Lewatit® MonoPlus S 108

Is a strongly acidic, gel-type cation exchange resin in the Na-form with beads of uniform size (monodisperse) based an a styrene-divinylbenzene copolymer. 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 (02, 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 result in particularly low pressure losses paired with an efficient and cost optimized operation of demineralization plants.

Lewatit® MonoPlus S 108 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 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
» a 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 Corporation

Common Description

Delivery form	Na^+
Functional group	sulfonic acid
Matrix	styrenic
Structure	gel
Appearance	black

Specified Data

		US Units			
Uniformity coefficient				max.	1.1
Mean bead size	d50			mm	0.62 (+-0.05)
Total capacity (delivery form)		kgr/ft³	48.0	min. eq/L	2.2

Typical Physical and Chemical Properties

		US Units		Metric Units	
Bulk density for shipment	(+/- 5%)	lb/ft³	51.9	g/L	830
Density				approx. g/mL	1.30
Water retention (delivery form)				approx. weight %	41-46
Volume change (Na^+ - H^+)				max. approx. %	10
Stability pH range					0-14
Storage time (after delivery)				max. years	3
Storability temperature range				°C	-20 - +40

Operation

		US Units		Metric Units	
Operating temperature		max. °F	284	max. °C	140
Operating pH range	during exhaustion				2-14
Bed depth for single column		min. inches	31.5	min. mm	800
Bed depth per component in mixed bed		min. inches		min. mm	500
Back wash bed expansion per m/h (20°C)				%	4
Specific pressure loss (15°C)				kPa*h/m²	1
Max. pressure loss during operation		PSI	36	kPa	250
Specific flow rate		max. gpm/ft3	8	max. BV/h	60

Regeneration

		US Units		Metric Units	
HCl regeneration	concentration	approx. wt. %		approx. wt. %	4-6
HCl regeneration	quantity co-current	min. lb/ft³	6.3	min. g/L resin	100
HCl regeneration	quantity counter-current	min. lb/ft³	3.4	min. g/L resin	55
H_2SO_4 regeneration	concentration	approx. wt. %		approx. wt. %	1.5-8
H_2SO_4 regeneration	quantity co-current	min. lb/ft³	7.5	min. g/L resin	120
H_2SO_4 regeneration	quantity counter-current	min. lb/ft³	5.0	min. g/L resin	80
Regeneration contact time		min. minutes		min. minutes	20
Slow rinse at regeneration flow rate		min. gal/ft³	15.0	min. BV	2
Fast rinse at service flow rate		min. gal/ft³	15.0	min. BV	2