ATS WATER TECHNOLOGY

PRODUCT INFORMATION
LEWATIT® CNP 80 WS

Lewatit®

Lewatit® CNP 80 WS is a weakly acidic, macroporous, acrylic-based cation exchange resin of standard bead size distribution. Due to its very high total and operating capacity, excellent chemical and mechanical stability together with high resistance to osmotic shock, it is preferably used for dealkalization. In combination with a strong acidic cation exchanger **(Lewatit® MonoPlus S 108)**, in demineralization units leads to higher regeneration efficiency.

As **Lewatit® CNP 80 WS** only requires a small excess of regenerant acid, it can be economically used in the following applications:
» dealkalisation of industrial water by co-current systems
» in combination with a strong acidic cation exchange resin, e.g. **Lewatit® MonoPlus S 108**, in the decationization step in the demineralisation of water
» removal of temporary hardness (hardness associated with alkalinity)
» in a single bed unit downstream of a demineralization unit (polisher) for the removal of cations present as hydroxides at high flow rates .
» in produced water softening as single filter unit or in combination with **Lewatit® S 1567**, as polisher
» in its sodium-form for the removal/extraction of heavy metals such as copper, nickel and zinc from electroplating rinse waters at a pH-value > 5 in absence of calcium and complexing agents.

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	H^+
Functional group	carboxylic acid
Matrix	Crosslinked polyacrylate
Structure	macroporous
Appearance	yellow, white

Specified Data

		US Units			
Uniformity coefficient				max.	1.8
Range of size for >=90 vol% of all beads				mm	0.4 - 1.6
Effective size	d10			mm	0.48 - 0.58
Total capacity (delivery form)		kgr/ft³	98.2	min. eq/L	4.5

Typical Physical and Chemical Properties

		US Units		Metric Units	
Bulk density for shipment	(+/- 5%)	lb/ft³	46.9	g/L	750
Density				approx. g/mL	1.19
Water retention (delivery form)				approx. weight %	42 - 47
Volume change (H^+ - Ca^{2+})				max. approx. %	7
Volume change (H^+ - Na^+)				max. approx. %	70
Stability pH range					0 - 14
Storability temperature range				°C	-20 - +40

Operation

		US Units		Metric Units	
Operating temperature		max. °F	203	max. °C	95
Operating pH range	during exhaustion				5 - 14
Bed depth for single column		min. inches	31.5	min. mm	800
Back wash bed expansion per m/h (20°C)				%	4
Specific pressure loss (15°C)				kPa*h/m²	1.3
Max. pressure loss during operation		PSI	36	kPa	250
Specific flow rate		max. gpm/ft3	5	max. BV/h	40

Regeneration

		US Units		Metric Units	
HCl regeneration	concentration	approx. wt. %		approx. wt. %	3 - 6
HCl regeneration	quantity co-current	min. lb/ft³	4.4	min. g/L resin	70
H_2SO_4 regeneration	concentration	approx. wt. %		approx. wt. %	0.5 - 0.8
H_2SO_4 regeneration	quantity co-current	min. lb/ft³	5.6	min. g/L resin	90
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

Additional Information & Regulations

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE OF PRODUCTS MENTIONED HEREIN IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING ANY PRODUCT, ALWAYS READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION.

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

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 conditions
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.

Storage time
The recommended storage time for this product is explained in the technical document “Technical guidelines on the storage of Lewatit® ion exchange resins” available for download on our website. Please use the following link for more information: https://lanxess.com/en/products-and-brands/brands/lewatit/literature

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

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