

# CERAMIC COMPONENTS

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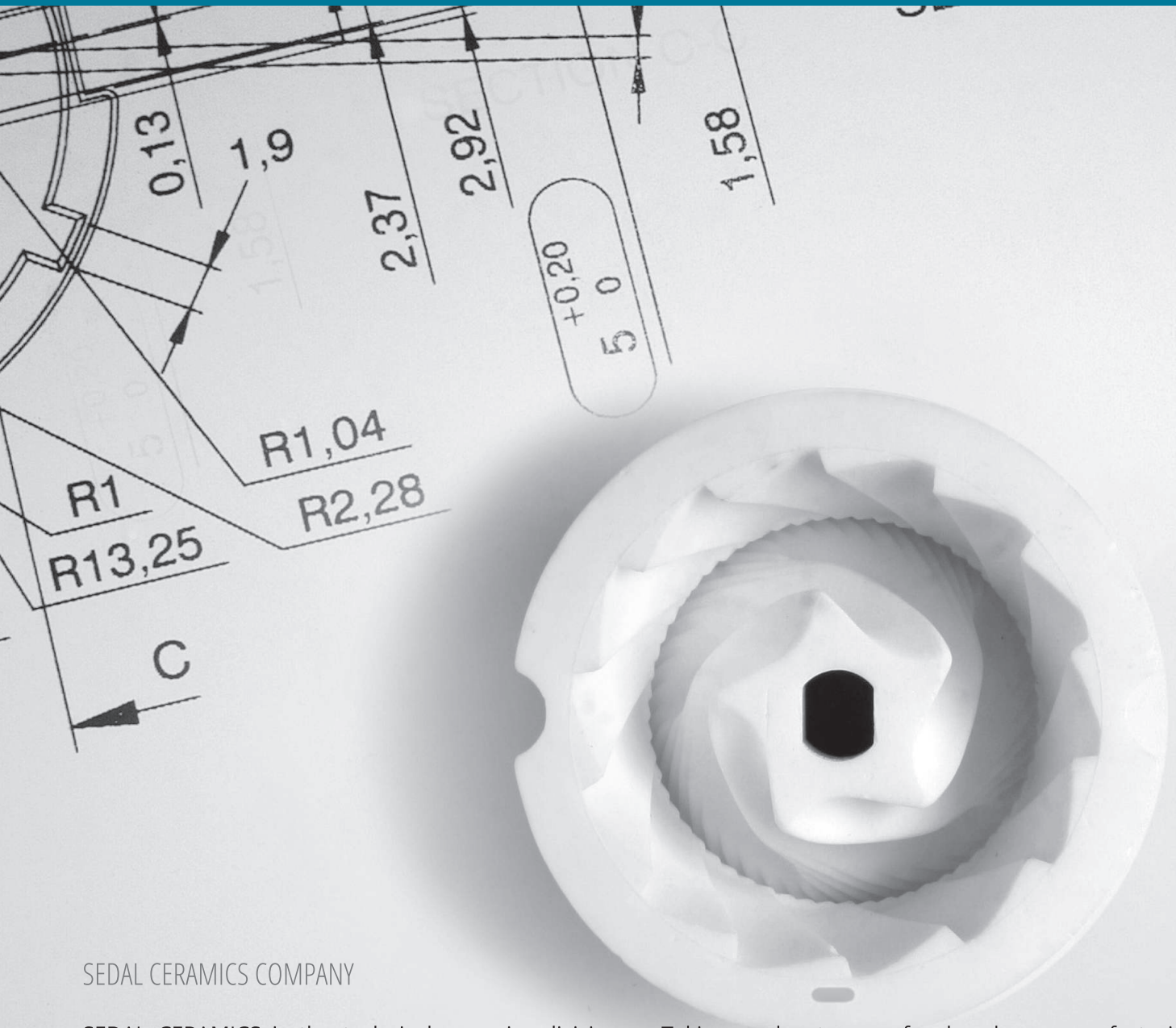
Sedal Ceramics offers innovative technical ceramic solutions intended for electronics, energy and automotive, as well as for the industrial machinery, chemical, food industry and sanitary sectors.



**sedal**  
**CERAMICS**

YOUR  
TECHNICAL  
CERAMICS  
PARTNER

# SEDAL CERAMICS



## SEDAL CERAMICS COMPANY

SEDAL CERAMICS is the technical ceramics division of SEDAL GROUP. Launched in 2010, the Company is focused on the design, manufacture and sale of ceramic components for electronics, energy, and automotive, as well as for the industrial machinery, chemical, food industry and sanitary sectors.

It is a worldwide operating ceramic components provider with customers in 4 continents and within its facilities is producing millions of pieces complying with the highest international quality standards.

The long term cooperation with companies around the globe is the key of our success, with a strong focus on becoming your preferred partner.

Taking advantage of decades manufacturing experience and as a result of our R&D activity, SEDAL CERAMICS has developed, in addition to other materials, SEDALOX®, our own alumina composition with Nano Shelter Technology, which offers outstanding performance to every single product we manufacture.

Starting from raw material, our fully integrated manufacturing process and state-of-the-art facilities guarantee the best results to the most demanding customers.

Sedal Ceramics - Your Technical Ceramics Partner

# PRODUCTION PROCESS



## TECHNICAL ADVANTAGES

- Exclusive customized products & OEM
- Own designed RM formula with different composition
- High precision mould manufacturing
- Advanced manufacturing process
- Rapid prototyping by CNC
- Advanced facilities and inspection instruments



RAW  
MATERIALS  
INSPECTION



WEIGHING-IN  
OF  
INGREDIENTS



POWDER  
PREPARATION



POWDER  
QUALITY  
CONTROL



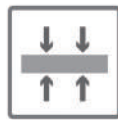
FINISHED  
GOODS  
INSPECTION



MACHINING



SINTERING



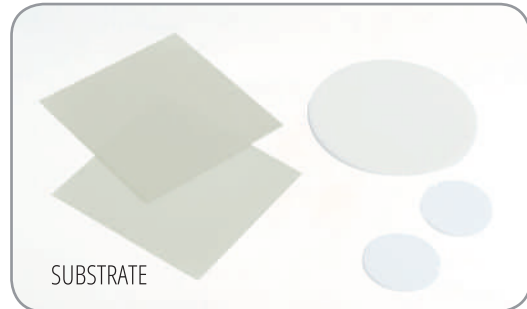
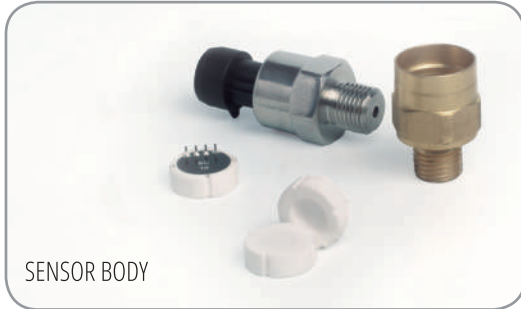
SHAPING



# OEM PRODUCTS

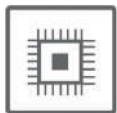
COMPLYING WITH THE HIGHEST INTERNATIONAL STANDARDS

Example of applications:



## APPLICATION AREAS

OEM ceramic components for any industry



ELECTRONIC APPLICATION



ENERGY & ENVIRONMENT



TRANSPORTATION INDUSTRY



MECHANICAL SYSTEM



CHEMICAL INDUSTRY



FOOD INDUSTRY



FAUCET & VALVE

## COMPLIANCE WITH



**KTW**

# MATERIALS

## MATERIAL PROPERTIES

Our technical ceramics can be made from materials with different properties.

Material Properties	Unit	AL-997	AL-995	Sedalox SD	Sedalox PLUS	Sedalox WS	AL-94	AL-92	AL-90
Composition	%	99.7% Al <sub>2</sub> O <sub>3</sub>	99.5% Al <sub>2</sub> O <sub>3</sub>	96% Al <sub>2</sub> O <sub>3</sub>	96% Al <sub>2</sub> O <sub>3</sub>	96% Al <sub>2</sub> O <sub>3</sub>	94% Al <sub>2</sub> O <sub>3</sub>	92% Al <sub>2</sub> O <sub>3</sub>	90% Al <sub>2</sub> O <sub>3</sub>
Density	g/cm <sup>3</sup>	3.90	3.89	3.68	3.74	3.75	3.69	3.60	3.60
Water absorption	%	0.0	0.0	<0.1	0.0	0.0	0.0	0.0	0.0
Bending strength	MPa	380	375	255	255	345	330	295	220
Young's modulus	GPa	380	375	340	340	340	300	280	275
Hardness Vickers	GPa	1930	1440	1100	1200	1100	1175	1230	1270
Thermal coefficient of expansion (100°C-800°C)	10 <sup>-6</sup> /K	8.6	8.3	8.2	8.2	8.2	8.1	7.8	8.1
Heat capacity	J/Kg K	1025	980	980	980	980	880	950	920
Thermal conductivity (20°C)	W/m•K	29	28	24	24	24	22	19	17
Dielectric strength	KV/mm	12.0	8.7	8.3	8.3	8.3	8.3	8.6	8.3
Dielectric constant	1MHz	8.5-11.5	9.7	9.0	9.0	9.0	9.1	8.9	8.8
Volume resistivity	Ωm	>10 <sup>14</sup>	>10 <sup>14</sup>	>10 <sup>14</sup>	>10 <sup>14</sup>	>10 <sup>14</sup>	>10 <sup>14</sup>	>10 <sup>14</sup>	>10 <sup>14</sup>
Maximum operating temperature	°C	1850	1750	1650	1650	1650	1650	1500	1050

Above parameter values apply to standard specimens only and would make change according to different shape, size and manufacturing process of products.

## TECHNICAL CAPABILITIES

Dry Pressing Standard Tolerance		
Length and Width	mm	±1%
Thickness	mm	±10%
Hole diameter	<2mm	± 0.1
	2-10mm	± 0.15
	>10mm	± 1%
Radius and corner	mm	0.3
Machining Standard Tolerance		
Thickness	mm	±0.05
Parallelism	mm	<0.05
Flatness	mm	<0.0006
Roughness	mm	0.15±0.1

If special tolerance is required, please contact us for inquiry.

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