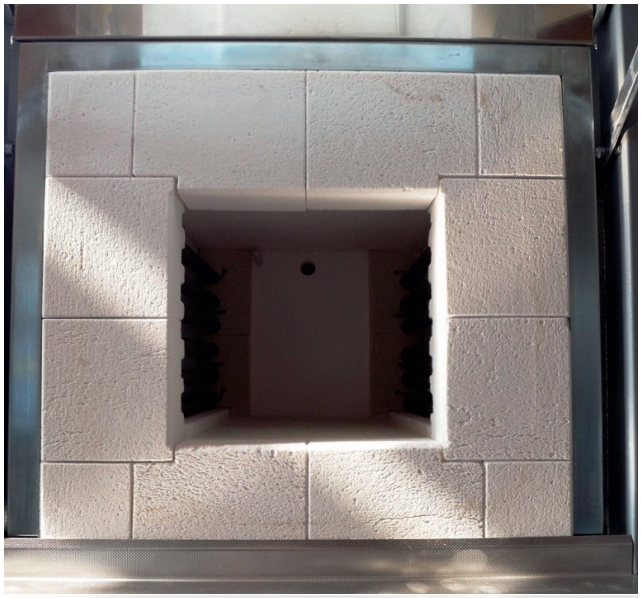
ELECTRON



Cerafoam®

High temperature insulation

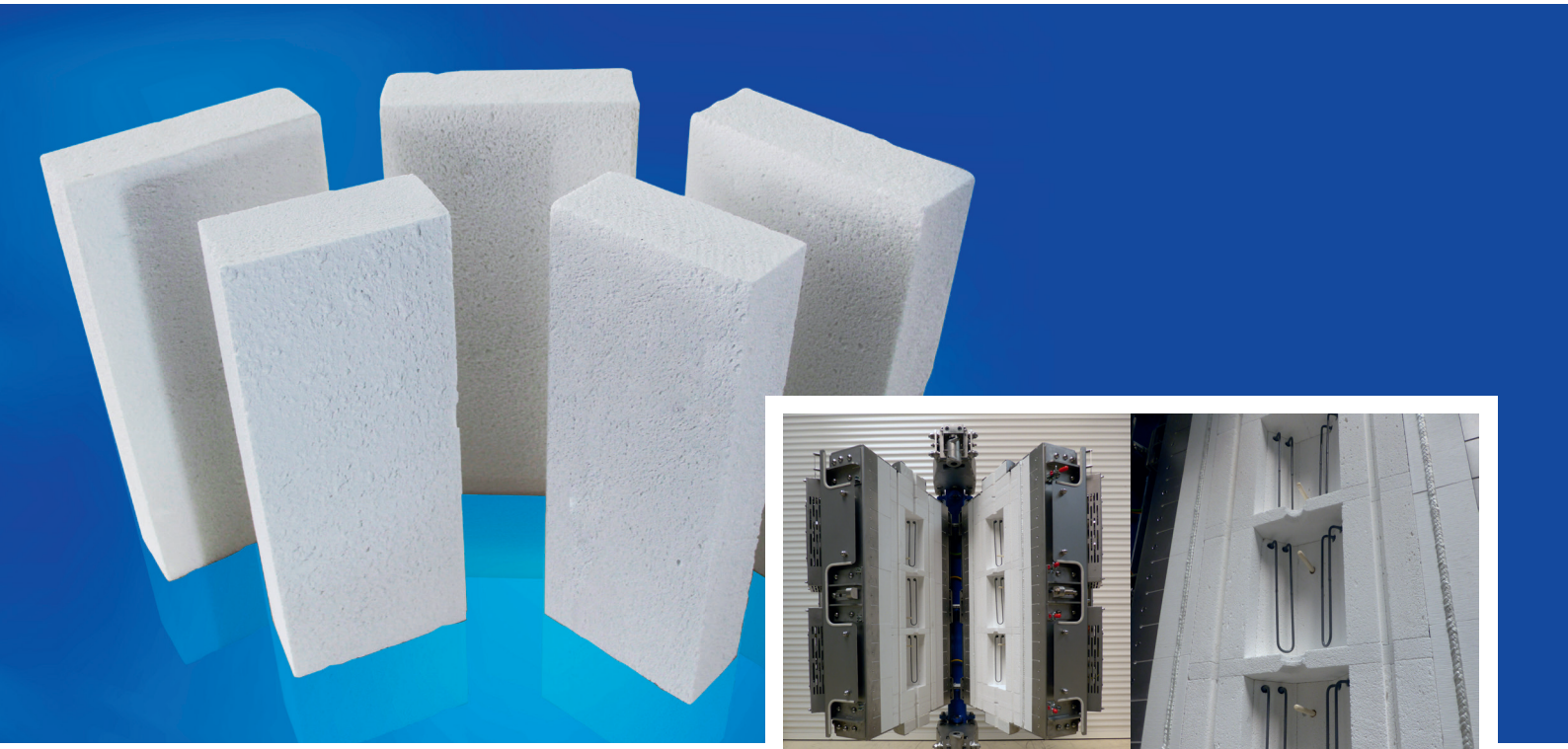
- FIBER FREE
- BINDER FREE
- LOW DENSITY
- HIGH STRENGTH
- HIGH TEMPERATURE UP TO 1700 °C
- LOW THERMAL CONDUCTIVITY

Cerafoam®, ceramic foam board, is an innovative FIBER FREE, light weight, high temperature insulation with an excellent thermal performance.

Cerafoam® has a high strength and high temperature resistance (up to 1.700 °C) in combination with a low density, low thermal conductivity and low permanent linear shrinkage. This makes the product extremely suitable for high temperature kiln and oven insulation in for example dental, laboratory, ceramic and industrial areas.

Cerafoam® is adapted to high temperature fields and all kinds of furnace atmospheres and applications under particular chemical circumstances. It combines the advantages from both light weight firebricks and fiber products. It has the strength of firebricks but also the low thermal conductivity of polycrystalline mullite fiber board. Cerafoam® is the best alternative to aluminosilicate ceramic fiber, polycrystalline mullite fiber and alumina fiber, firebrick and other high temperature insulation.

Cerafoam® is manufactured with the unique sol-gel method and is offered by Electron, expert in electric heating elements and systems as well as high quality and durable furnace accessories and insulation materials.

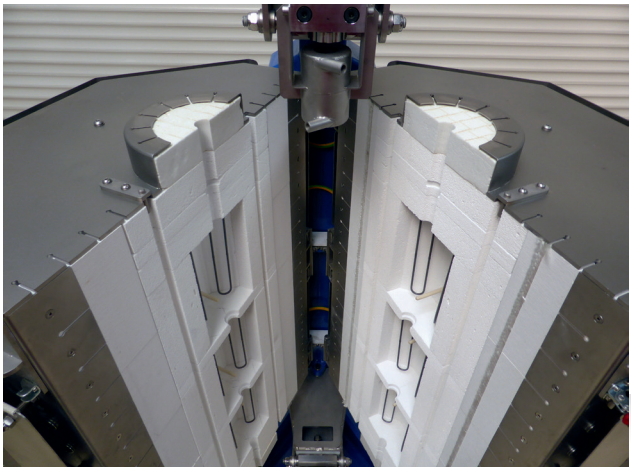


FIBER FREE and environment friendly

Cerafoam® is a FIBER FREE product. It is environment friendly and without the use of organic binder. During use no emissions of dust or vapors occur and there is no pulverization as caused by using aluminosilicate ceramic fiber, polycrystalline mullite fiber and alumina fiber.

Long lifetime, energy efficient and easy handling

Due to its high purity, high strength and great stability, Cerafoam® has an excellent erosion resistance capability resulting in a long life time compared to vacuum formed fiber board products. The low density, low thermal conductivity and low shrinkage of the product leads to less quantities of insulation material and layers resulting in cost-savings and energy efficiency. The high strength of Cerafoam® in combination with its low density makes easy handling and machining by CNC possible.



Application areas

The excellent performance of Cerafoam® makes the product suitable for a wide range of application areas where high temperature, specific atmospheres and chemical circumstances are critical factors. Examples are ceramic, laboratory, dental, glass and aluminum industry.

Technical Characteristics & Advantages Cerafoam®

- Classification temperature up to 1700 ºC
- Fiber free - environmental friendly
- Binder free - No emissions of dust or vapors and no pulverization during use
- Higher strength than ceramic fiber, mullite fiber, alumina fiber and lightweight firebricks
- Low density, light weight - easy handling
- Excellent insulation properties due to low thermal conductivity and low shrinkage
- Self-supporting, easily machined by CNC
- Safe and rapid maintenance - long life time and lower costs for installation and maintenance
- High purity
- High temperature application for special atmospheres: H_2, O_2, CO_2 or other atmosphere and reducing atmosphere or alkaline atmosphere

Various types of Cerafoam®

Electron offers various types of Cerafoam® board for high temperature furnace insulation:
CF2300, CF2600, CF2800, CF3000, CF3100 and CF998. Each type has its specific characteristics.

Technical specifications

			CF2300	CF2600	CF2800	CF3000	CF3100	CF998
Classification Temperature	°C		1260	1430	1540	1650	1700	
Maximum continuous duty temperature	°C		1160	1330	1440	1550	1600	1500
Maximum intermittent use temperature	°C		1210	1380	1490	1600	1650	1550
Density approx.	kg/m³		350	380	380	420	420	550
Cold Crushing Strength	MPa		1.2	2.6	3.1	4.2	2.9	9.6
Modulus of Rupture	MPa		0.7	0.9	2.0	2.6	1.8	2.3
Porosity	%		88%	87%	86%	86%	87%	86%
Linear shrinkage after 24hrs. at maximum duty temperature	1230°C	%	0.3					
	1400°C			0.33				
	1510°C				0.12			
	1570°C							1.3
	1620°C					0.43		
	1680°C						0.29	
Thermal Conductivity at mean Temperature	200	W/mK	0.13	0.15	0.2	0.18	0.17	0.35
	400		0.14	0.17	0.21	0.21	0.19	0.36
	600		0.17	0.19	0.22	0.24	0.21	0.37
	800		0.19	0.22	0.24	0.26	0.25	0.39
	1000		0.21	0.25	0.27	0.3	0.28	0.4
	1200		-	0.28	0.3	0.33	0.31	0.42
Chemical Analysis	Al2O3	%	50.2	59.8	65.3	70.4	80.5	99.8
	SiO2		46.4	38.1	32.1	28.5	17.8	0
	others		3.4	2.1	2.6	1.1	1.7	0.2
Mineral phase composition			Mullite & Corundum & anorthite	Mullite & Corundum & anorthite	Mullite & Corundum	Mullite & Corundum	Mullite & Corundum	Corundum
Standard panel size	mm		650*480*65 & 900*600*50	650*480*65 & 900*600*50	650*480*65 & 900*600*50	650*480*65 & 900*600*50	650*480*65 & 900*600*50	600*450*50
Maximum panel size (Other panel sizes or customized shapes on request)	mm		650*480*70 & 960*650*50	650*480*70 & 960*650*50	650*480*70 & 960*650*50	650*480*70 & 960*650*50	650*480*70 & 960*650*50	800*500*55

Note: Maximum use temperature is depending on variables such as stresses, both thermal and mechanical, heating/cooling rate and the chemical environment that the material experiences. All technical data given herein are typical values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice (e.g. due to new raw materials or to technical development). Therefore, the data given herein should not be used for specification purposes.

Mounting of the panels

Cerafoam® products can easily be mounted in (existing) furnace linings. Information about the way of installing the panels in the furnace roof and/or wall is available on request.

Electron your partner

Electron provides customers with the benefit of its experience in the form of designing and manufacturing custom electric heating elements and systems and furnace accessories and insulation materials. Next to this Electron is a service-oriented company and wants to be your partner by giving you advice and assistance in selecting together the right product to meet your requirements or solving any problems you may have. So don't hesitate to call the company at the numbers listed below.

Cerafoam® the best choice for high temperature insulation.

Interested to learn more? Please check out our website www.electron-etg.com or call us at +31 (0)88 848 8000