

Altra[®], Alsitra, Calsitra

Ultra-light high temperature insulation
wool for heat insulation up to 1650°C.



RATH

High temperature insulation wool: Ultra-light, efficient refractory solution.

Calsitra Effective up to 900 °C.

Calsitra can be used at temperature ranges up to 900 °C. The raw materials for these products are alkalis and alkaline earths, limiting their range of applications.

Alsitra Universal up to 1300 °C.

The main application of Alsitra is in temperature ranges of up to 1300 °C, primarily in the field of industrial furnace construction. Alsitra is manufactured in a blowing process. By virtue of purest raw materials and an aluminium oxide content of up to 54 %, it is suitable for all applications up to 1300 °C.

Calsitra/Alsitra/Altra® High temperature insulation wool

	Calsitra Mat CMS 1100	Calsitra Mat MS 1250	Calsitra Mat CMS 1250	Alsitra Mat 1300	Alsitra Mat 1400	Alsitra Mat 1400Z	Altra® Mat 72
Classification temperature [°C]	1.100	1.250	1.250	1.300	1.400	1.400	1.650
Application temperature [°C]	900	1.000	1.050	1.150	1.300	1.300	1.650
Al ₂ O ₃ [%]	1	2,8	2	48	54	35	72
SiO ₂ [%]	64	77	73	52	46	50	28
Miscellaneous [%]	28[CaO] 6[MgO]	20[MgO]	23 [CaO]			15 [ZrO ₂]	
Thermal conductivity [W/mk]	0,31	0,42	0,36	0,35	0,35	0,45	0,28
at temperature [°C]	1.000	1.000	1.000	1.000	1.000	1.000	1.000
at density [kg/m ³]	128	128	128	128	128	128	100



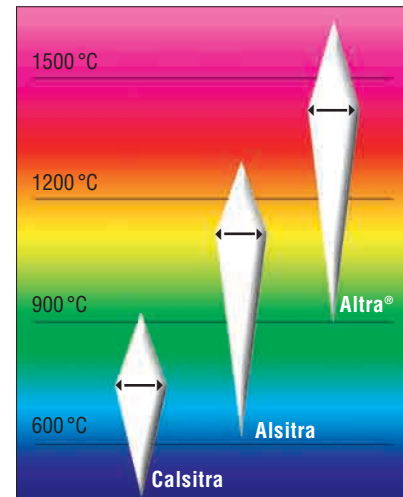
Better value through cost, energy and environmental consciousness.

Altra® Excels at up to 1650 °C.

Altra® is an ultra-pure polycrystalline wool with excellent thermal and mechanical properties.

Produced in a sol-gel process, Altra® comes in three product varieties with aluminium oxide contents of 72 %, 80 % and 97 %. The products are characterised by their suitability in high-temperature environments with up to 1650 °C and offer a wide spectrum of applications.

Thermal range:



Altra® Mat 80	Altra® Mat 97
1.600	1.500
1.600	1.500
80	97
20	3
0,28	0,39
1.000	1.000
100	100

Advantages of high temperature insulation wool:

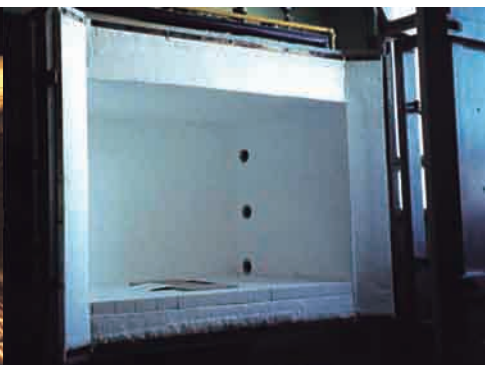
The outstanding properties of high temperature insulation wool have a significant energy- and cost-saving effect. In comparison with other refractory materials it is more economical and safer for the environment:

- faster construction and repairs
- reduced maintenance costs
- faster furnace cycling
- high thermal shock resistance
- low thermal conductivity
- high chemical resistance
- reduced gas consumption
- lower CO₂ emissions

Shuttle kiln



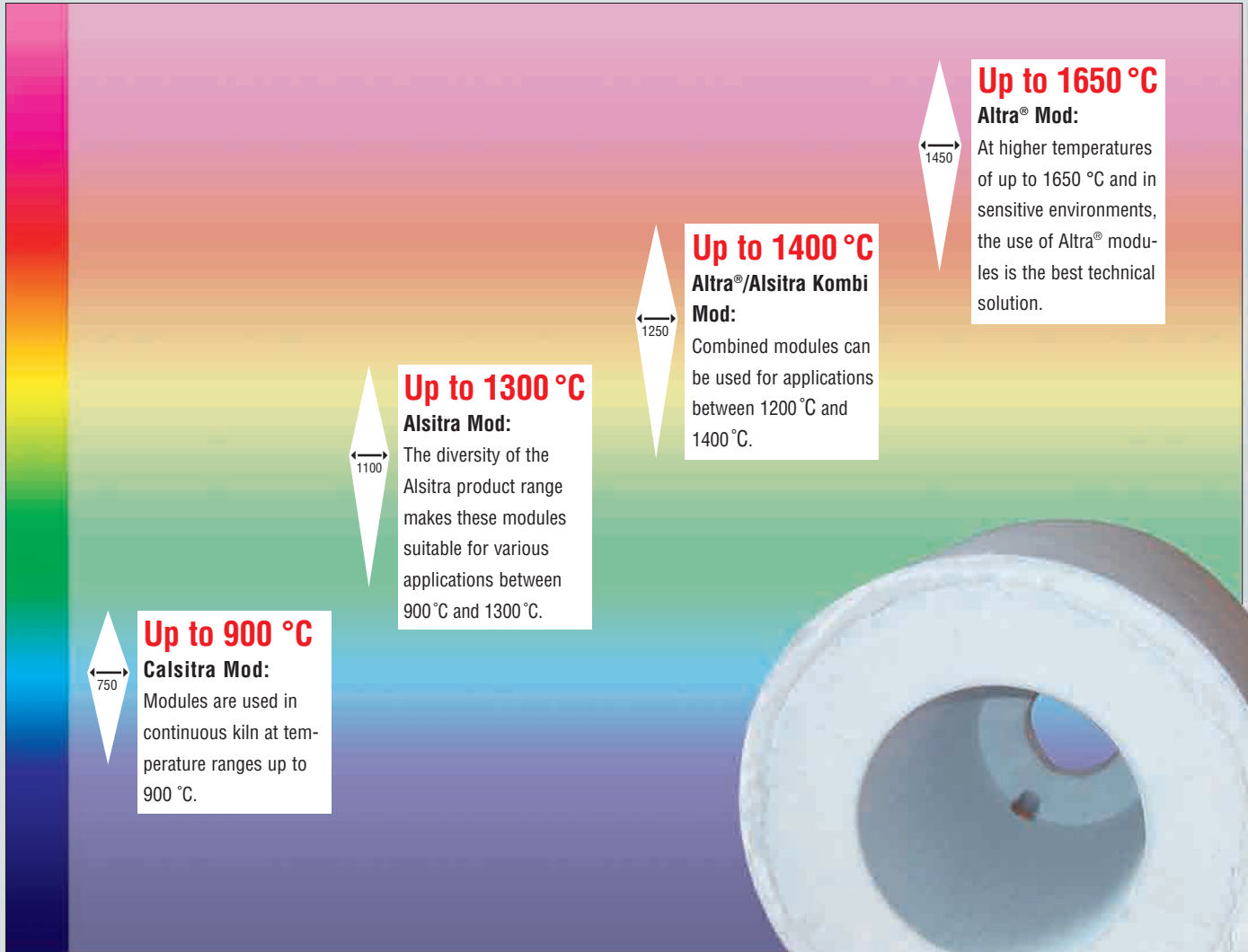
Chamber oven



Bogie furnace



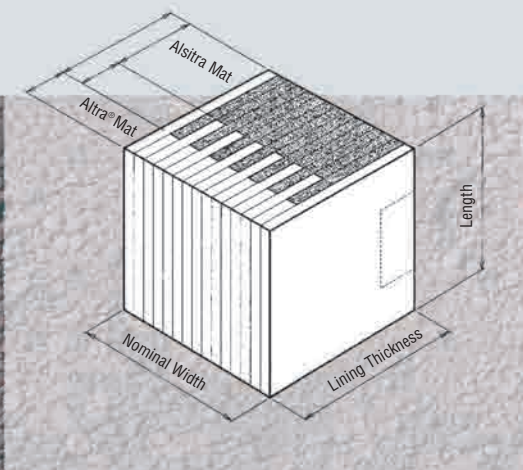
Flexible modules with a wide range of applications.



Altra® Burner Block



Alsitra Mod, cord bound



Altra®/Alsitra Kombi Mod



Altra® Mod with tapes and metal plates

Ultra-light and ultra-easy to install.

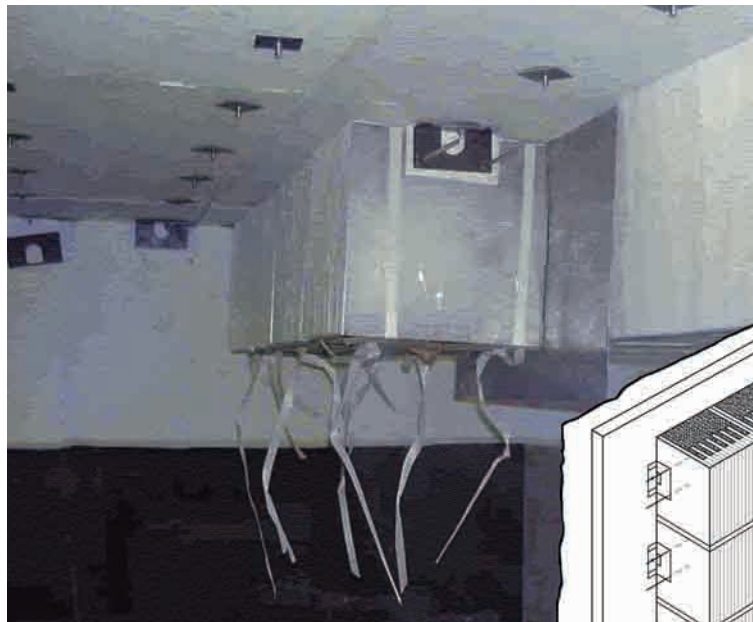
From standard to complex contours.

Parallel mat strips are pressed to the exact module density and held together by cords or tapes and metal plates. If technically feasible, we supply both standard dimensions and tailor-made modules designed for specific applications even for complex contours.

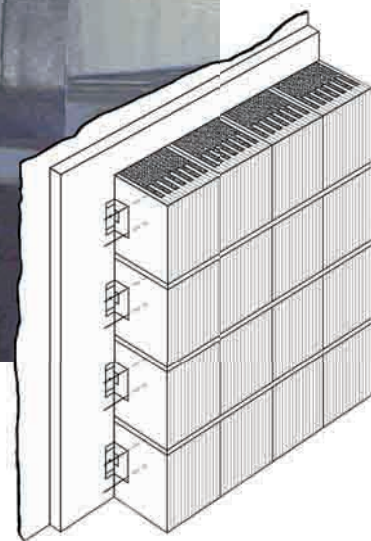
Modules: Construction and assembly.

Calsitra and Alsitra modules are supplied as corded modules. In case of Kombi Mod and Altra® Mod metal sheets or panels ensure the stability of the module shape until installation.

Assembly is fast, clean and professional with a high installation rate requiring no special tools.



Installation of Altra® modules



Example of wall installation



Convincing products and solutions.

We have trust in our products. Because we produce them.

Rath has one significant advantage: we fully guarantee for the quality of our products – because they are manufactured in our own factories. They are controlled to the most stringent quality criteria. Production in all Rath companies is certified according to ISO 9001.



Mönchengladbach, North Rhine Westphalia (D)

Range of applications.

Ultra-light high temperature insulation wools and other refractory products from Rath are used in numerous fields where special requirements and temperatures up to 1800 °C have to be met. This is including all insulation processes in the steel, ceramics, porcelain and chemical industry.

In particular refractory modules made of high temperature insulation wool have proved their value in intermittently fired industrial furnaces, afterburners and custom applications.

Material of the future: high temperature insulation wool.

Due to its high performance high temperature insulation wool offers an increasing number of innovative solutions for different purposes in the high-tech sector. It is used for automotive applications, in aerospace technologies or as reinforcing fibre in composite materials.



Rotary hearth furnace



Annealing furnace

Know-how that proves its worth.

Engineering.

Our engineers are excellently trained and particularly dedicated – qualified industry partners who can prepare a fast and thorough analysis of all aspects of a project and then develop convincing technical solutions. To give you excellent value for money.

Construction.

Qualified supervisors and technicians with years of valuable experience transfer our know-how to the construction site. At least one staff member is always at hand during construction. This is a further reason why we can guarantee for the long durability of our linings.

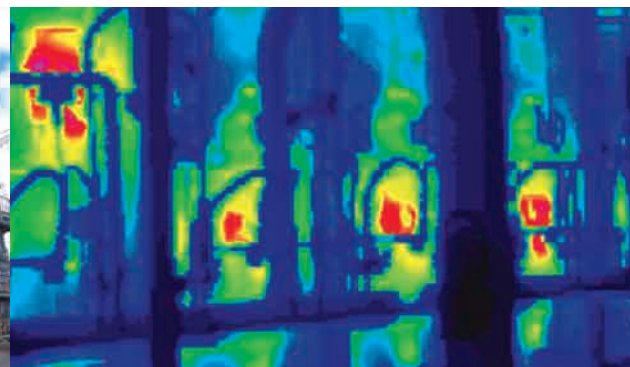
Maintenance.

As with most high-tech plants, preventive maintenance is a prerequisite for faultless operation and durability. A maintenance concept, developed by Rath, helps to prolong the working life of refractory linings in order to optimise their function and minimise the impact on employees and the environment.



Inside of a cracker

Cracker for petrochemical industry



The Rath Group. Our sales subsidiaries worldwide.

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Applies to all listed products:

For applications in corrosive atmospheres and close to maximum operating temperatures, we recommend prior consultation of our technical department. The data shown are guidelines derived on the basis of recognised analysis standards. A detailed product description can be found in the specification sheets. Other types are available on request. All information is subject to technical modifications or changes

in specification. Material Safety Data Sheets (MSDS) have been issued describing the health, safety and environmental properties of these products, identifying the possible health risks and giving advice on handling precautions and emergency procedures.

This must be consulted and fully understood before handling, storage and use.