

Filter materials



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Trickling filter material for high hydraulic loads



- light protection for bacteria even if the filter is not light-tight
- high biological effective surface
- low blocking danger
- good de-aeration and high oxygen supply
- large free space
- material made of inert polyethylene
- very high radial forces possible (320 Nm/cm), so suitable for very high hydraulic loads

Technical data:
 Dimensions: d16 × 20 mm
 Weight: 98 kg / m³
 Surface (biological effective):
 500 m²/m³
 Number of pieces: 161,000 / m³
 Free volume: 90%
 Material: polyethylene
Order number:
 1 liter: 591-001
 other sizes on request

Filter material with very high free space



- very high free volume, therefore:
 - high hydraulic loads possible
 - any anoxic conditions
 - ORP is not reduced even after long operation time
 - any blocking possible
- perfect oxygen supply and de-aeration: balanced gas equilibrium
- made of inert and virgin polypropylene: any organic material or colours will reach the water
- height filter bed heights: any solidification of the material
- sharp edges therefore: intensive drop creation and distribution in the filter bed
- ideal for overflows and trickling filters for sea water

Technical data:
 Dimensions: 27×27 mm
 Weight: 72 kg / m³
 Surface
 (biological effective): 180 m²/m³
 Number of pieces: 44,500 / m³
 Free volume: 92%
 Material: Polypropylene virgin
Order number:
 5 liter: 590-005
 10 liter: 590-010
 200 liter: 590-200

Quartz sand for moving bed reactors and sand filter



- sharp edged gravels
- graining 0,4...6 mm
- for moving bed reactors and for sand filters
- larger graining for support layers of other filters

Technical data:

Silica oxide:	ca. 98%
Bulk density:	ca. 1.5 kg/l
Solubility:	< 0.01 g/l
pH-value:	neutral
Graining:	0.4...0.8 mm
.....	0.7...1.3 mm
.....	1...2 mm
.....	2...3 mm
.....	3...6 mm

Zeolith filter material for sand filters



- rough surface for maximum binding of particles
- best for replacing sand of conventional sand filters
- binds about 3 times more dirt than sand sand filters
- filters down to 5 µm (conventional sand filters ca. 25 µm)
- very good running-in properties for biological filters
- adsorbs ammonia, too

Technical data:

height of filter bed	ca. 1.2 m
freeboard height:	50% of filter bed
Filter velocity:	30...49 m/h
back wasch:	35 m/h
empiric formular:	
.....	(Ca, K ₂ , Na, Mg) ₄ Al ₈ Si ₄₀ O ₉₆ *24 H ₂ O
Mineral form:	Clinoptilolite
Content of Clinoptilolite:	85...90%
silicon oxide:	65...71%
bulk density:	ca. 0,82 kg/l
Graining:	0,5...1,5 mm

Turbo-Calcium granules for lime reactors and mineral filters



- porous and very pure calcite granules for all lime reactors and mineral filters
- about 5...11 time faster dissolving compared to other materials
- phosphate-free
- normally round form; suitable for high velocity technique, e.g. AquaCare Turbo lime reactor

Technical data:

Calcium carbonate (Calcite): 97%,
Magnesium carbonate: 2,1%
Graining: 3-5 mm,
Bulk density: ca. 1250 g/l

Order number:

2,5 kg bag 560-003
15 kg box 560-015

Turbo-Magnesium granules for magnesium supply



- porous and round material
- better dissolving than other materials, e.g. dolomite
- phosphate-free
- ensure the magnesium supply of a reef aquarium
- raises the pH value

Technical data:

Magnesium oxide: 70-75%
Calcium oxide: 4-5%
Fe₂O₃, Al₂O₃, SiO₂ 3-4%
glow loss 16-20%
Graining: 2-5 mm
Bulk density: ca. 1300 g/l

Order number:

2,5 kg bag 561-003
15 kg box 561-015

Calcium carbonate rubbles (grey) for de-acidification



- sharp rubbles
- good de-acidification
- very pure
- suitable for mineral filters and de-acidification columns after sulphur filters (autotrophic de-nitrification)
- substrate for highly buffered water (east African cichlids)

Technical data:

Calcium carbonate: 99,1%
Magnesium carbonate: 0,4%
Fe₂O₃, Al₂O₃, SiO₂ <0,5%
Graining: 5...8 mm
other grains on request
Bulk density : ca. 1400 g/l

Order number:

1 t on a pallet 562-000

Calcium carbonate rubbles (white) for de-acidification



- sharp rubbles
- good de-acidification
- very pure
- suitable for mineral filters and de-acidification columns after sulphur filters (autotrophic de-nitrification)
- substrate for highly buffered water (east African cichlids)

Technical data:

Calcium carbonate:	99,1%
Magnesium carbonate:	0,4%
Fe ₂ O ₃ , Al ₂ O ₃ , SiO ₂	<0,5%
Graining:	3...6 mm
other grains on request	
Bulk density :.....	ca. 1400 g/l
Order number:	
1 t on a pallet	566-000

Coral gravel for sea water tanks



- natural porous material
- different graining available
- order quantity: min. 1 ton

Technical data:

Calcium carbonate:	main component
impurities:.....	variable

Activated carbon for sea water



- phosphate-free – algae will not be enforced
- fast degassing and therefore immediately ready for action
- pH and ORP neutral
- low dusty concentration – crystal clear water
- high adsorption capacity - long life time
- large free volume – low danger for blocking
- steam activated hard coal
- suitable for chlorine elimination,
tannin elimination,
ozone destruction and
as biological substrate

Technical data:

Cylindrical form, ø ca. 4 mm,	
Dust.....	< 1%,
Bulk density	470±20 g/l,
Water content	< 5% (w/w),
Ash	< 5% (w/w),
Surface (BET)	1000±50 m ² /g,
apparent density	ca. 0.8 kg/l
Order number:	
1 liter.....	573-005
25 kg (ca. 50 l)	573-250

Sulphur for de-nitrification filters (nitrate filters)



- ideal for autotrophic de-nitrification
- low dissolving, extremely low pollution of the water
- high strength, suitable for high water velocities
- normally round form reduces the hydraulic resistance

Order number:

1 liter (1,2 kg).....575-010
25 kg (ca. 21 liters)575-250

Technical data:

Graining3...8 mm
Form: normally round
Purity: min. 99,8%
Ashe/carbon/H₂SO₄max. 0,09%
Bulk density: ca. 1200 g/l
usual in the trade free of arsenic, selenium, tellurium

Adsorption material for removing phosphate



- high adsorption power
- safe adsorption
- dust-free
- regular size: perfectly suitable for moving bed technology
- any iron release
- any discolouration

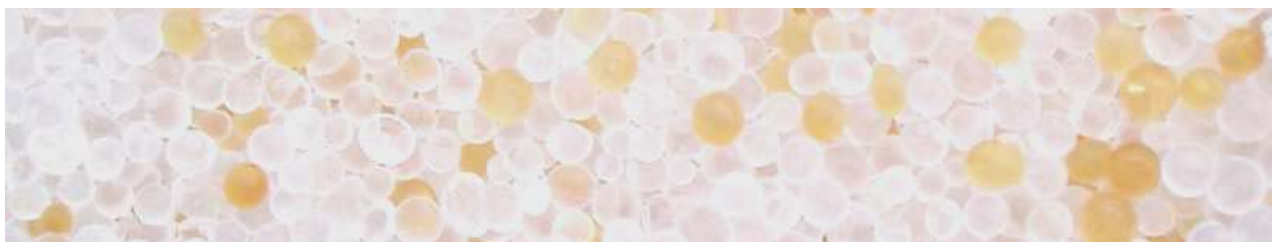
Order number:

1 liter578-010
28 liters.....578-280

Technical data:

Matrix: porous polystyrene impregnated with iron hydroxide nano particles
Size:0.4...1.2 mm
whole balls: min. 95%
Bulk density: 790...820 g/l
Temperature range: 0...80°C
pH range:4.5...8.5
Salinity:0...40/1000

Drying pearls for reducing the air humidity



- ideal for drying air
- dry air will enlarge the power of ozone generators
- with humidity indicator (orange = o.k.; colourless = charged)
- will be regenerated in the oven at 130...140°C

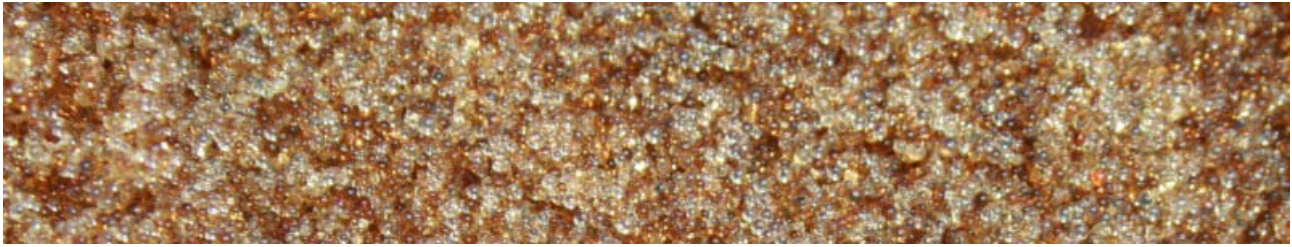
Technical data:

Material: silicon oxide (amorphous)
Bulk density: 0.8 kg/l
Content indicator pearls: 17%
Regeneration frequency: min. 10 times

Order number:

2 kg 577-002

Mixed bed for producing ultra pure water



- ideal in combination with reverse osmosis technology
- suitable for simple analytic purposes
- eliminates salts
- eliminates silicic acid – ideal for sea water production
- simple control with electrical conductivity

Technical data:

Type: desalination in H^+ , OH^- form
 strong acid component: 38...42%
 strong basic component: 56...62%
 Bulk density: 665...740 g/l
 max. operation temperature: 60°C
 minimum conductivity of produced water:
 < 0,01 $\mu S/cm$

Order number:

1 liter 580-002
 25 liters 580-025

Calcium hydroxide for producing lime water („Kalkwasser“)



- raises the pH value
- precipitates phosphate
- any raising of buffer capacity (KH, alkalinity), but raises the calcium concentration
- ideal for AquaCare lime reactor KWR
- high purity

Technical data:

Quality: ultra clean
 Content: minimum 95%
 Heavy metals as lead: < 0,001%
 HCl insoluble < 0,2%

Order number:

500 g 570-005
 8 kg 570-080