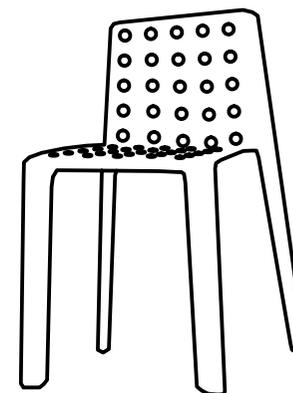


:THE CHAIR ChippenSteel '06

The chair ChippenSteel consists of two in contour welded metal sheets, which get their vivid, retro-futuristic look through hydro-forming.



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IDEA:

The idea is to produce stable, convenient furniture out of thin metal sheets by using the potential of CNC machines and master the deformations of hydro formed metal surfaces. This is achieved through placing the contour- and the interior welds intelligently, the interior welds as well as the pressure applied limit and control the formation of interior cushions, creating the final shape with a sort of a quilted pattern. The result is a light construction which can be easily mass-customized at low production costs with established techniques. (This construction principle combines stability with minor production effort and simplicity with appealing look.)

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SPECIAL FEATURES:

- industrial production with a unique result
- combination of creative freedom with a consistent production process
- creation of a handmade looking product with CNC machines
- application of modern techniques and materials for a retro futuristic design
- superior design through light-shadow contrasts
- can be transported in its flat state before hydroforming it at a distant location which has no access to cnc machines

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cnc folding control unit

folding machines

folding tools

ibm

prototype

steel sheets

welding machines

cnc laser

pressure generator

tools

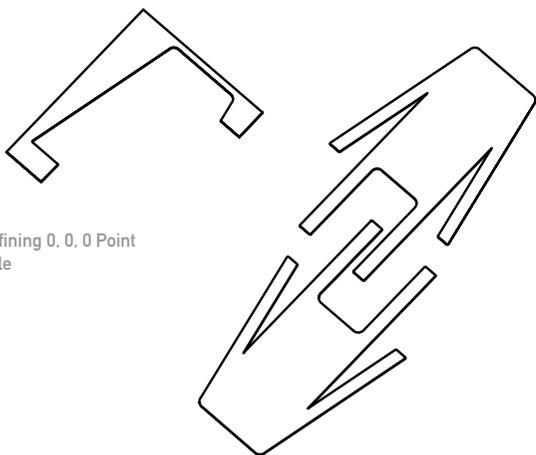
cnc cutting control unit

oskar

cutting machines

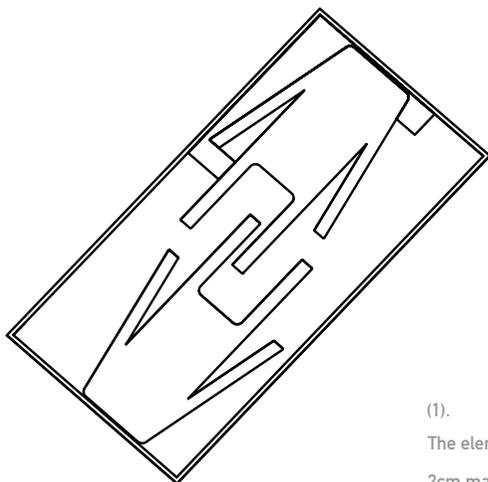
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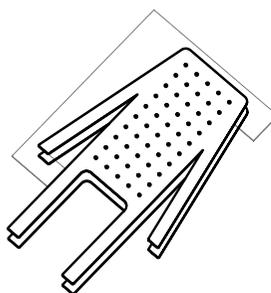


"Guideline" piece for defining 0, 0, 0 Point on the CNC welding table

Ready-cut elements

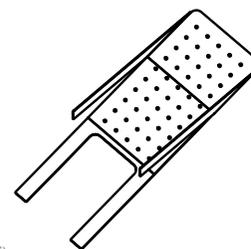


(1).
The elements will be placed on the steel plate
2cm margins

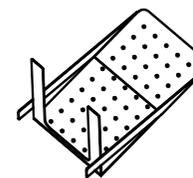


(2).
(3).
(4).
Raster of the spot-welding "marked" on the elements

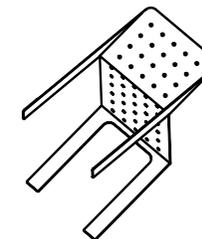
The elements will be welded along the contour line



(5). >
The upper extension will be folded 90°



The down extension will be folded 90°



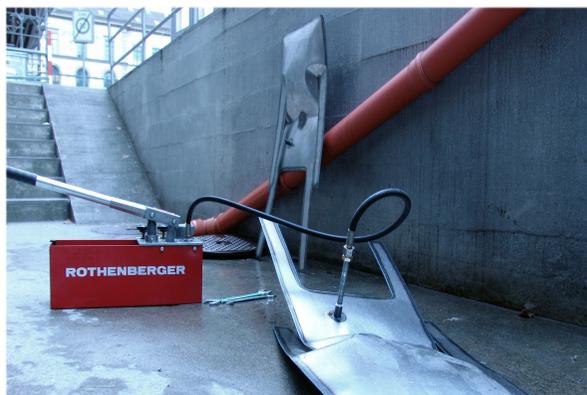
The sitting surface will be folded 90°

PRODUCTION PROCESS:

Chippensteel can be manufactured with different metals like steel, chrome steel and various alloys. First the metal sheets are welded together at the contour of the final shape. The following application of the spot-welding raster is essential for later forming processes. This grid is depending on the overall dimensions of the chair. The hydro forming process applies liquids with high pressure to the welded inner space. This pressure and the thickness of the metal sheets define the 3D appearance and stability of the chair. In the last step four bents are applied to the inflated shape, folding the chair to its final form.

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PROTOTYP 1-2



PROTOTYP 3



PROTOTYP 4-7



PROTOTYP 8-9



PROTOTYP 10



PROTOTYP 11

