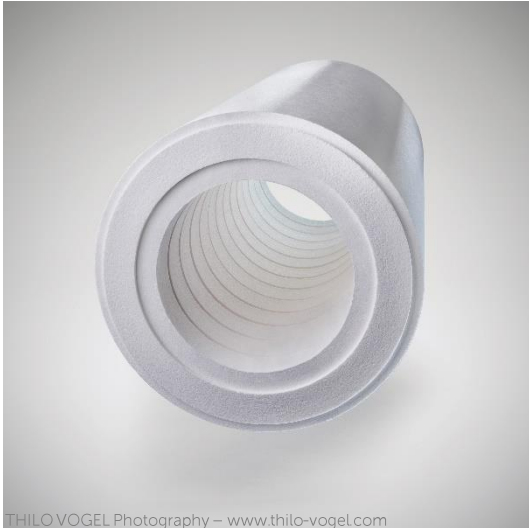


## UltraVac TAILORED TO YOUR NEEDS

Vacuum-formed 3-dimensional insulation shapes made of polycrystalline mullite/alumina wool (PCW) up to **1.750 °C (3.182 °F)** application temperature



THILO VOGEL Photography – www.thilo-vogel.com

Due to production by vacuum-forming, **UltraVac** insulation materials offer very precise dimensions, surface quality and homogeneity in particular at complex part designs. This way, individual and application-specific unique parts or series made of non-classified polycrystalline mullite/alumina wool (PCW) can be implemented.

The structure of the vacuum-formed shapes remains stable even at high-temperature gradients within the insulation material. **UltraVac** is outstandingly suitable for use in electrically heated high-temperature furnaces and kilns up to **1.750 °C** application temperature.



Martin Braun Fotografie – www.braun-foto.com

Vacuum-formed shapes of PCW are characterised by efficient insulation properties, high-temperature resistance, chemical resistance and very good temperature shock resistance. Thanks to their accurate dimensions, installation of the shaped parts is also very simple and quick.

**UltraVac** insulation materials can be fabricated to deliver single shapes, cylinders or complete furnace linings ready for installation – e.g. for dental furnaces. On request, SCHUPP® Ceramics combines **UltraVac** shapes with a variety of electric heating elements into complete heating systems for demanding production and research environments.

## YOUR BENEFITS WITH ULTRAVAC AT A GLANCE

- ✓ Very good thermal shock behaviour
- ✓ Stable structure at high temperature gradients
- ✓ Application temperature up to **1.750 °C**
- ✓ Forms: cylinders and other shapes
- ✓ Shapes ready for installation as single parts or series
- ✓ Complex design possible
- ✓ Complete furnace linings possible

## MATERIAL PROPERTIES OF ULTRAVAC

UltraVac	UV 1500-3	UV 1600-4	UV 1750-4
Classification temperature	1500 °C 2732 °F	1600 °C 2912 °F	1750 °C 3182 °F
Max. service temperature (perm.)	1500 °C 2732 °F	1600 °C 2912 °F	1750 °C 3182 °F
Chemical composition DIN EN ISO 12677			
Al <sub>2</sub> O <sub>3</sub>	75 %	80 %	83 %
SiO <sub>2</sub>	25 %	20 %	17 %
Density DIN EN 1094-4	300 kg/m <sup>3</sup>	400 kg/m <sup>3</sup>	400 kg/m <sup>3</sup>
Loss of ignition	-	0.12 %	0.07 %
Linear change DIN EN 1094-6			
1500 °C (2732 °F)	-0.22 %	-0.15 %	--
1600 °C (2912 °F)	--	+0.14 %	+0.19 %
1700 °C (3092 °F)	--	--	+0.22 %
1750 °C (3182 °F)	--	--	-0.13 %
Thermal conductivity DIN EN ISO 8894-1			
400 °C (752 °F)	0.20 W/mK	0.17 W/mK	0.19 W/mK
600 °C (1112 °F)	0.23 W/mK	0.20 W/mK	0.21 W/mK
800 °C (1472 °F)	0.26 W/mK	0.23 W/mK	0.24 W/mK
1000 °C (1832 °F)	0.31 W/mK	0.28 W/mK	0.27 W/mK
1200 °C (2192 °F)	0.38 W/mK	0.34 W/mK	0.32 W/mK
1400 °C (2552 °F)	0.50 W/mK	0.42 W/mK	0.35 W/mK
Cold crushing strength DIN EN ISO 8895	0.30 MPa	0.36 MPa	0.53 MPa
Cold bending strength DIN EN 993-6	0.70 MPa	0.87 MPa	1.39 MPa

All vacuum-formed shapes are already pre-fired.  
Pre-firing qualities: low fired (LF), middle fired (MF), high fired (HF).  
Given data presented herein are mean values of our current production.  
They should not be construed as a warranty.

## AVAILABLE TYPES OF ULTRAVAC

Maximum length	600 mm
Maximum inner diameter	800 mm
Wall thickness	10-70 mm
Customised dimensions and shapes on request.	