PRODUCT INFORMATION
LEWATIT® MonoPlus S 108 H

Lewatit® MonoPlus S 108 H is a strongly acidic, gelular cation exchange resin with beads of uniform size (monodisperse) based an a styrene-divinylbenzene copolymer, in fully regenerated form . Due to a special manufacturing process this resin type is extremely resistant to chemical, osmotic and mechanical stress. That leads to very low leachables even under critical conditions like higher temperatures, presence of oxidants (0_2, Fe-oxides) and external regeneration processes. Even at very short cycle times (one cycle = service + regeneration) the special ion exchange resin matrix leads to long life cycles in demineralization processes.

The high total capacity results in high operating capacities with a very low ionic leakage and a very high regenerant utilization. The extremely high monodispersity and very low fines content results in particularly low pressure losses paired with an efficient and cost optimized operation of demineralization plants.

Lewatit® MonoPlus S 108 H is especially suitable for:

» demineralization of water for industrial steam generation operated with co-current or modern counter-current systems like e.g. Lewatit WS System, Lewatit Liftbed System or Lewatit Rinsebed System
» polishing using the Lewatit Multistep System or a conventional mixed bed arrangement in combination with the following anion components: **Lewatit® MonoPlus M 500 MB, Lewatit® MonoPlus M 800, Lewatit® MonoPlus M 600, Lewatit® MonoPlus MP 500, Lewatit® MonoPlus MP 800** and **Lewatit® MonoPlus MP 600.**

Lewatit® MonoPlus S 108 H adds special features to the resin bed:

» high flow rates during regeneration and loading
» a high operating capacity at low regenerant consumption
» a low demand for rinse water
» a homogeneous throughput of regenerants, water and solutions, resulting in a homogeneous operating zone
» a virtually linear pressure drop gradient across the entire bed depth, allowing operation with higher bed depths
» a low TOC emission and high resistance to oxidative stress
» good separation of the components in mixed bed applications.

The special properties of this product can only be fully utilized if the technology and process used correspond to the current state-of-the-art. Further advice in this matter can be obtained from Lanxess, Business Unit Liquid Purification Technologies.

Common Description

Delivery form	H^+
Functional group	Sulfonic acid
Matrix	Styrenic
Structure	Gel
Appearance	Black

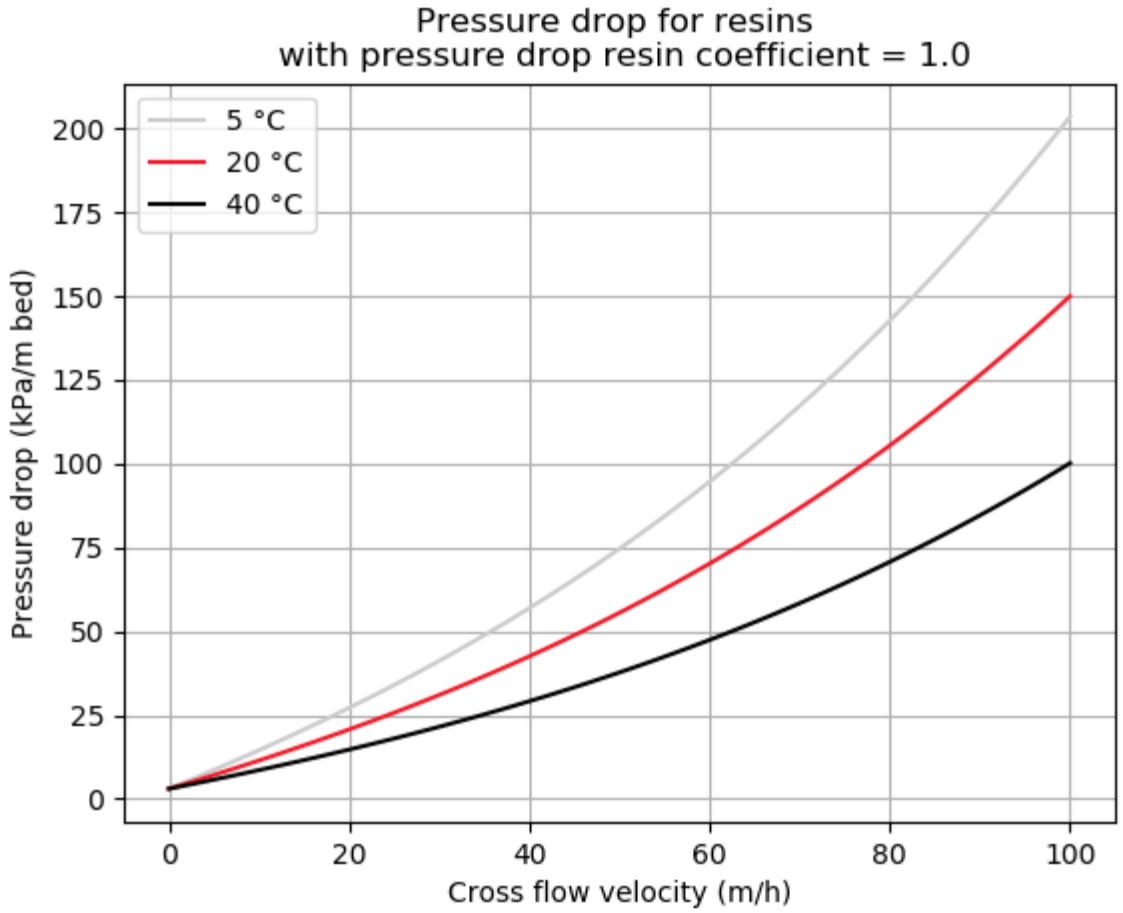
Specified Data

Uniformity coefficient		max.	1.1
Mean bead size	d50	mm	0.65 (+-0.05)
Total capacity (delivery form)		min. eq/L	2.0

Typical Physical and Chemical Properties

Bulk density for shipment	(+/- 5%)	g/L	790
Density		approx. g/mL	1.22
Water retention (delivery form)		approx. weight %	47-53
Volume change (H^+ - Na^+)		max. approx. %	-10
Stability pH range			0-14
Storage time (after delivery)		max. years	2
Storage temperature range		°C	-20 - +40

Operation



Operating temperature		max. °C	140
Operating pH range	during exhaustion		2-14
Bed depth for single column		min. mm	800
Bed depth per component in mixed bed		min. mm	500
Back wash bed expansion per m/h (20°C)		%	4.5
Specific pressure loss kPa*h/m² (15°C)		kPa*h/m² (15°C)	1
Max. pressure loss during operation		kPa	250
Specific flow rate		max. BV/h	60

Regeneration

HCl regeneration	concentration	approx. wt. %	4-6
HCl regeneration	quantity co-current	min. g/L resin	100
HCl regeneration	quantity counter-current	min. g/L resin	55
H_2SO_4 regeneration	concentration	approx. wt. %	1.5-8
H_2SO_4 regeneration	quantity co-current	min. g/L resin	120
H_2SO_4 regeneration	quantity counter-current	min. g/L resin	80
Regeneration contact time		min. minutes	20
Slow rinse at regeneration flow rate		min. BV	2
Fast rinse at service flow rate		min. BV	2

Additional Information & Regulations

Safety precautions
Strong oxidants, e.g. nitric acid, can cause violent reactions if they come into contact with ion exchange resins.

Toxicity
The safety data sheet must be observed. It contains additional data on product description, transport, storage, handling, safety and ecology.

Disposal
In the European Community Ion exchange resins have to be disposed, according to the European waste nomenclature which can be accessed on the internet-site of the European Union.

Storage
It is recommended to store ion exchange resins at temperatures above the freezing point of water under roof in dry conditions without exposure to direct sunlight. If resin should become frozen, it should not be mechanically handled and left to thaw out gradually at ambient temperature. It must be completely thawed before handling or use. No attempt should be made to accelerate the thawing process.

Packaging
The experience has shown that the packaging stability for reliable resin containment is limited to 24 months under the storage conditions described above. It is therefore recommended to use the product within this time frame; otherwise the packaging condition should be checked regularly.

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