

KERMA

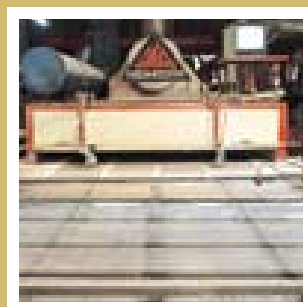
MAGNESITE FOR
CERAMICS



GRECIAN MAGNESITE

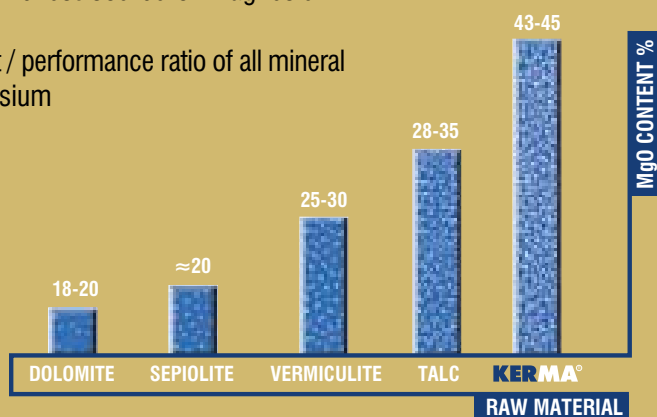
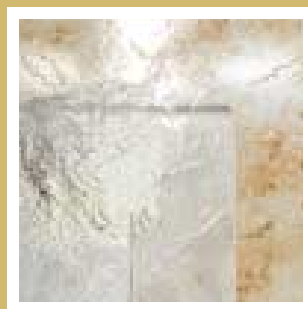
KERMA[®] FOR THE BEST ENGOBE

- **KERMA[®]** based engobe - like other types of engobe (calcined alumina, dolomite) - is applied on the reverse side of the tiles, just before their introduction into the kiln. Its high refractoriness prevents the tiles from sticking on the kiln rollers at high temperatures, resulting in trouble - free production.
- Compared with other minerals used, like Al₂O₃, **KERMA[®]** has low abrasion and thus protects the kiln rollers from wear.
- Furthermore, superwhite **KERMA[®]** gives an exceptionally attractive *finish* to the reverse side of the tiles.
- **KERMA[®]**'s fine qualities make its price the best value for money proposition to the ceramics industry.



KERMA[®] FOR MAGNESIUM RICH FRITS AND GLAZES

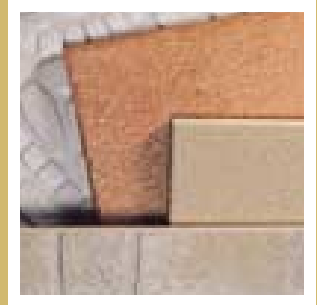
- **KERMA[®]** ensures high quality frits and glazes at both low and high temperatures.
- At high temperatures **KERMA[®]** functions as an active fluxing agent and produces glazes with smooth, buttery surface.
- At low temperatures **KERMA[®]** is refractory and provides opacity and mattness.
- **KERMA[®]** due to its low iron is guaranteed to leave the color of frits and glazes unaffected.
- **KERMA[®]** is the richest source of Magnesium.
- It has the best cost / performance ratio of all mineral sources of magnesium



KERMA[®] FOR HIGH PERFORMANCE CERAMICS

- Quality improvement of gres porcelanato tiles

The addition of 2-4% of **KERMA[®]** improves the performance of feldspars in gres porcelanato tiles. MgO reacts with albite and produces fluxing phases, resulting in a final product with very low porosity. It is the most efficient fluxing agent for low quality feldspars.



- Energy cost savings

The addition of **KERMA[®]** into the body of porcelain tiles decreases the firing temperature and the thermal cycle.



- Dimensional stability of end products and enhanced mechanical properties.

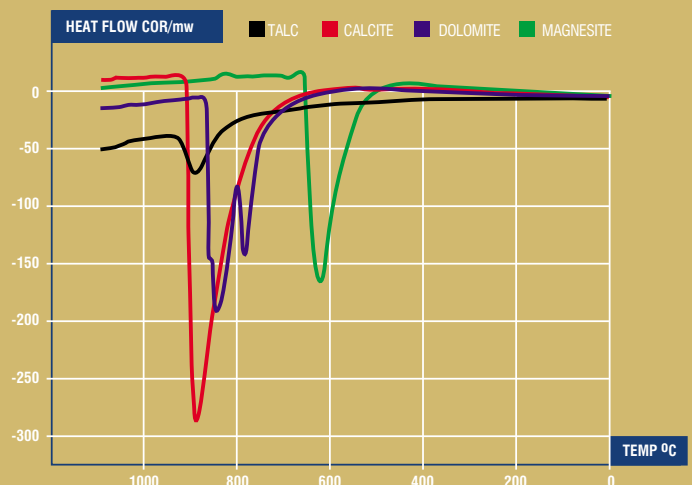
KERMA[®] decomposes at 600 °C, lower than the decomposition temperature of the rival products (> 800 °C and >900°C respectively). The ceramic body is still porous and thus the CO₂ does not cause deformation, cracks and bubbles.

- **KERMA[®]** has a very low iron content and assures the whiteness of the final product.

ADDITION OF RAW MAGNESITE IN GRES PORCELANATO BODY

(Tests conducted in our R&D center)

T max (°C)	KERMA[®] (%wt)	Shrinkage (%)	Water Absorption	Bending Strength
	0	17,65	6,36	
1120	2	22,71	3,02	
	4	23,20	1,71	
	0	18,27	4,33	45,53
1130	2	20,85	1,12	52,15
	4	26,90	0,26	51,29
	0	26,00	0,40	
1150	2	28,20	0,05	
	4	27,50	0,05	





KERMA[®]

KERMA[®] is the brand name of a series of magnesite products specially developed for the ceramics industry.

KERMA[®] is already successfully used in Italy, Spain, Portugal and Greece, improving both the manufacturing process and the end - product quality.

Why **KERMA[®]** ?

Superwhite

Low iron

Highly consistent in terms of chemical and physical characteristics

Environmentally friendly

KERMA[®] meets the high standards of the ceramics industry.

APPLICATIONS

- THE BEST ENGOBE
- MAGNESIUM RICH FRITS AND GLAZES
- HIGH PERFORMANCE CERAMICS

GRECIAN MAGNESITE S.A. is a leading magnesite producer worldwide and the biggest exporter of caustic magnesia in the European Union.

With a wide range of raw, caustic calcined, deadburned magnesite and monolithic refractory products, Grecian Magnesite covers a broad spectrum of applications.

RELIABILITY IN ALL RESPECTS

- Quality assurance of our products and procedures (ISO 9001 Certified)
- After sales service
- Research and development for continuous optimisation of existing products and development of new products and applications.

OUR RAW MAGNESITE

The magnesite ore is mined open-cast from our deposits in Chalkidiki, Northern Greece. Our state of the art flowsheet ensures exceptional quality and unique consistency of all our products.

Our raw magnesite products serve a variety of applications:

Ceramics - Fertilizers - Welding Fluxes - Metallurgy - Special Uses



GRECIAN MAGNESITE S.A.

MINING INDUSTRIAL SHIPPING AND COMMERCIAL S.A.

CENTRAL OFFICE: 45 MICHALAKOPOULOU STR. ATHENS - MINE & WORKS: GERAKINI CHALKIDIKI

TEL.: +30 210 72.40.446-7, FAX: +30 210 72.49.711

e-mail: grecmagn@hol.gr www.grecianmagnesite.com