



**Largest formats up  
to 205 mm x 290 mm**

## Stamping – go for highest efficiency

The well-established CeramTec stamped substrates are distinguished by their superior surface and highly regular edges, even with complex geometries and structures.

Our substrates are tape cast on highly sophisticated front-end equipment.

### **CeramTec's stamping-capabilities:**

- single and multiple techniques in large volumes
- complex groove structures
- high precision TungstenCarbide-tools
- in house tool design and manufacture
- thousands of single parts in one punch

From smallest chip dimensions to largest masterplate formats Ceramtec provides competent services for individual high value solutions.

Excellent surface quality even for thinfilm applications.

### **i Good to know**

#### **WHY STAMPING?**

- smooth and strong edges
- high scorelines density
- complex geometries and cut outs
- through holes
- mass production – high volumes
- extremely cost-effective

# Stamping

## Masterplates, tolerances

Property	Values
Standard dimensions	101.6 mm x 101.6 mm 115.0 mm x 115.0 mm 115.0 mm x 165.0 mm 127.0 mm x 177.8 mm 138.0 mm x 190.5 mm 185.0 mm x 230.0 mm
Length and width (as fired) tolerance	± 2%
Standard thicknesses	0.25 mm, 0.38 mm, 0.50 mm, 0.63 mm, 0.76 mm, 0.89 mm, 1.00 mm, 1.27 mm
Thickness tolerance	± 10%
Special thicknesses	from 0.1 mm up to 1.5 mm

## Formats and standard sizes of stamped substrates

Property	Values
Standard dimensions	101.6 mm x 101.6 mm 76.2 mm x 101.6 mm 101.6 mm x 152.4 mm 127.0 mm x 177.8 mm
Special dimensions	possible
Standard thicknesses	0.25 mm, 0.38 mm, 0.50 mm, 0.63 mm, 0.76 mm, 0.89 mm, 1.00 mm, 1.27 mm
Special thicknesses	from 0.1 mm up to 1.5 mm

## Stamped substrates, tolerances

	Standard tolerances	Premium tolerances*
Length and width (as fired)	± 0.8% <sup>1</sup>	± 0.5% <sup>2</sup>
Thickness	± 10%	± 7%
Distance between snap lines	± 0.8% <sup>1</sup>	± 0.5% <sup>2</sup>
Hole diameter		
< 2 mm	± 0.05 mm	± 0.05 mm
2–10 mm	± 0.10 mm	± 0.076 mm
> 10 mm	± 0.8%	± 0.5%
Distances between holes (center distance)	± 0.8% <sup>1</sup>	± 0.5% <sup>3</sup>
Overall camber (measured between parallel plates, 45°)		
≥ 0.635	0.3% of length upon request	0.2% of length upon request
< 0.635		
Perpendicularity	± 0.4% of outside dimension	± 0.3% of outside dimension
Parallelism	± 0.4% <sup>1</sup> of outside dimension <sup>1</sup>	± 0.3% of outside dimension <sup>1</sup>
Radii and corners	0.2 mm	

\*Ranking for tighter tolerances

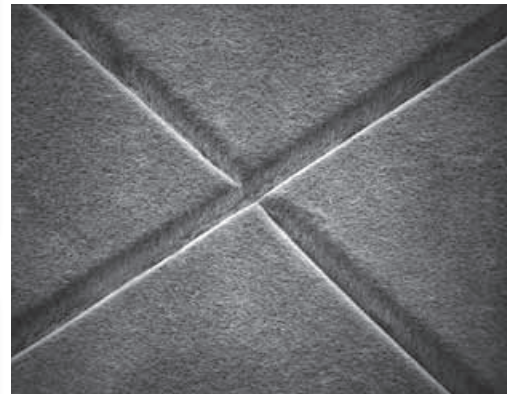
<sup>1</sup> but not less than +/- 0.1 mm

<sup>2</sup> but not less than +/- 0.05 mm

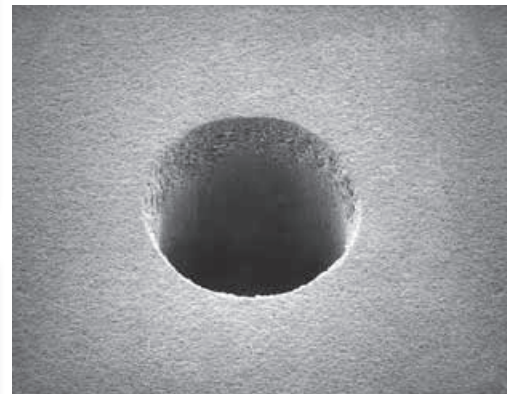
<sup>3</sup> but not less than +/- 0.076 mm

## Materials used for Stamping

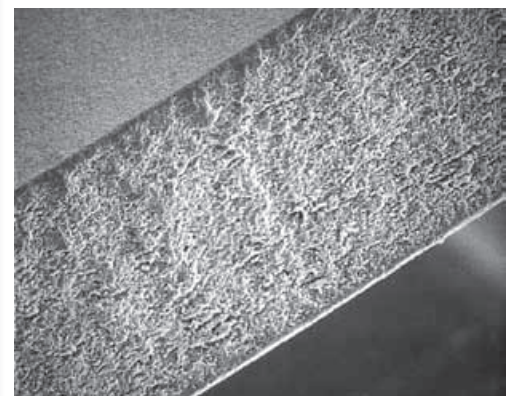
Material	Typical R <sub>a</sub> Value	Content
Rubalit 708 S	< 0.6 μm	96%, Al <sub>2</sub> O <sub>3</sub>
Rubalit 708 HP	< 0.6 μm	96%, Al <sub>2</sub> O <sub>3</sub>
Rubalit 710	< 0.1 μm	99.6%, Al <sub>2</sub> O <sub>3</sub>
Alunit	< 0.6 μm	AlN



Snap-lines



Hole



Stamped edge

**CeramTec**  
THE CERAMIC EXPERTS

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**Indexes and parameters for ceramic substances:** In order to profile ceramic substances certain parameters are indicated. The crystalline nature of these substances, statistical fluctuations in the composition of the substances and in the factors that impact on the production processes indicate that the figures quoted are typically mean values and hence the substance parameters quoted in this brochure are only standard, recommended or guide values that might differ given dissimilar dimensions and production processes.