

Lewatit® 1073 is a medium basic (bifunctional), gelular anion exchange resin based on an acryl-divinylbenzene copolymer of special bead size distribution.

Due to its acrylic structure **Lewatit® 1073** stands for effective adsorption and desorption of naturally occurring organic substances (high resistance to organic fouling). Its very high total capacity and outstanding mechanical stability together with the excellent resistance to osmotic shock makes it unique for demineralization of water with a relatively high content of Free Mineral Acidity (FMA) and moderate ratio of weakly dissociated ions (SiO_2 , CO_2).

Lewatit® 1073 is especially suitable for the following applications:

- » Demineralization of water for industrial steam generation operated with co-flow systems
- » Removal of organic matter, especially from surface water
- » Arrangements with decarbonator for demineralization plants
- » Arrangements without a weakly dissociated anion exchanger for demineralization plants

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 and the operating conditions are adapted to the individual requirements. Further advice in this matter can be obtained from Lanxess, Business Unit Ion Exchange Resins.

General Description

Ionic form as shipped	Free base/Cl ⁻
Functional group	Tertiary / Quaternary amine
Matrix	Crosslinked polyacrylamide
Structure	Gel type beads
Appearance	White, translucent

Physical and Chemical Properties

		metric units	
Uniformity Coefficient*		max.	1.8
Bead size*	> 90 %	mm	0.4 - 1.6
Effective size		mm	0.54 (+/- 0.06)
Bulk density	(+/- 5 %)	g/l	670
Density		approx. g/ml	1.06
Water retention		wt. %	57 - 63
Total capacity*		min. eq/l	1.25
Volume change	total swelling (delivered --> Cl ⁻)	typical vol. %	14
Volume change	operational swelling	typical vol. %	12
Stability	at pH-range		0 - 14
Storability	of the product	max. years	2
Storability	temperature range	°C	-20 - +40

* Specification values subjected to continuous monitoring.

Recommended Operating Conditions*

		metric units	
Operating temperature		max. °C	30
Operating pH-range			0 -12
Bed depth		min. mm	800
Specific pressure drop	(15 °C)	approx. kPa*h/m ²	1.1
Pressure drop		max. kPa	150
Linear velocity	operation	max. m/h	50
Linear velocity	backwash (20 °C)	approx. m/h	7
Bed expansion	(20 °C, per m/h)	approx. vol. %	12
Freeboard	backwash (extern / intern)	vol. %	100
Regenerant			NaOH
Counter current regeneration	level	approx. g/l	40
WS-System	concentration	approx. wt. %	2 - 4
Linear velocity	regeneration	approx. m/h	5
Linear velocity	rinsing	approx. m/h	5
Rinse water requirement	slow / fast	approx. BV	3.5

* The recommended operating conditions refer to the use of the product under normal operating conditions. It is based on tests in pilot plants and data obtained from industrial applications. However, additional data are needed to calculate the resin volumes required for ion exchange units. These data are to be found in our Technical Information Sheets.

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.

This information and our technical advice – whether verbal, in writing or by way of trials – are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to check its validity and to test our products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery.

LANXESS Deutschland GmbH
BU ION
D-51369 Leverkusen

www.lewatit.com
www.lanxess.com

This document contains important information
and must be read in its entirety.