



Top technology for individual refractory solutions.

Serving the World from Austria.



RATH



Attention to detail. The foundation for greatness.

Rath AG. The people make the business.

We are an Austrian company with a long tradition. Founded by August Rath junior in 1891, the business has been family-run for more than five generations. Expanding successfully – with hindsight. These are the key facts to the institution Rath AG, a company shaped by its family tradition.



Rath acts international. With our refractory products we solve the problems of our customers in the high-temperature industries. Production and sales divisions in the major foreign markets guarantee a close relationship to customers, together with a high degree of after-sales service.

Leading refractory solutions. Our aim worldwide.

Our long-term goal is to become market leader in refractory technology. We achieve this through our innovative products, individual solutions and consistent quality criteria. To meet industry demands, we are intensively researching and developing in order to improve our products.

The headquarters.

Rath AG is the headquarters of the Rath Group – located in downtown Vienna. It is the nerve centre from where the whole Group is steered.

The structure.

Rath reorganised its company structure in 2000. It is now clear, transparent and effective. These are the best preconditions to react quicker and more flexibly to market developments.

Rath AG operates primarily as a holding company. It undertakes central tasks for the whole Group, from research and development and financial management through to export activities in countries where Rath does not have its own production and sales divisions.

Individual concepts. Implemented perfectly.

Tailor-made. Because we know our customers.

In order to develop adequate concepts for high-temperature applications, we cooperate intensively with our customers. We tackle the problems quickly and effectively and solve them individually – exactly geared to the customers' respective needs.

Specialists perform harder. That's our advantage.

We are faced with ever-changing demands from our customers in all areas of refractory technology. A challenge which as specialists we are glad to accept. These tasks allow us to grow.

We'll stay until completion. Guaranteed.

Even when the planning stage is completed, we are on hand. Qualified supervisors and experienced engineers incorporate our expertise at the building site. At least one of our employees is always there during the assembly. It's an additional guarantee for the durability of our brickwork.

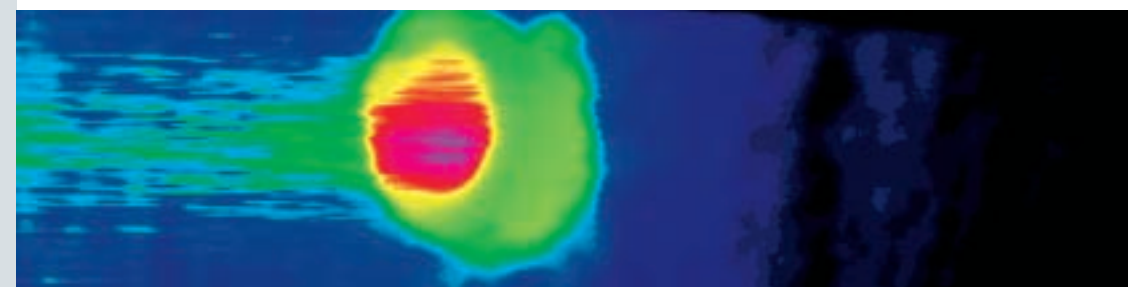
Competent employees. Optimal solutions.

Qualified partners. Focusing on the essentials.

Our engineers have all had excellent training and are fully motivated. They are highly qualified partners who are in a position to quickly and soundly analyse all aspects of a problem and come up with viable solutions.

Technically convincing. With attention to costs.

First and foremost, these solutions have to be technically and qualitatively convincing. But at the same time, it is important for us to present an optimal cost-usage ratio. Our engineers are experts in making these two ends meet. And they can count on our laboratories and technical departments for support.



Seeking new boundaries. The daily challenge.

The market is always in motion. So are we.

We have a lot of experience, we know a lot in the field of refractory technology. But like any other, this market, too, is constantly changing. Innovative solutions are in demand. Valuable impetus comes from customers, suppliers and from the world of science.

We keep ahead through our contacts to universities.

In addition, an international scientific committee from the most renowned universities keeps us informed on current developments. This allows us to put into practice the latest research results – and to give impetus ourselves.



Quality consciousness. Fully certified.

A right to high quality, that pays dividends.

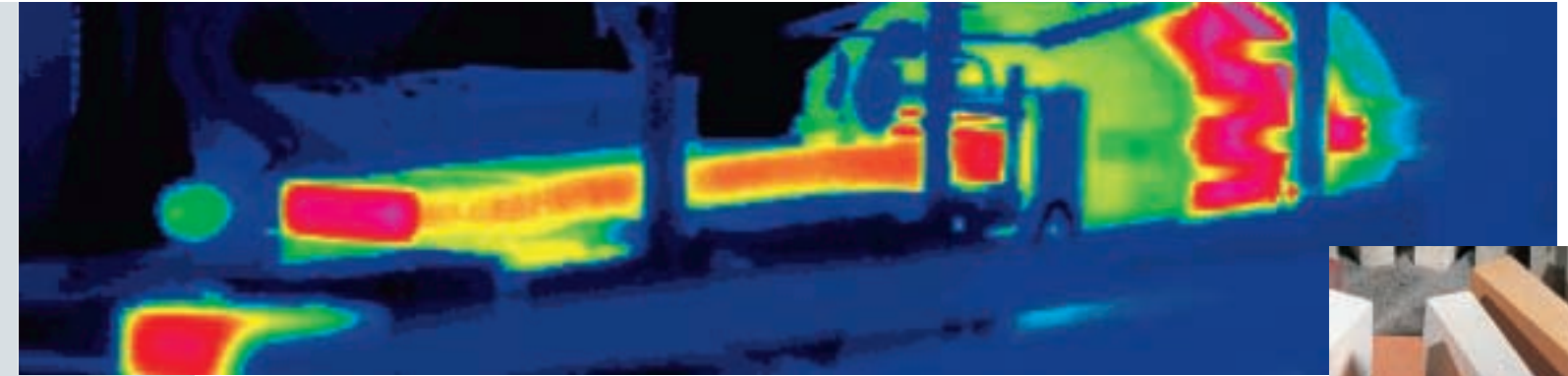
Quality is our primary goal. Because high-value products guarantee safe operation over a long period of time. This leads to fewer repairs, less downtime – and finally to lower costs. For our customers, this pays off.

Consistent material checks. All round.

We test our products consistently in our laboratories. For example their resistance to temperature change, the durability of material or possible chemical reactions. In addition to this we allow state-authorized test centres to monitor characteristics like thermal conductivity or the hot modulus of rupture.

ISO criteria fulfilled. Everywhere at Rath.

Quality in production has a standard – ISO 9001/9002. All Rath companies are certified to the strict criteria of this specification. And we do everything to live up to this high standard, on a day-to-day basis.



Innovative ideas. Always one step ahead.

Top technology. Only the best for our customers.

With its high quality refractory products Rath offers its customers state of the art technology. Be it bricks, insulating refractory bricks, castables, mortars and adhesives or moulded parts from our self-made alumina silica- and alumina wool – Rath's products are designed for continuous exposure and can withstand temperatures up to 1850 °C.

Hard to beat. The Rath product range.

Our customers can be sure that our products reflect the state of the art in refractory technology – and that only at Rath they'll be able to find such a wide spectrum of innovative and perfected solutions.

Growing production. At the most modern plants.

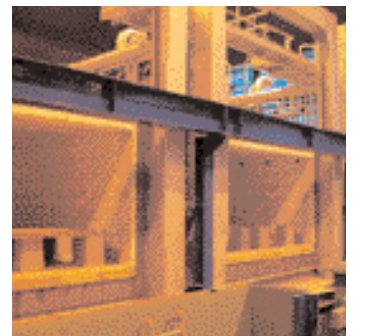
We have faith in our products. Because we produce them ourselves.

One thing defines Rath in particular: we can guarantee the quality of our products without reservations. Because they come, almost without exception, from our own production. They are also monitored to meet our own strict criteria.

Newest technology. Efficient production.

Rath has set itself the goal of becoming the world market leader in refractory products. Modern production processes are a precondition for this.

Consequently, our production plants continue to be updated to meet technological developments. Either from our own research or by implementing external proposals.



Alurath Refractory bricks*

	B 85 AC ¹⁾	M 701	M 702	M 703	M 704	SP 90	SP 91
Content of Al ₂ O ₃ [%]	78	74	72	76	72	89	90
Content of Fe ₂ O ₃ [%]	< 1,2	< 0,5	< 0,5	< 0,5	< 0,5	< 0,5	< 0,5
Bulk density [g/cm ³]	2,9	2,6	2,45	2,6	2,5	2,8	2,9
Open porosity [%]	18	15	18,5	17	18	20	20
Cold crushing strength [MPa]	80	130	80	80	45	90	100
Thermal shock resistance [n] (water)	50	6	11	14	> 100	5	9

1) tempered also available

Korrath Corundum bricks with chromia additive*

	K 701 Cr 30	K 80 Cr	K 85 Cr	K 85 Cr 10	K 853 Cr 10	K 85 Cr-C	K 85 Cr Zr
Chemical analysis [%]							
Al ₂ O ₃	70	80	87	85	84	87	86
SiO ₂	0	3	7	2,2	1,25	6	6,5
Fe ₂ O ₃	0,19	0,5	0,2	0,15	0,15	0,2	0,1
ZrO ₂	2,9	4,5	-	3,3	3,5	-	2
Cr ₂ O ₃	26	10	< 5	9	11	< 5	< 5
Bulk density [g/cm ³]	3,5	3,25	3	3,25	3,4	2,98	3
Open porosity [%]	16,5	16	17,5	18,5	14	15	18
Cold crushing strength [MPa]	100	130	100	105	150	100	100
Thermal shock resistance [n] (water)	50	120	50	> 120	16	120	40

Korrath Corundum bricks*

	K 80	K 85	K 90 S	V-K 90 ¹⁾	K 901	K 902	K 903	K 91	K 91 C	K 95 Zr	K 951 Zr	K 952 Zr	K 97 Zr	K 971 Zr	K 972 Zr	K 99	V-K 99 ¹⁾
Bulk density [g/cm ³]	2,8	3	3,2	3	3	3,1	3,11	2,95	2,9	3,25	3,23	3,29	3,33	3,35	3,3	3,15	3
Chemical analysis [%]																	
Al ₂ O ₃	81	87	> 90	89	90	90	90	90	90	94	94	93	97	97	97	99	99
SiO ₂	13	12	< 5	6,5	9	9	9	8	7	2,5	2,5	2,1	-	0	0	-	-
Fe ₂ O ₃	0,7	0,5	0,5	0,2	0,15	0,15	0,15	0,5	0,2	0,15	0,15	0,15	0,15	0,15	0,15	0,1	0,1
ZrO ₂	-	-	3,5	3,8	-	-	-	-	-	2,8	2,8	4,2	1,8	2,8	2,8	-	-
Cold crushing strength [MPa]	70	100	150	120	80	90	100	54	100	104	80	150	70	150	60	90	85
Thermal shock resistance [n] (water)	> 120	50	12	> 120	> 120	> 120	> 50	> 60	> 60	20	> 120	> 50	27	12	> 50	17	16

1) vibro cast

Bricks

Designations

- B Bauxite
- M Mullite
- K Corundum
- SP Periclase spinel
- S Sillimanite
- AK Andalusite/Corundum

- Cr chromia additive
- Zr zirconia additive
- C chemically bonded

- AC special brick for the aluminum industrie

Product Description: Alurath.

Alurath is produced from high-grade raw materials undergoing a high-temperature burning over a long time.

The selection of the particular bonding matrix and the burning temperatures will be optimized for each application.



Rotary melting furnace for the aluminium industry

Product Description: Korrath / Silrath.

Korrath / Silrath are high-alumina products mainly used in thermally highly stressed plants. Their density and low porosity ensure good clinkering/slag resistance. Various types of bonding and different burning temperatures provide a graduated wide range of products.

Use all types only with respectively approved adhesive/mortar.

Silrath Sillimanite Bricks*

	AK 60	AK 70	S 65
Content of Al ₂ O ₃ [%]	61	70	68
Content of Fe ₂ O ₃ [%]	1	1	1
Bulk density [g/cm ³]	2,6	2,7	2,6
Open porosity [%]	12	15	15
Cold crushing strength [MPa]	120	100	90
Thermal shock resistance [n] (water)	120	100	120

* Refractoriness under load T_{0.5} [°C] (DIN EN 00993 T.08) generally > 1600 °C (except Alurath B 85 AC)

Refractoriness under load T_a [°C] (DIN 51064) generally > 1650 °C (except Alurath B 85 AC)

Light-weight Insulating Bricks

Porrath Light-weight insulating bricks

	FL 26-08	FL 28-09	FL 30-11	Shockfire30	FL 32-12	FL33-13/1	FL 33-13/2	FL 33-16	FL 34-15/1	FL 34-15/2
ASTM Group	26	28	30	30	32	33	33	33	34	34
Classification temperature [°C]	1430	1540	1650	1650	1760	1800	1800	1800	1840	1840
Bulk density [g/cm ³]	0,8	0,9	1,1	1,4	1,25	1,3	1,3	1,6	1,5	1,5
Chemical analysis [%]										
Al ₂ O ₃	54	63	74	87	87	91	91	91	99	99
SiO ₂	42	33	25	12	12	8	8	8	0,1	0,1
Fe ₂ O ₃	1,1	0,8	0,3	0,3	0,3	0,2	0,2	0,2	0	0
Thermal conductivity [W/mK] ¹⁾ at										
600 °C	0,35	0,36	0,44	0,75	0,66	0,97	1,13	1,15	1,40	1,05
800 °C	0,37	0,38	0,46	0,76	0,67	0,96	1,16	1,17	1,32	1,04
1000 °C	0,40	0,41	0,51	0,78	0,71	0,98	1,19	1,19	1,32	1,08
1200 °C	0,43	0,45	0,58	0,81	0,77	1,04	1,23	1,22	1,59	1,20
Cold crushing strength at 110 °C [MPa]	4	4	5	9	6	12	12	15	12	10
Thermal shock resistance[n] (air)	15	> 30	4	> 30	> 30	3	14	12	30	20

1) hot wire method

Porrathin¹⁾ Light-weight insulating mortar

	N	HT	24	26	30	34	34r
Raw material basis	AS	AS	AS	AS	M	K	K
Service temperature [°C]	-	-	1260	1430	1650	1850	1850
Material required [kg/m ³]	3,5	3,5	4,2	4,2	4,5	7,5	7
Chemical analysis [%]							
Al ₂ O ₃	30	43	40	60	68	94	99
SiO ₂	60	49	55	35	30	0,5	0,1
Fe ₂ O ₃	1,3	< 1	1,4	0,8	0,3	0,6	0,1
Water required [liter/100 kg]	-	-	-	-	-	15	13

1) chemical bonded, grain size < 0,5 mm

Product Description: Porrath.

Classification temperature and bulk density of Porrath are adjusted to cover the full range of furnace constructions.

We are in the position to supply even most complex geometries made to your specifications. If they do exceed a certain size, they will be jointed.

Maximum dimensions:

maximum length: 610 mm

maximum width: 300 mm

maximum height: 150 mm



Shuttle kiln for the porcelain industry



Product Description: Porrathin.

The Mortars/Adhesives Porrathin are especially optimised for Porrath bricks. They cover the entire temperature range of our products.

Designations

AS	Alumina Silicate
M	Mullite
K	Corundum



Tunnel kiln for the ceramic industry

Unshaped Refractory Products

Carath D Dense Refractory Castables

	1460 D	1800 D	1801 D-SF
Raw material basis	mSch	K	K
Service temperature ¹⁾ [°C]	1460	1800	1800
Material required [kg/m ³]	2200	3000	2720
Chemical analysis [%]			
Al ₂ O ₃	51	96	96
SiO ₂	41	0,6	0,6
Fe ₂ O ₃	< 0,5	0,4	0,4
Cold crushing strength at 110 °C [MPa]	50	90	40
Grain size ²⁾ [mm]	< 10	< 5	< 1
Water required (approx.) ³⁾ [liter/100 kg]	10	6	11

1) in non corrosive, neutral atmosphere

2) other grain sizes on request

3) for vibration consistence

Designations

mSch	High mullite fireclay
K	Corundum
B	Bauxite
P	Periclase
AS	Alumina-Silica
M	Mullite
ZM	Zircone Mullite
SP	Spinel
K	Corundum
SiC	Silicium Carbide
Cr	Chromia additive



Melting furnace for the aluminium industry



Product Description: Carath D.

Carath D are dense refractory castables based on high-grade raw materials.

Product Description: Carath ULC.

Carath ULC are dense ultralow-cement refractory castables based on high-grade raw materials. They are distinguished by a high density as well as a low porosity and are used for chemically and thermo-mechanically highly stressed furnace linings. These castables are usually compressed with vibration.

Types with the additional designation "SF" are placed by casting, without vibration.

Carath ULC Ultra Low Cement Refractory Castables

	1600 ULC-SF	1650 ULC	1650 ULC-AZS	M 1650 ULC-SF	M 1651 ULC-SF	1651 ULC	1700 ULC-SF	1700 ULC-SiC	1800 ULC	1801 ULC-SF	1802 ULC	1803 ULC-SF	1800 ULC-Cr
Raw material basis	B	P	ZM	M	M	SP	K	SiC	K	K	SP	SP	K
Service temperature ¹⁾ [°C]	1600	1650	1650	1650	1650	1650	1700	1700 ²⁾	1800	1800	1800	1800	1800
Material required [kg/m ³]	2800	2800	3000	2450	2600	2850	2980	2660	3000	3050	2900	2720	3100
Chemical analysis [%]													
Al ₂ O ₃	80	6,5	56	72	78	85	95	16	99	98	88	88	90
SiO ₂	9	-	16	25	19	2,4	3	-	-	-	-	-	4
Fe ₂ O ₃	1,7	-	-	0,2	0,2	-	0,5	< 1	-	-	-	-	0,5
others	-	MgO 89	ZrO ₂ 26	-	-	MgO 10	-	80	-	-	MgO 10	MgO 10,5	Cr ₂ O ₃ 5
Cold crushing strength at 110 °C [MPa]	35	35	110	37	45	100	60	50	17	20	30	20	60
Grain size [mm]	< 6	< 3	< 6	< 3	< 6	< 6	< 6	< 3	< 6	< 6	< 6	< 6	< 4
Water required (approx.) [liter/100 kg]	7,5	6,5	6,2	6,6	6,1	5,3	5,5	5	4,7	7	5,5	8	4,5

1) in non corrosive, neutral atmosphere

2) reduced

Unshaped Refractory Products

Carath LC Low Cement Refractory Castables

	1400 LC	1400 LC-AI	1550 LC	1650 LC	1650 LC-SF	1652 LC	1655 LC	1700 LC-SF	1700 LC-SiC	1750 LC
Raw material basis	mSch	K	mSch/B	K	S	B	S	T/SiC	SiC	K
Service temperature ¹⁾ [°C]	1400	1400	1550	1650	1650	1650	1650	1700 ²⁾	1700 ²⁾	1750
Material required [kg/m ³]	2300	1960	2400	3000	2600	2850	2550	2750	2650	2900
Chemical analysis [%]										
Al ₂ O ₃	50	84	60	93	63	85	63	70	16	95
SiO ₂	41	5	33	4	33	9	34	3	-	-
Fe ₂ O ₃	1,3	0,2	1,5	0,1	0,6	1	0,8	< 1	< 1	< 1
others	-	BaO 8	-	-	-	-	-	SiC 25	SiC 80	-
Cold crushing strength at 110 °C [MPa]	100	75	100	100	90	85	75	35	100	60
Grain size [mm]	< 10	< 4	< 10	< 6	< 6	< 5	< 6	< 3	< 3	< 5
Water required (approx.) [liter/100 kg]	6,5	6,7	7,3	5,5	7,5	5,5	6	7,5	5	6,5

1) in non corrosive, neutral atmosphere

2) reduced



Pusher furnace with castable lining for the steel industry



Carath GUN Dense Gunning Castables

	1401 GUN	1400 AI-GUN	1451 GUN	1500 GUN	1501 GUN	1700 SiC-GUN
Raw material basis	mSch	B	B	mSch	S	SiC
Service temperature ¹⁾ [°C]	1400	1400	1450	1500	1500	1700 ²⁾
Material required [kg/m ³]	2100	2500	2400	2200	2260	2400
Chemical analysis [%]						
Al ₂ O ₃	56	80	75	56	60	22
SiO ₂	32	2,5	15	34	36	5
Fe ₂ O ₃	1,3	< 0,5	< 1,5	1,5	< 1	< 1,5
others	-	BaO 8	-	-	-	SiC 70
Cold crushing strength at 110 °C [MPa]	55	50	45	75	35	30
Grain size [mm]	< 3	< 3	< 3	< 5	< 3	< 3

1) in non corrosive, neutral atmosphere

2) reduced

Product Description: Carath LC.

Designations

mSch	High mullite fireclay
K	Corundum
B	Bauxite
S	Sillimanite
T	High Alumina Raw Materials
SiC	Silicium Carbide

Carath LC are dense low-cement refractory castables based on high-grade raw materials. They are distinguished by a high density as well as a low porosity and are used for mechanically highly stressed furnace linings. These castables are usually compressed by vibration.

The designation "SF" indicates a cast concrete, without need for vibration.

Product Description: Carath GUN.

Carath GUN are refractory castables for spray applications. On the job, they are processed by dry-gunning machines. The products are characterised by low gunning losses and excellent wall-forming properties without need for work interruption.

Unshaped Refractory Products

Carath NC No Cement Refractory Castables

	1650 NC-SF	1800 NC SF
Raw material basis	S	K
Service temperature ¹⁾ [°C]	1650	1800
Material required [kg/m ³]	2500	2800
Chemical analysis [%]		
Al ₂ O ₃	59	91
SiO ₂	40	7
Fe ₂ O ₃	0,5	< 0,5
Cold crushing strength at 110 °C [MPa]	30	35
Grain size [mm]	< 5	< 5
Liquid required (approx.) [liter/100 kg]	9,5	9,5

1) in non corrosive, neutral atmosphere

Designations

S	Sillimanite
K	Corundum
H	Ceramic Hollow Spheres
LSch	Light-Weight Fireclay
P	Perlite
HKK	Hollow Spheres
	Corundum
Sch	Fireclay
AS	Alumina-Silica
SiC	Silicium Carbide

Carath FL Insulating Castables

	FL 1301 ²⁾	FL 1300-AI	FL 1301 GUN	FL 1401 ²⁾	FL 1500	FL 1500 GUN	FL 1800 ²⁾
Raw material basis	H	LSch	P/LSch	LSch	LSch/HKK	Sch/HKK	HKK
Service temperature ¹⁾ [°C]	1300	1300	1300	1400	1500	1500	1800
Material required [kg/m ³]	850	1500	1300	1400	1750	1700	1400
Chemical analysis [%]							
Al ₂ O ₃	56	42	47	45	60	79	94
SiO ₂	27	45	38	35	34	12	0,3
Fe ₂ O ₃	< 1	2,8	< 2	3	< 1	0,7	0,3
Thermal conductivity at [W/mK]							
200 °C	0,17	0,66	-	0,48	0,65	0,92	
500 °C	0,22	0,55	0,39	0,5	0,6	0,85	
800 °C	0,26	0,61	0,42	0,55	0,65	0,87	0,68
1000 °C	0,3	0,62	0,46	0,58	0,7	0,89	0,68
Cold crushing strength at 110 °C [MPa]	9	19	12	25	10	20	8
Grain size [mm] ²⁾	< 1	< 12	< 4	< 8	< 5	< 3	< 2
Water required [litre/100 kg]	60	21-22	-	22-25	18	-	25-27

1) in non corrosive, neutral atmosphere

2) These types are capable of being cast and can be filled into cavities with difficult access

Product Description: Carath NC.

Carath NC are no cement refractory castable based on high-grade raw materials. They are placed by casting. These types are bonding already on ambient temperature. The particular bonding matrix – free of alkaline-earth oxide – makes a higher resistance to chemical attack on many applications.



Burner brick in pusher furnace for the steel industrie

Product Description: Carath FL.

Carath FL are heat-insulating castables based on light-weight aggregates adjusted to the given temperature with hydraulic binders.

Product Description: Carathplast.

Carathplast compounds can be processed in many ways by ramming, luting and gunning.

Carathplast Plastic mixes

	Acrath-Patch	1652	1700-SiC	1800-Cr	1-180
Raw material basis	AS	S	SiC	K	K
Service temperature ¹⁾ [°C]	1100	1650	1700 ²⁾	1800	1800
Material required [kg/m ³]	2000	2200	2400	2600	3000
Chemical analysis [%]					
Al ₂ O ₃	40	58	2,5	89	90
SiO ₂	50	38	-	-	-
Fe ₂ O ₃	1	1	0,1	0,1	0,1
others	-	-	SiC 90	Cr ₂ O ₃ 5	-
Grain size [mm]	< 3	< 3	< 2	< 3,5	< 5
Water required [liter/100 kg]	12	11	12	11	10 ³⁾

1) in non corrosive, neutral atmosphere

2) reduced

3) Liquid required

Alumina Wool

Altra® Bulk wool

	Altra B 72	Altra B 80	Altra B 97
Max. service temperature [°C]	1650	1600	1600 ¹⁾
Chemical analysis [%]			
Al ₂ O ₃	72	80	97
SiO ₂	28	20	3

1) Dependant on the change of degree of crystallization

Altra® Blankets

	Altra Mat 72	Altra Mat 80	Altra Mat 97
Max. service temperature [°C]	1650	1600	1500
Chemical analysis [%]			
Al ₂ O ₃	72	80	97
SiO ₂	28	20	3
Linear shrinkage [%] after 24 hrs. at 1400 °C	-	1	2
	1500 °C	1	4
	1600 °C	2	5
Thermal conductivity at [W/mK]			
bulk density 100 kg/m ³			
	200 °C	0,06	0,06
	400 °C	0,09	0,10
	600 °C	0,13	0,16
	800 °C	0,19	0,25
	1000 °C	0,28	0,39
	1200 °C	0,41	0,62
	1400 °C	0,61	0,97

Product Description: Altra®.

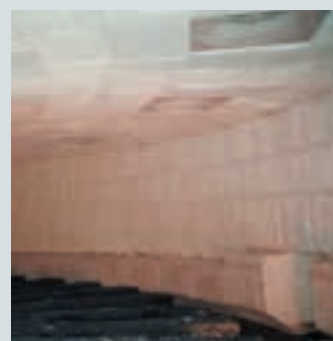
Altra® is made of extremely pure polycrystalline, ceramic wool with excellent thermal and mechanical properties. With the process technology available in Rath's production facilities (alumina fibre production) it is possible to produce fibres with various alumina contents for specific applications as well as to adjust the crystal phases.

Originally developed for high temperature thermal insulation, with its outstanding material properties alumina wool is increasingly being recognized as the innovative solution for the most diverse defined problems in the high-tech sector. Applications fields include the ceramic and chemical industries as well as the nuclear, automobile, glass, electronics, aluminium and steel industries.

Arguments in favour of alumina wool and their products

- Low bulk density
- Excellent resistance to temperature shock
- Low thermal conductivity
- Excellent elasticity (resilience and tensile strength)
- Thermal resistance up to 1850 °C
- High thermal radiation reflectivity
- Controlled crystal phase formation
- High resistance to chemical attack
- Observance of strict tolerances in the fibre diameter
- Very low shot content
- High efficiency

Altra® is a registered trade mark of the Rath Group.



Rotary hearth furnace for the steel industry



Shuttle kiln with lift carriage for the ceramic industry



The fibre characteristics can be adapted to the required application by means of various thermal treatments (change of degree of crystallization). Each type of Altra® bulk wool is available as standard fibre, chopped fibre or milled wool.

Vacuum-formed Products

Kerform KVR High Alumina Vacuum-formed Products

	16/300	16/400	16/700 ¹⁾	16/302 ²⁾	16/402 ²⁾	16/702 ¹⁾²⁾
Max. service temperature [°C]	1600	1600	1600	1600	1600	1600
Chemical analysis [%]						
Al ₂ O ₃	> 96	> 96	> 96	> 98	> 98	> 98
SiO ₂	< 4	< 4	< 4	< 2	< 2	< 2
Bulk density [kg/m ³]	300	400	700	300	400	700
Linear shrinkage [%] after 24 hrs. at 1400 °C	0,8	0,6	1,2	0,8	0,8	0,8
1500 °C	1,6	1,2	1,9	1,2	1,2	1,2
1600 °C	2,3	2,1	2,9	5,4	5,4	4,1
Thermal conductivity at [W/mK]						
1000 °C	0,18	0,23	0,28	0,22	0,18	0,28
1200 °C	0,21	0,26	0,30	0,26	0,21	0,30
1400 °C	0,24	0,29	0,31	0,29	0,24	0,31

All types can also be produced high fired (HF) in half standard size.

1) Available only as boards.

2) Available only in half standard size.

Kerform KVS Vacuum-formed Products

	16/300	16/301	16/302	17/301	17/400	17/402	17/700 ¹⁾	18/400	18/700 ¹⁾
Max. service temperature [°C]	1600	1600	1600	1700	1750	1700	1750	1800	1800
Chemical analysis [%]									
Al ₂ O ₃	65	28	78	85	81	84	86	80	82
SiO ₂	34	20	22	14	19	15	14	20	18
ZrO ₂	-	51	-	-	-	-	-	-	-
Bulk density [kg/m ³]	300	300	300	300	400	400	700	400	700
Linear shrinkage [%] after 24 hrs. at 1400 °C	1	-	-	-	-	-	-	-	-
1500 °C	1	1	-	0,8	-	0,2	-	-	-
1600 °C	2	2,8	+ 1 ²⁾	1,3	+ 0,2 ²⁾	0,3	0,5	-	-
1700 °C	-	-	-	2,4	0,3	1,2	0,5	0,1	0,1
1750 °C	-	-	-	-	1	-	0,7	0,4	0,2
1800 °C	-	-	-	-	-	-	-	0,8	0,7
Thermal conductivity at [W/mK]									
à 1000 °C	0,26	0,18	0,23	0,21	0,24	0,24	0,33	0,25	0,33
1200 °C	0,34	0,23	0,28	0,25	0,28	0,27	0,35	0,29	0,35

All types can also be produced high fired (HF) in half standard size.

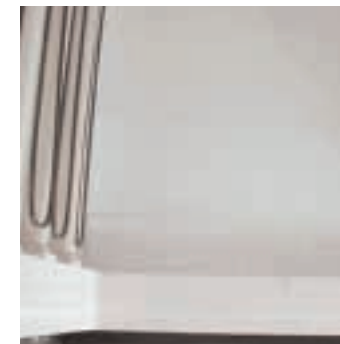
1) Available only as boards or parts there of.

2) "+" growth

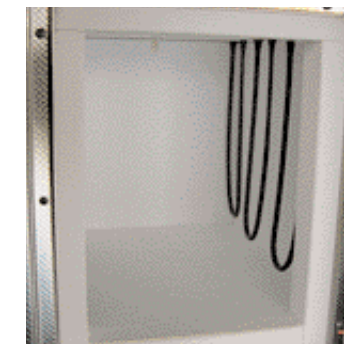
Product Description: Kerform.

Kerform is manufactured by a vacuum-forming process using high-grade alumina-silica and alumina fibres, fillers and organic and inorganic binders.

Kerform KVR is particularly suitable for corrosive and reducing atmospheres (e.g. H₂, CO) and vacuums, and can be supplied in bulk densities up to 1500 kg/m³.



Top-hat kiln



Laboratory furnace



These products are chemically neutral and are resistant to most acids and alkalis, except hydrochloric acids, phosphoric acids and concentrated alkalis.

Kerform KVR is used in vacuum furnaces, annealing furnaces for steel and other alloys, in crystal growing furnaces and fuel cells.

Kerform KVS is used in furnace construction (from laboratory furnaces to industrial plants) in dental furnaces, for backing insulation, in the boiler industry, in household appliances and in microwave ovens.

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Valid for all quoted products:

For applications in corrosive atmospheres and close to maximum service temperatures we recommend consultation with our technical departments. The technical data are reference values, checked according to recognized test

standards. Detailed descriptions are given in our data sheets. Other types can be supplied on request. We reserve the right to carry out amendments and alterations without prior notice.

