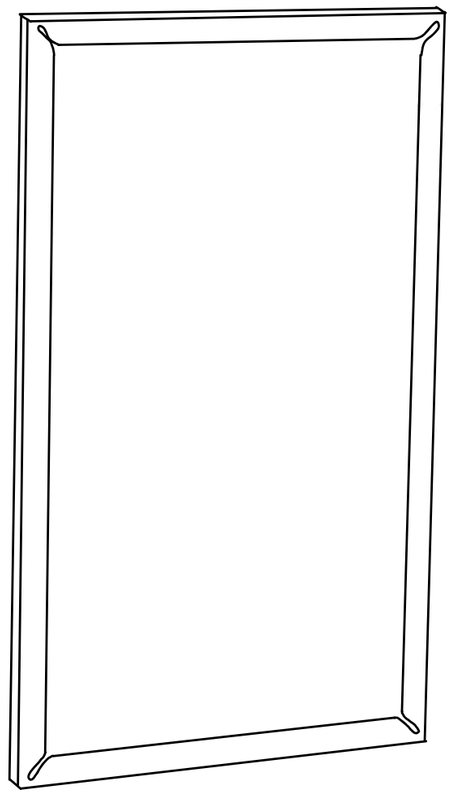
        +-------------------------------------+
        |       [A] MAIN FRAME                |
        |       (Vertical Profile)        |
        +----------------+--------------------+
                         |
                         v
      ====================+====================== <-- [B] BASE PLATE
        o         o    o         o
        |         |    |         |
        v         v    v         v
       [D]        [D]  [D]       [D]  <-- M8x25 Screws (x4)

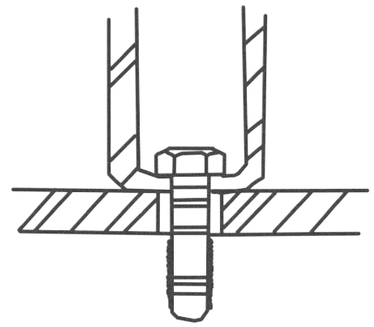
Instruction:
1. Align the bottom flange of Main Frame [A] with the holes on Base Plate [B].
2. Insert four (4) M8x25 screws [D] from underneath the Base Plate [B].
3. Tighten securely using Allen Key [E] (Recommended Torque: 18-20 Nm).

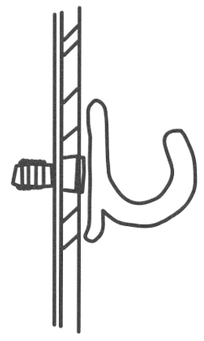

STEP 2: MOUNTING THE HOOKS
--------------------------------------------------------------------------------
Diagram 1.2: Indentation Hook Lock

             _---_
           /     \  <-- Cold-pressed Bend Area (R=50 mm)
          |  (A)   |
          +---+ +---+
              | |
        [C]   | |
        Hook ---> 0===0  <-- Push and click into pre-drilled side holes
              | |
              | |

Instruction:
1. Locate the indented deformation zones near the top section of Frame [A].
2. Align Hook [C] with the mounting hole inside the indented zone.
3. Push firmly and lock Hook [C] into position using internal bolt thread.
```





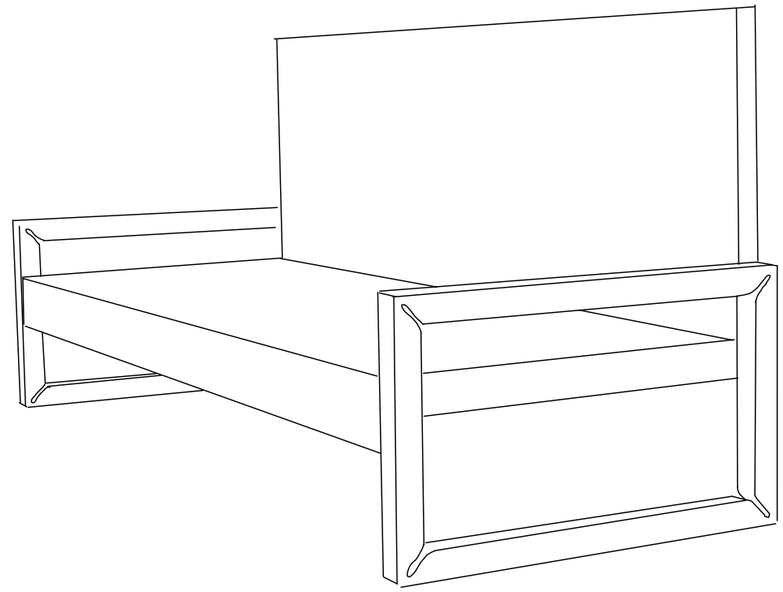


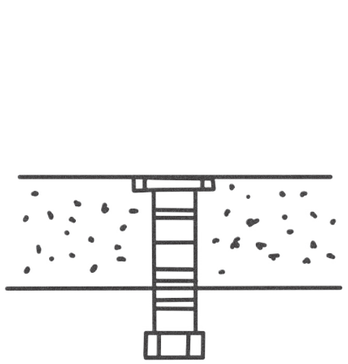
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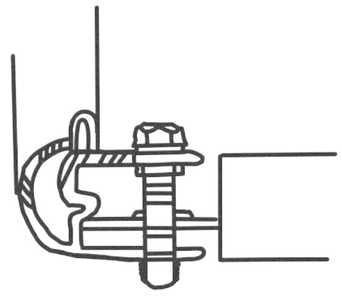
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==========================================================================
ASSEMBLY MANUAL 02: BENT SOFA
MATERIAL: 100x100x3 mm Steel Profile | CUSHIONS: High-Density Foam
==========================================================================

PARTS & HARDWARE LIST (BOM):
--------------------------------------------------------------------------
[L1] Left Armrest Frame ..... x1
[L2] Right Armrest Frame ..... x1
[M]  Horizontal Connecting Bars ..... x2
[N]  Upholstered Seat & Backrest Unit ... x1
[P]  M8x40 Connecting Bolts ..... x8
[Q]  M8 Locking Nuts ..... x8


STEP 1: ASSEMBLING THE STEEL SUB-FRAME
--------------------------------------------------------------------------
Diagram 3.1: Frame Structure Assembly

    +---------------+                   +---------------+
   /                 \                 /                 \
   |  [L1] LEFT      | <== [M] CONNECTING BAR ==> |  [L2] RIGHT    |
   |  ARMREST        |    ================     |  ARMREST       |
   +---------+-------+ <== [M] CONNECTING BAR ==> +---------+-------+
             |                                   |
         [P] M8x40 Bolts                     [P] M8x40 Bolts

Instruction:
1. Position Left Armrest [L1] and Right Armrest [L2] parallel to each other.
2. Insert Connecting Bars [M] between the lower recessed mounting flanges.
3. Pass eight (8) M8x40 Bolts [P] through the frame and secure with Nuts [Q].
4. Tighten all frame joints completely before proceeding to Step 2.


STEP 2: MOUNTING THE SEAT AND BACKREST
--------------------------------------------------------------------------
Diagram 3.2: Cushion Unit Drop-In

              +-----------------------------------+
              |  [N] SEAT & BACKREST UNIT         |
              +-----------------------------------+
                              |
                              v Drop-In & Secure
          +---------------------------------------------------+
          |          ASSEMBLED STEEL SUB-FRAME                |
          +---------------------------------------------------+

Instruction:
1. Place the complete Seat & Backrest Unit [N] onto the assembled steel frame.
2. Align internal brackets with pre-drilled holes on Connecting Bars [M].
3. Bolt the seat unit securely from the bottom to eliminate any lateral movement.

==========================================================================
GENERAL SAFETY NOTICE:
- Periodically check and retighten all bolts every 6 months.
- Clean powder-coated metal frame with a damp cloth and mild detergent.
==========================================================================
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================================================================================
ASSEMBLY MANUAL 03: BENT COFFEE TABLE
MATERIAL: 100x100x3 mm Steel Profile | TOP: Terrazzo Slab
================================================================================

PARTS & HARDWARE LIST (BOM):
--------------------------------------------------------------------------------
[F] Upper Frame Section ..... x1
[G] Lower Frame Section ..... x1
[H] Terrazzo Tabletop ..... x1
[I] M10x60 Central Structural Bolt ..... x1
[J] M10 Flat Washers ..... x2
[K] M8 Top Support Screws ..... x4

STEP 1: INTERLOCKING THE CENTER BASE
--------------------------------------------------------------------------------
Diagram 2.1: Orthogonal Frame Crossing

          _______________
         /               \
        |  Upper [F]      |
         \___    ________/
             \  /
              +--+
[I] M10 Bolt -> O  |  <-- Central Interlocking Node
              +--+
              |  |
              +--+
            Lower [G]
              |
              v [J] Washer + Lock Nut

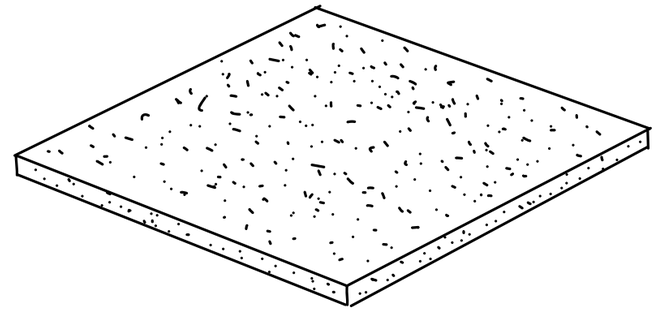
Instruction:
1. Cross Upper Frame [F] and Lower Frame [G] at right angles so their central
   cold-pressed indentations overlap perfectly.
2. Pass M10 Bolt [I] with Washer [J] through the central aligned hole.
3. Tighten the central nut from the bottom to form a rigid 4-point base.

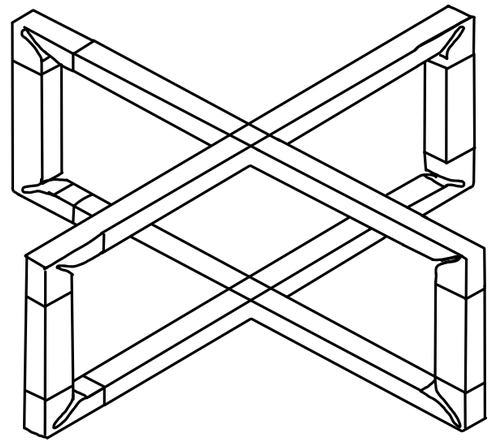
================================================================================
GENERAL SAFETY NOTICE: BENT COFFEE TABLE
================================================================================

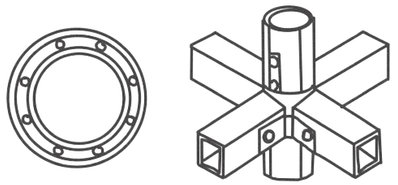
1. LIFTING & HANDLING
* Heavy Components: 2-person assembly is strictly required due to the weight of the steel profiles and Terrazzo top.
* Pinch Points: Keep hands clear of the central interlocking frame nodes during alignment.

2. FASTENERS & STRUCTURAL LOADS
* Hardware: Use only the provided high-tensile M10x60 bolts and flat washers. Do not substitute lower grades.
* Maintenance: Check and retighten all fasteners every 6 months to maintain structural rigidity.
* Load Limit: For static living room items only. Do not sit, stand, or drop heavy impact loads onto the tabletop.

3. SURFACE PLACEMENT
* Always assemble on a flat, level surface. Use protective pads under the base frame to prevent scratching delicate floors.
================================================================================
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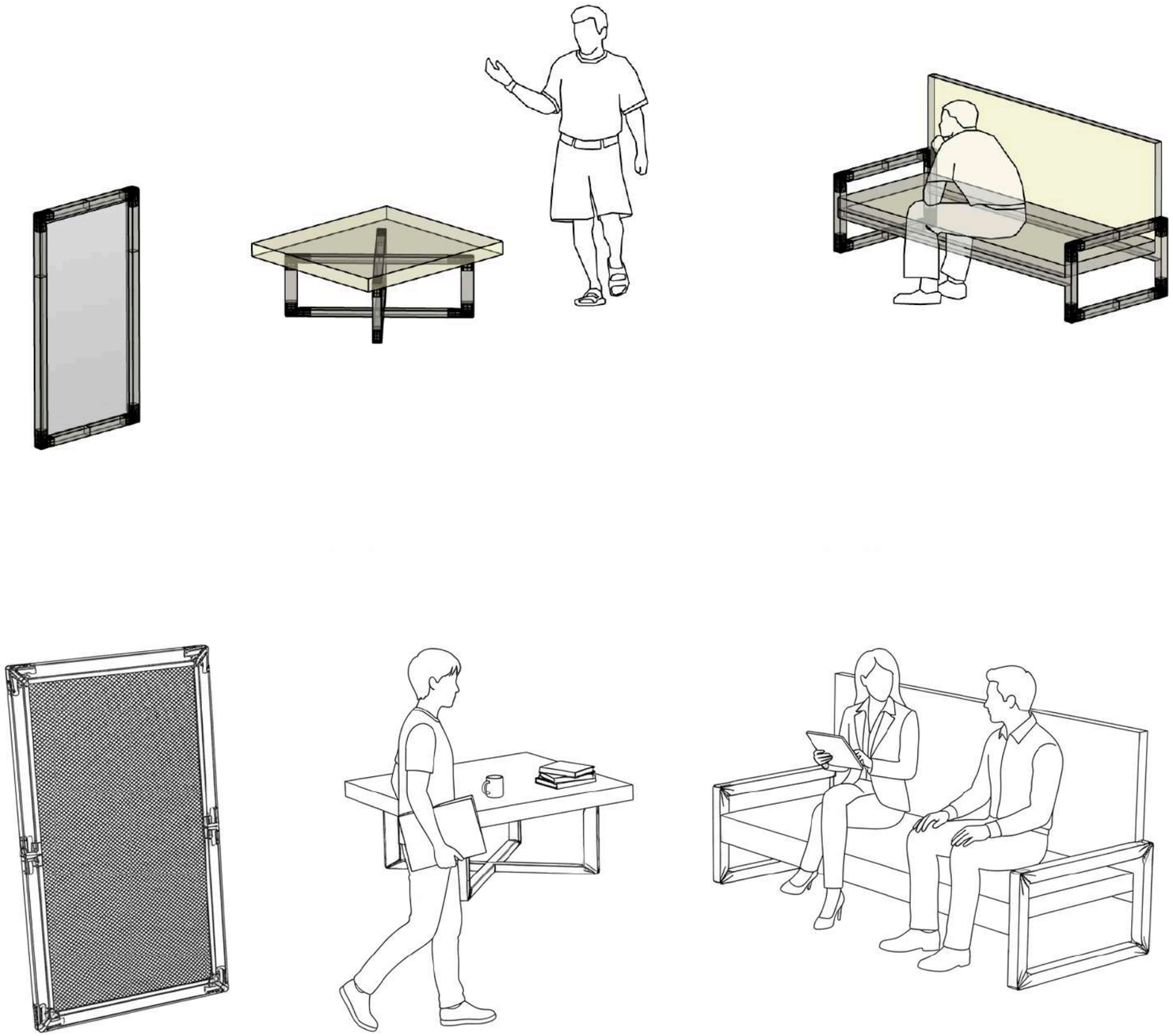






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Ilustration of furtniture use



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