

# ION EXCHANGE RESINS AND FILTERING MATERIAL

## Ion exchange resins

### STRONG CATION RESIN FOR SOFTENING

High capacity cation resin for softening residential applications food grade. It removes calcium and magnesium hardness exchanging it for sodium ions. Regenerable with sodium chloride. The exchange capacity depends largely on the amount of salt used during regeneration.

- Equivalent resins:
- Dowex HCRS/S
  - Purolite C100E
  - Rhom and Haas: SR 1 L Na
  - Bayer Levatit S100LF



Code	Package/l	Euro/l
RE-CS	25	

#### TECHNICAL DATA

Appearance:	Golden yellow beads
Matrix:	Styrene divinylbenzene copolymer
Functional group:	Sulphonic acid
Ionic form as supplied:	Sodium
Total exchange capacity:	2.0 meq/ml, minimum
Moisture holding capacity:	43 - 50 %
Shipping weight:	830 g/l
Effective size:	0.45 to 0.55 mm
Maximum operating temperature:	140 °C
Minimum flow greater than or equal to:	1.93 LPH/l Resin or 1.93 BV/hr
Regenerant:	NaCl
Regenerant level:	112 - 300 g/l resin
Regenerant flow rate:	4 - 12 BV/h
Operating pH range:	0 to 14
Resistance to reducing agents:	Good
Resistance to oxidizing agents:	Generally good, chlorine should be absent
Minimum Bed Depth:	0.6 m

Download the technical data on-line: [www.idroservice.net/download.aspx](http://www.idroservice.net/download.aspx)

### STRONG CATION RESIN FOR DEMINERALIZATION

High capacity cation exchange resin for industrial demineralization and softening applications, high uniformity coefficient.

- Equivalent resins:
- Dowex Marathon C
  - Purolite C100H
  - Rhom and Haas: IR 1 20
  - Bayer Levatit S100H MonoPlus

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Code	Package/l	Euro/l
RE-CD	25	

#### TECHNICAL DATA

Appearance:	Golden yellow beads
Matrix:	Styrene divinylbenzene copolymer
Functional group:	Sulphonic acid
Ionic form as supplied:	Hydrogen
Total exchange capacity:	0.50 to 0.65 mm
Effective size:	1,8 meq/ml min.
Shipping weight (approx.):	780 g/l
Operating temperature:	120 °C max.
Flow rate:	8 - 48 BV/h
Regenerant:	HCl - H2SO4
Regenerant level:	40 - 200 g/l resin
Regenerant flow rate:	3 - 18 BV/h
pH range, stability:	0 - 14
Minimum Bed Depth:	0.8 m

DEMINERALIZATION ANION RESIN

Strong Base Anion type 1 exchange resin for demineralization, high coefficient of uniformity. Suitable for demi systems, including mixed bed demineralization.

- Equivalent resins:  
 - Dowex Marathon A, SBR-P;  
 - Purolite A 400;  
 - Rhom and Haas: IRA 420;  
 - Bayer: Levatit M500 MonoPlus;



Download the technical data on-line: [www.idroservice.net/download.aspx](http://www.idroservice.net/download.aspx)

TECHNICAL DATA

Appearance:	Translucent pale yellow beads
Matrix:	Styrene divinylbenzene copolymer
Functional group:	Benzyl trimethyl amine
Ionic form as supplied :	Chloride
Total exchange capacity:	1.3 meq/ml, minimum
Moisture holding capacity:	48 - 58 %
Shipping weight:	650 g/l, approximately
Effective size:	0.5 - 0.65 mm
Volume change:	Cl to OH, 25 - 30 % approximately
Maximum operating temperature:	60 - 80 °C
Operating pH range:	0 - 14
Flow rate:	5 - 50 BV/h
Regenerant:	NaOH
Regeneration level:	40 - 100 kg/m <sup>3</sup>
Regenerant flow rate:	2 - 8 BV/h
Minimum bed depth:	0.8 m

TECHNICAL DATA

Appearance:	Opaque off white to brown beads
Matrix:	Styrene divinyl benzene copolymer
Functional Group:	Quaternary ammonium
Ionic form as supplied:	Chloride
Total exchange capacity:	0.9 meq/ml, minimum
Moisture holding capacity:	45 - 55 %
Shipping weight:	670 g/l, approximately
Effective size:	0.40 to 0.50 mm
Maximum operating temperature:	100 °C
Operating pH range:	0 to 14
Resistance to reducing agents:	Good
Resistance to oxidizing agents:	Generally good, chlorine should be absent
Minimum Flow Greater than or equal to:	0.660 LPH/l Resin or 0.660 BV/h
Regenerant:	NaCl
Regeneration level:	125 g of NaCl / l
Injection flow rate:	2 - 4 bv/h
Bed Depth:	1.0 m

TECHNICAL DATA

Physical Form and Appearance:	Spherical beads
Polymer Matrix Structure:	Styrene Crosslinked with DVB
Functional group:	Sulphonic acid (Cat.) Quaternary ammonium (An.)
Type:	Gel
Total Exchange Capacity:	1,9 meq/ml (Cat.) 1,0 meq/ml (An.)
Particle Size Range:	0,45 - 0,60 mm
Shipping Weight (approx.):	720 g/l
Max temperature:	60°C
pH range, stability	0 - 14
Chlorine resistance:	Resistant to oxidizing and reducing agents

NYTRATES REMOVAL RESIN

Strong base anion resin supplied in the Cl- form designed to have better selectivity for nitrate in the presence of moderate to high concentrations of sulfate ions. High purity and high capacity.

- Equivalent resins:  
 - Purolite A 520E;  
 - Rhom and Haas: IP 555.

Download the technical data on-line: [www.idroservice.net/download.aspx](http://www.idroservice.net/download.aspx)

Code Package/l Euro/l

RE-AN	25	
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MIXED BED RESIN

Regenerable mixed bed resins ready for use. 1:1 equivalent mixture of strong acid cation and strong base anion exchange resin. Suitable for the production of ultra-pure water where conductivity of <1 uS/cm can be obtained.

- Equivalent resins:  
 - Dowex MB 50;  
 - Purolite MB 46, MB 47;  
 - Rhom and Haas: MB 20;  
 - Bayer Levatit SM 94;



Download the technical data on-line: [www.idroservice.net/download.aspx](http://www.idroservice.net/download.aspx)

Code Package/l Euro/l

RE-MB	25	
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Activated carbon

MINERAL ACTIVATED CARBON

Bitumen coal granular activated carbon, 10-40 mesh particle size, high degree of activation, recommended for applications in the liquid phase.

The absorption capacity is appropriate for treatments where it is necessary to remove chlorine, organic contaminants, unpleasant odours and tastes from the water. The high hardness makes it resistant to abrasions caused by mechanical stress, transport, backwashing of filters, etc.

IDROSORB M activated carbon is recommended for the following applications:

- drinking water treatment;
- waste water treatment;
- industrial filtration, where is necessary to remove chlorine and organic contaminants.

Download the technical data on-line: [www.idroservice.net/download.aspx](http://www.idroservice.net/download.aspx)

Code Package/Kg Euro/Kg

GAC-M	25	
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ACTIVATED CARBON COCONUT ORIGIN

IDROSORB V is a high quality granular activated carbon produced by physical activation of pre-charred coconut shells.

IDROSORB V is particularly suitable for the removal of organic pollutants, dyes, pesticides, chlorinated solvents, chlorine derivatives, trihalomethanes and compounds that cause bad odours and tastes in drinking water. It is also recommended for applications such as purification of water intended for human consumption, the purification of the process and the condensate and in the purification and bleaching of chemical intermediates.

IDROSORB M is manufactured according the standard ISO EN 12915.

Download the technical data on-line: [www.idroservice.net/download.aspx](http://www.idroservice.net/download.aspx)

Code Package/Kg Euro/Kg

GAC-V	25	
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IDROSORB M is manufactured according the standard ISO EN 12915.

TECHNICAL DATA

Bulk density:	480 g/l
Ash:	10% max
Hardness:	90 min.
Moisture packing:	3% max
Iodine number:	900 mg/g
Absorption CCL4:	40% min.
Total area (BET):	1000 m <sup>2</sup> /g
Packing:	25 kg bags



IDROSORB V can be heat reactivated once exhausted.

TECHNICAL DATA

Origin:	coconut
Moisture:	5% Max
Hardness:	95% min
pH:	9-10
Iodine number:	1150 mg/g min
Bulk density:	500 g/l
Ash: 4% max	4% max
Total area (BET):	1150 m <sup>2</sup> /g min.
Absorption CTC:	40% min
Particle size:	8 - 30 mesh
Packing:	25 kg bags



# SERVICE

## ACTIVATED CARBON PELLETS

Coal Mineral extruded in pellets 4 mm obtained by physical activation with heat and steam. Specifically tailored to the gas phase absorption of volatile organic compounds, including chlorinated solvents and mercaptans of high molecular weight. They can also be used in the process of painting, in the paper industry, for filter hoods in kitchens and laboratories, in the removal of odours and for all applications involving the purification of gas streams.

Download the technical data on-line: [www.idroservice.net/download.aspx](http://www.idroservice.net/download.aspx)

Code	Package/Kg	Euro/Kg
GAC-P	25	

## PYROLUSITE-MANGANESE DIOXIDE

The pyrolusite and manganese dioxide, is of high quality and purity, obtained by the washing, drying and screening of selected mineral for catalytic activity. **The product complies with standards EN 13752:2003, and is suitable for use in water treatment for drinking water.** Pyrolusite is a mineral with no additives and impurities and suitable for use as catalyst in the oxidation of iron and manganese. It is used in pressure or gravity filters mixed with 20 to 50% of suitable grain size sand.

Download the technical data on-line: [www.idroservice.net/download.aspx](http://www.idroservice.net/download.aspx)

Code	Package/Kg	Euro/Kg
PIR-25	25	



## ANTHRACITE

Natural anthracite is ground, washed, dried and sieved. It comes in the form of irregular shiny black granules. It is used for the removal of suspended solids and turbidity of drinking water, process water, waste water and water used in swimming pools. **This product complies with standards UNI ISO EN 12909:2009** "Chemical products for the treatment of water intended for human consumption - anthracite".

Download the technical data on-line: [www.idroservice.net/download.aspx](http://www.idroservice.net/download.aspx)

Code	Package/Kg	Euro/Kg
ANT-25	25	



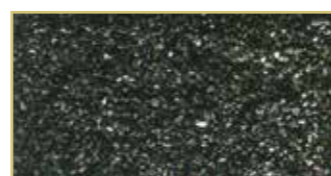
### TECHNICAL DATA

Bulk density:	600 g/l
Ash:	10% max
Amount of Hardness:	95 min.
Packaging Humidity:	2% max
Amount of iodine	750 mg / g.
Absorption CCL4:	50%
Total area (BET):	1100 m <sup>2</sup> /g
Packing:	25 kg bags



### TECHNICAL DATA

Appearance:	granules
Colour:	dark brown
Grain size:	0.35 to 0.85 mm
Bulk density:	2000 g /l
Hardness (Mohs scale):	3 - 5
Manganese Content:	80%
Packing:	25 kg bags



### TECHNICAL DATA

Appearance:	black grain
density:	920 g /l
Carbon content:	90% min.
Sulfur:	1% max
Ash:	5 - 6%
Volatile substances:	4%
Hardness (Mohs scale):	3
Humidity:	2% max
Packing:	25 kg bags.

## QUARTZ

Quartz sand crushed, dried and sieved with a content of SiO<sub>2</sub> of 95% min.

Quartz sand is used in plants for the treatment of drinking water and drainage, swimming pools, aquariums, flooring, wall coverings etc..

**This product complies with standards UNI ISO EN 12904:2005.**

"Chemical products for the treatment of water intended for human consumption - Sand and quartz sand".

Download the technical data on-line: [www.idroservice.net/download.aspx](http://www.idroservice.net/download.aspx)

Code	Grain size	Package/Kg	Euro/Kg
QZ04-1	0,4/0,9 mm	25	
QZ1-2	1/2 mm	25	
QZ3-5	3/6 mm	25	
QZ5-8	5/8 mm	25	
QZ8-12	8/12 mm	25	



## DOLOMITE

Half calcium dolomite (CaCO<sub>3</sub> 55% - 44% MgCO<sub>3</sub>) with high power reagents and high purity. Used as filter material in the chemical reaction for the de-acidification of well water and spring water and increases the hardness of the permeate or distillate from demineralization or reverse osmosis plants, to make it fit for human consumption.

**The product complies to standards UNI EN ISO 1017:2008**

"Chemical products for the treatment of water intended for human consumption. Dolomite"

Code	Package/Kg	Euro/Kg
DS-25	25	

### TECHNICAL DATA

Silica:	95% minimum
Total mass:	2,65 kg/l
Specific bulk weight:	1.4 - 1.7 kg/l
Hardness (Mohs):	7
Melting point:	1500 - 1700 °C
Colour:	light grey
Form :	polyhedral
Packing:	25 kg bags



### TECHNICAL DATA

Specific weight:	1.18
Grain size:	1,2 - 1,8 mm
Packing:	25 kg bags

Download the technical data on-line: [www.idroservice.net/download.aspx](http://www.idroservice.net/download.aspx)



## ECOMIX – Iron and hardness removal

ECOMIX is a media filter ideal for solving problems with water containing: - iron - manganese - hardness in a unique plant. ECOMIX is used as a simple softening resin and is regenerable with sodium chloride (brine). ECOMIX is composed of a mixture of 5 ion exchange resins and different media absorbents (manufactured by Dow Chemical) which, when mixed in appropriate proportions make it particularly effective. ECOMIX is recommended in waters with Fe <6 ppm, Mn <1 ppm, hardness <50 ° F in order to bring these parameters to below the limits of the law (Fe <0,05 ppm; Mn <0,02 ppm). ECOMIX can however treat water with Fe up to 15 ppm, Mn 3 ppm e 50°F of hardness and 4000 mg/l of TDS and tolerates chlorine of 0,3 ppm (chlorine residual).

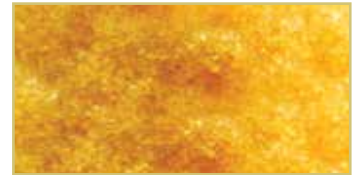
In calculating the cyclical flow only the hardness needs to be taken into consideration ( the data relative to iron and manganese is not to be considered)

Download the technical data on-line: [www.idroservice.net/download.aspx](http://www.idroservice.net/download.aspx)

Code	Package/l	Euro/l
MIX-25	25	

### TECHNICAL DATA

Operating temperature:	40 °C max
Range of pH water to be treated:	5 - 9
Minimum height of the filter bed:	500 mm
Recommended height of the filter:	800 mm
Regenerative cycle	
Operating range:	20-25 m/h
Flow rate of backwash (15-20 min):	3 - 5 m/h
Flow rate of regeneration (45 - 65 min):	3 - 5 m/h
Flow rate of the final washing (15-20 min):	20 - 25 m/h
Consumption sodium chloride for l of ECOMIX/rig.:	120 g
Packing:	bags of 25 l



## Bayoxide® E33 - Arsenic removal

A granular absorbent product containing iron (oxide / hydroxide iron granular GFO), developed by Bayer AG specifically for the removal of arsenic from water intended for human consumption. The product has a high absorption capacity for arsenic, and lowers the water level to below 10 ppb (µg / l), according to the law. 31/2001. The Bayoxide® E33 is robust and easy to handle and, unlike other iron-based materials, it is distributed in dry crystalline form.

As regards the plant the presence of complicated systems of regeneration or flocculation, and filtration are not necessary, just a single column (or max 2 in series), capable of performing 1 or 2 backwashing of the Bayoxide bed a month, makes the process simple and reliable. The high capacity for arsenic absorption allows for longer operating cycles before replacement of the material, this will minimize the need for operative interventions. The material is then removed and disposed of.

The duration of the Bayoxide depends on the amount of arsenic of the pH and the presence of certain chemicals in the water to be treated such as silica, phosphates, iron, manganese, vanadium, molybdenum, sulfates and selenium (the presence of which can significantly reduce the residual life of the filter media).

Download the technical data on-line: [www.idroservice.net/download.aspx](http://www.idroservice.net/download.aspx)

Code	Package/Kg	Euro/Kg
BAY-15	15	



### TECHNICAL DATA

Type:	Iron Technical Oxide
Form supplied:	E33 – Granules
CAS-no:	20344-49-4
Fe2SO3:	> 60% by DIN 55 913 (1972)
Bulk Density:	min 0,4 kg/l max 0,6 kg /l by DIN ISO 787 part 11 (1995)
The Specific Surface Area:	min 120 m <sup>2</sup> /g max 200 m <sup>2</sup> /g by DIN 66 131 (1993)
Water Soluble Content:	max 1,0% by DIN EN ISO 787 Part 3 (1995)
Water content (ex works):	max 20% by IR
Sieve Analysis:	<0.5 mm: max 20%; > 2.0mm: max 5% by DIN 66 165 (1993)
Actual Density:	3,6 to 4,1 kg/l by DIN ISO 787 Part 10 (1995)
Information chemical data:	Typical
Arsenic (As):	< 1 mg/kg by AAS
Lead (Pb):	< 1 mg/kg by ICP-MS
Cadmium (Cd):	< 1 mg/kg by ICP-MS
Chromium (Cr):	110 mg/kg by ICP-MS
Copper (Cu):	< 1 mg/kg by ICP-MS
Manganese (Mn):	1700 mg/kg by ASS
Nickel (Ni):	130 mg/kg by ICP-MS
Zinc (Zn):	30 mg/kg by ICP-MS
Mercury (Hg):	< 1 mg/kg by ICP-MS
Packing:	bags of 15 kg.