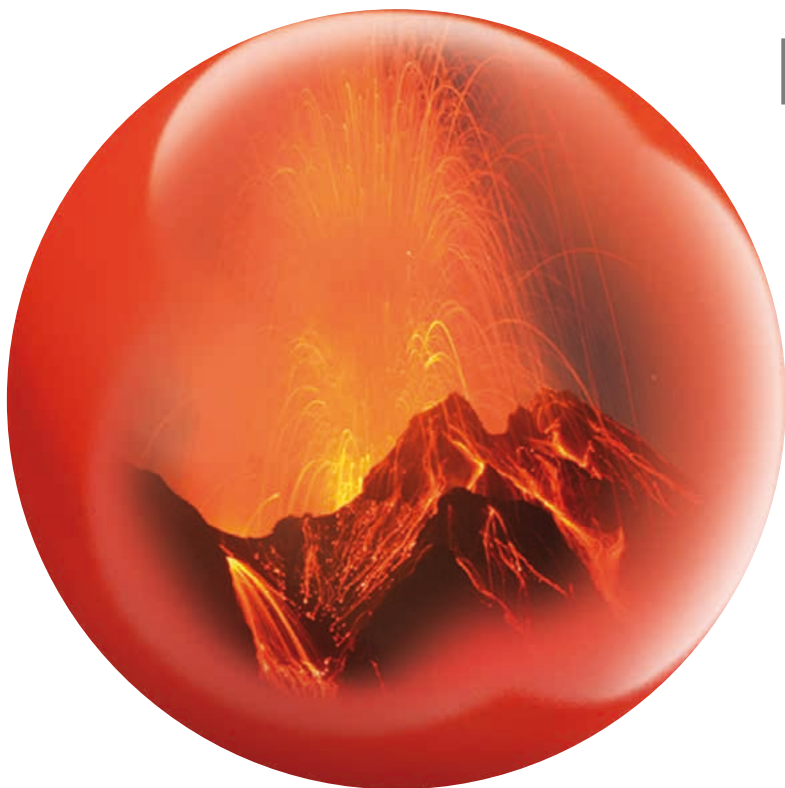
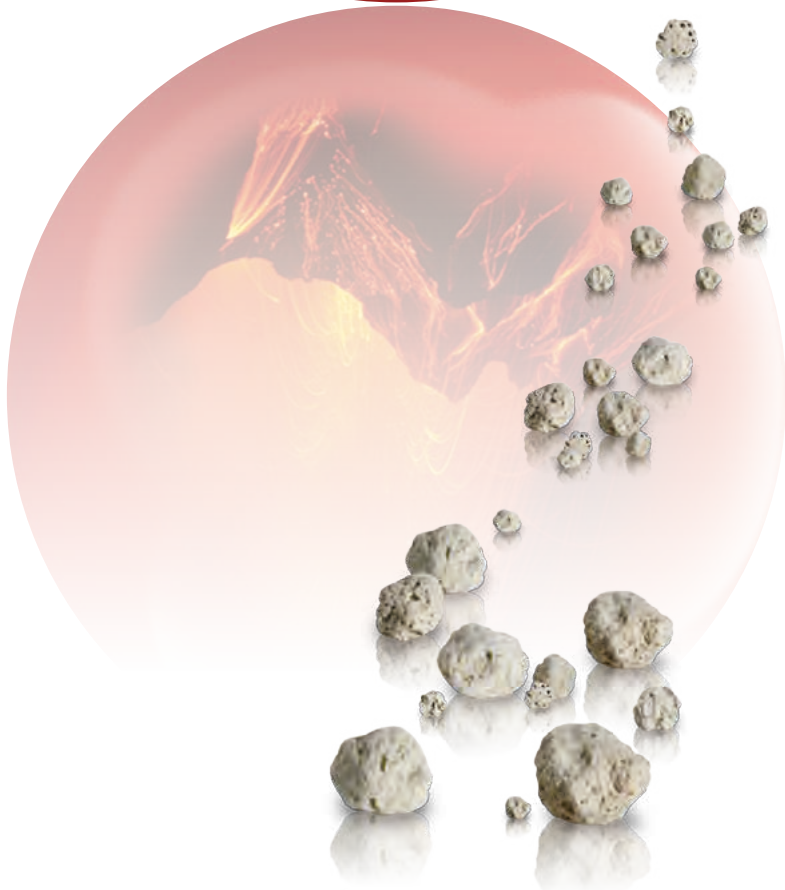


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SILICATE AGGREGATES MADE
FROM PURE NATURE

NATURAL-EXPANDED SILICATE – A GIFT OF NATURE



Natural expanded silicate was formed during the last volcanic eruption in Germany about 12,500 years ago.

Nature then produced an air-pore-rich, pebble-like mineral out of purely silicate raw materials was deposited just below the surface.

Since 1990, at its headquarters in Urmitz and Neuwied, Rhineland-Palatinate, ROTEC® has mined more than 180,000 tons of this ecologically excellent raw material per year and has been refining it into innovative lightweight aggregates and ecologically valuable substrates.

ROTEC® lightweight aggregates unite a world-class LCA:

- Mining in a nature and energy-saving open-pit-mining process
- Remediation of the mining areas into nature reserves or habitats
- On-site processing with low transportation costs
- Energy-efficient drying
- Refinement with ecological cleaning equipment
- Energy-efficient grinding and sieving
- Packaging-free and delivery in big bags or silo trucks





THE ROTEC® SILICATE LIGHTWEIGHT AGGREGATES



The lightweight, highly purified mineral granulate in grain sizes from 0.04 to 16 mm.



The hydrophobic high-tech aggregate for higher energy efficiency and sustainability.



The innovative mineral flour additive for all cement and lime bound building materials and special applications.

THE LIGHTWEIGHT, HIGHLY PURIFIED MINERAL GRANULATE

ROTO

ROTOCELL® is a very light and dry granulate that is refined to a highly purified granulate through special grinding and sieving processes.

8 grains sizes from super-fine 0.04 mm up to 4 mm allow for product innovations in virtually every industry.

All of ROTOCELL®'s advantages help to significantly improve the products in terms of heat and sound insulation, processing quality, durability, weight reduction, as well as, LCA and energy efficiency.

Benefits at a glance:

- Very low weight
- High compressive strength
- Excellent thermal insulation
- Excellent sound absorption
- High breathability
- Great mixing properties
- Non-flammable (1,000 ° C)
- 100 % mineral
- Solvent free
- Odourless
- 100 % recyclable

Preferred application areas:

- Plasters and mortars
- Fine concretes
- Construction chemicals
- Facing panels and lightweight panels
- Fire and noise protection panels
- Insulation products
- Fills
- Plastics
- Oil absorber
- Water filters and much more



ROTOCELL® in plaster systems



ROTOCELL® in mortar, tile adhesive, levelling compound and other construction chemical products



ROTOCELL® in lightweight concrete



ROTOCELL® in insulation products, such as insulation screeds, insulation plasters, boards and many more

ROTOCELL®

Designation	ROTOCELL® grain sizes					
Grain size mm	0,04 – 0,09	0,09 – 0,3	0,25 – 0,5	0,5 – 1,0	1,0 – 2,0	2,0 – 4,0
Bulk density kg/m ³ ± 15%***	540	390	350	330	310	290
Thermal conductivity W/mK	*	*	*	0,08	0,08	0,07
Crush strength N/mm ²	*	22**	18**	18**	18**	12**
Melting point C°	1000	1000	1000	1000	1000	1000
pH-Value	7 – 11	7 – 11	7 – 11	7 – 8	7 – 8	7 – 8
Colour	beige	beige	beige	beige	beige	beige

*on request | ** determined according to DIN V 18004 | *** determined according to DIN EN 13055 | Further application-specific grain sizes upon request.



ROTOCELL® in carriers



ROTOCELL® in water filtration



ROTOCELL® in welding technology



ROTOCELL® in cast- and refractory industries

THE HYDROPHOBIC HIGH-TECH AGGREGATE



ROTOCELL

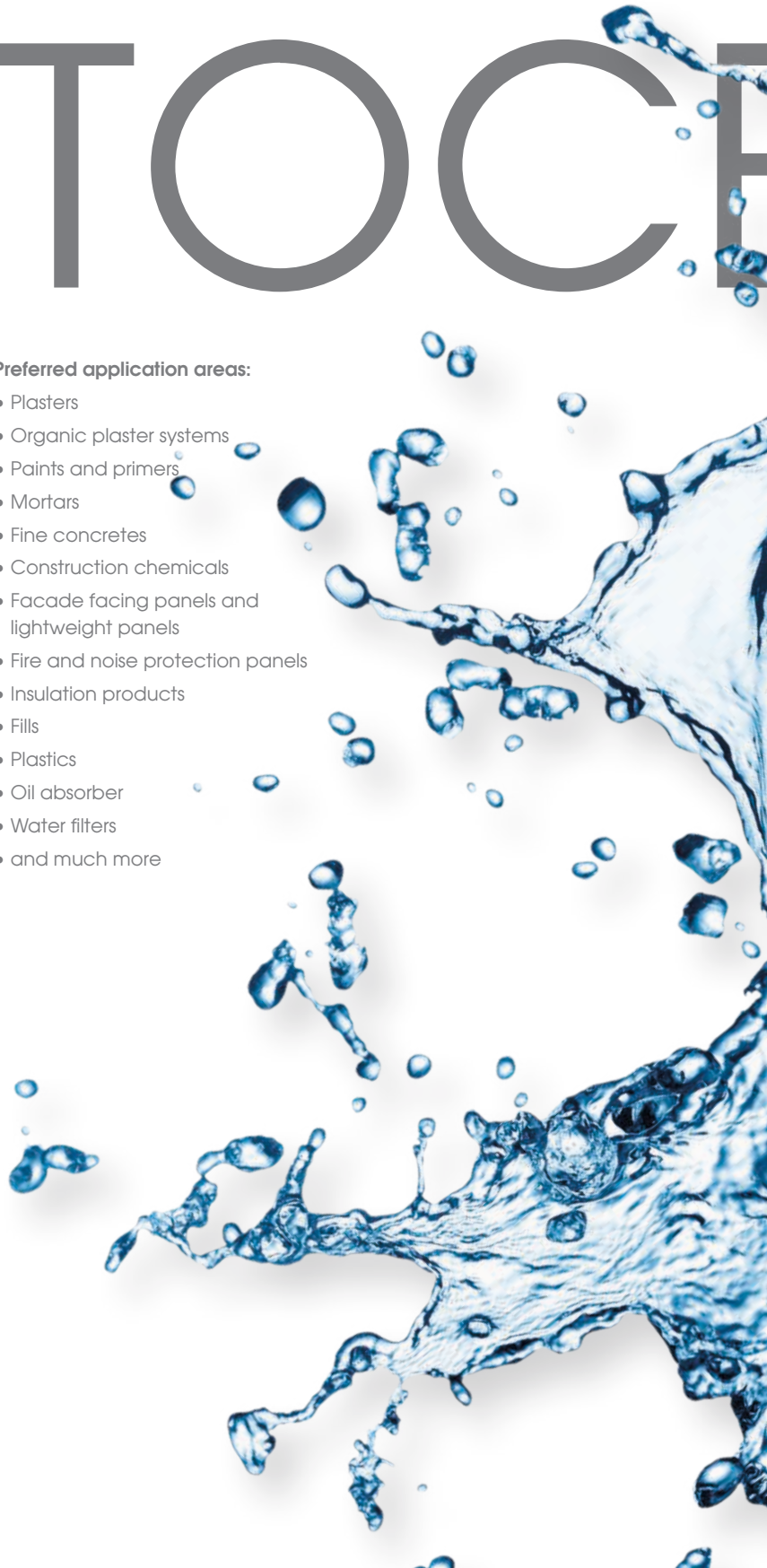
The mineral lightweight aggregate ROTOCELL® becomes the high-tech water-repellent granulate ROTOCELL PLUS® through a patented processing method. Due to this innovation a wide range of product and processing advantages open up that increase energy efficiency and sustainability of products and applications significantly.

Benefits at a glance:

- Very low weight
- High compressive strength
- Excellent thermal insulation
- Water absorption controllable
- High yield
- Optimum processing properties
- Long-term stability
- Excellent sound absorption
- High breathability
- Great mixing properties
- Non-flammable
- 100 % mineral
- Solvent free
- Odourless
- 100 % recyclable

Preferred application areas:

- Plasters
- Organic plaster systems
- Paints and primers
- Mortars
- Fine concretes
- Construction chemicals
- Facade facing panels and lightweight panels
- Fire and noise protection panels
- Insulation products
- Fills
- Plastics
- Oil absorber
- Water filters
- and much more



CELL PLUS®

Designation	ROTOCELL PLUS® grain sizes					
Grain size mm	0,04 – 0,09	0,09 – 0,3	0,25 – 0,5	0,5 – 1,0	1,0 – 2,0	2,0 – 4,0
Bulk density kg/m ³ ± 15%***	540	400	365	330	310	300
Thermal conductivity W/mK	*	*	*	0,08	0,08	0,07
Crush strength N/mm ²	*	22**	18**	18**	18**	12**
Melting point C°	1000	1000	1000	1000	1000	1000
pH-Value	7 – 11	7 – 11	7 – 11	7 – 8	7 – 8	7 – 8
Colour	beige	beige	beige	beige	beige	beige

*on request | ** determined according to DIN V 18004 | *** determined according to DIN EN 13055 | Further application-specific grain sizes upon request.



ROTOCELL PLUS® is the ideal lightweight aggregate for all environmentally and energy demanding applications.

THE SILICATE ROCK POWDER

ROTEC

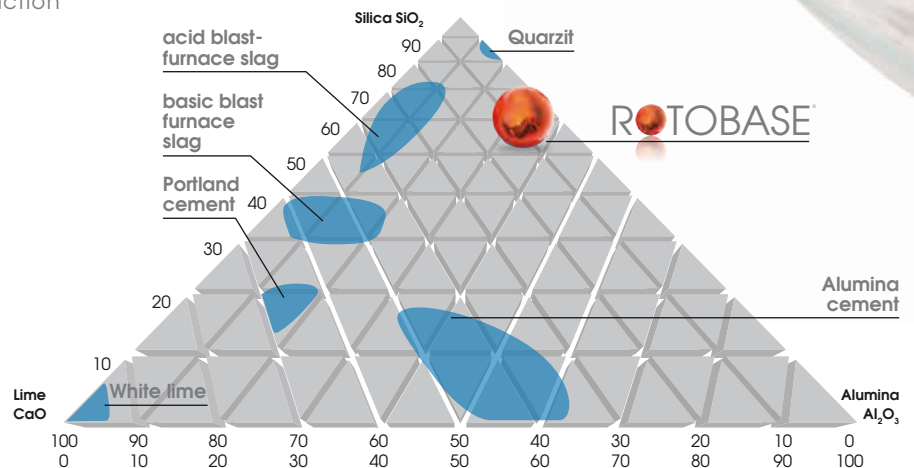
ROTOBASE® is the innovative additive for all cement and lime bound building materials.

- **ROTOBASE®** is a silicate rock powder, that is produced through special screening technologies and a treatment processes developed by ROTEC®.
- **ROTOBASE®** reacts with the calcium hydroxide liberated during the hydration of the cement and forms cement like C-S-H – phases (calcium silicate hydrates).
- **ROTOBASE®** improves the properties of all mineral building materials such as plasters, mortars, concretes, tile adhesives and other construction chemical products.

Chemical analysis: :

Silica	SiO ₂	≈ 56,0%
Alumina	Al ₂ O ₃	≈ 22,0%
Alkalies	K ₂ O+Na ₂ O	≈ 12,0%
Iron oxide	Fe ₂ O ₃	≈ 3,0%
Calcium oxide	CaO	≈ 2,0%
Magnesium oxide	MgO	≈ 1,0%
Titanium oxide	TiO ₂	≈ 0,5%
Loss on ignition		≈ 3,5%

ROTOBASE® in the ternary diagram



Benefits at a Glance:

- Very low weight
- High breathability
- Non-flammable
- 100 % mineral
- Solvent free
- Odourless
- Colour beige

ROTOBASE[®]

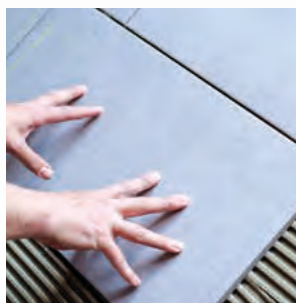
Designation	ROTOBASE [®] grain sizes		
Grain size mm	0,0 – 0,04	0,0 – 0,09	0,0 – 0,3
Bulk density kg/m ³	580	580	580
Mohs hardness	3	3	3
Melting point C°	1000	1000	1000
pH-Value	7 – 8	7 – 8	7 – 8
Colour	beige	beige	beige



ROTOBASE[®] in plaster systems



ROTOBASE[®] in mortar

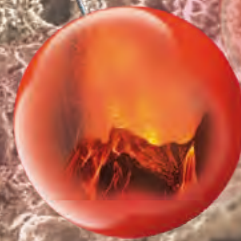


ROTOBASE[®] in adhesive and lightweight concrete



ROTOBASE[®] in polishing agents

NATURAL EXPANDED SILICATE – A GIFT FROM NATURE



Since its founding in 1990 Riffer is regarded as the specialist in the processing of raw materials.

At its production plant in Neuwied, Rhineland-Palatinate in conjunction with the headquarter in Mülheim-Kärlich more than 100,000 tons of natural silicates are mined each year. The product is then processed and shipped globally in the form of highquality lightweight aggregates and granules.

Furthermore, the in-house development center continuously looks for product and application innovations that continually improve the quality of the granules which in turn open up new application markets for the ecological ROTOCELL®-aggregates.

Dr. Carl Riffer

B A U S T O F F W E R K E

RIFFER
Qualität

Please feel free to get information about our other products:

ROTOCELL[®]
expanded by nature

The innovative lightweight aggregate

ROTOCELL PLUS[®]
expanded by nature

The hydrophobic high-tech aggregate

SLIP EX[®]
expanded by nature

The effective natural grit

HOBILAT[®]
expanded by nature

The environment friendly oil and chemical binder



www.rotocell.com

Dr. Carl Riffer **RIFFER**
Qualität
B A U S T O F F W E R K E

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