

## Lewatit® S 110

Lewatit S 110 is a premium grade strongly acidic, gel-type ion exchange resin which meets the most exacting requirements of the industrial water treatment industry. S 110 is a bead form, highly crosslinked, styrene divinylbenzene resin, which has excellent stability and operating characteristics. S 110 is also available in hydrogen form ( S 110 H ).

### Lewatit S 110 applications\*:

softening, demineralization, condensate polishing

### Typical physical and chemical properties\*\*

		US Units		International Units	
Ionic form as shipped			Na <sup>+</sup>		Na <sup>+</sup>
Bead size		US mesh	16 - 50	mm	0.3 - 1.2
Effective Size		mm	0.47 +- 0.06	mm	0.47 +- 0.06
Shipping weight		lbs/ft <sup>3</sup>	54	g/l	864
Density				g/ml	1.28
Water retention		% weight	37 - 43	%	37 - 43
Total capacity, min.		kgr CaCO <sub>3</sub> / ft <sup>3</sup>	46	eq/l	2.1
Volume change	Na <sup>+</sup> >> H <sup>+</sup>	max. %	5	max. %	5
Stability	temperature range	°F	14 - 250	°C	-10 - 120
	pH range		0 - 14		0 - 14
Storability	of product	min years	2	min. years	2
	temperature range	°F	14 - 104	°C	-10 - 40

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling Lewatit S 110. Before working with this product, you must read and become familiar with the available information on its hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets and product labels. Consult your Sybron Chemicals Inc. representative or contact Bayer's Product Safety and Regulatory Affairs Department in Pittsburgh, PA.

\*As with any product, use of the products mentioned in this publication in a given application must be tested (including field testing, etc.) in advance by the user to determine suitability.

\*\*These items are provided as general information only. They are approximate values and are not part of the product specifications.

### Contact Us:

Sybron Chemicals Inc.  
A Bayer Company  
Birmingham Road  
Birmingham, NJ 08011  
Phone: 1-800-678-0020  
Fax: 609-894-8641

[www.ionexchange.com](http://www.ionexchange.com)

### Contact Us:

Sybron Chemicals Inc.  
A Bayer Company  
100 Bayer Road  
Pittsburgh, PA 15205  
Phone: 1-800-662-2927  
Fax: 412-777-4109

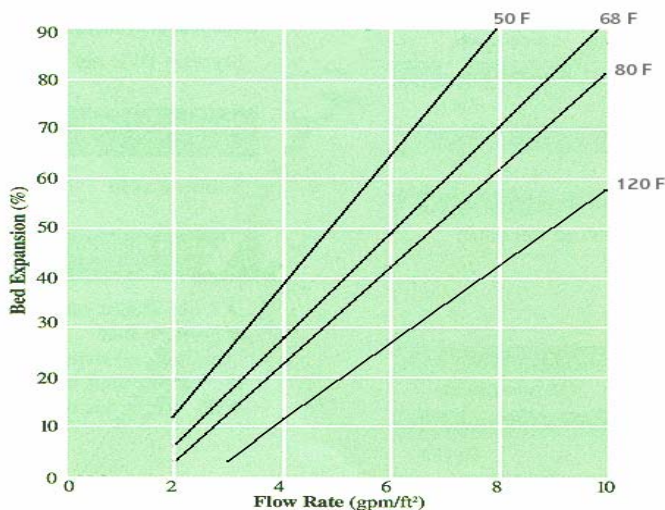
[www.ionexchange.com](http://www.ionexchange.com)

# Lewatit® S 110

## Recommended Operating Parameters

		US Units		International Units	
Operating Temperature		max. °F	280	max. °C	140
Operating pH-range			0 - 14		0 - 14
Bed Depths		min. ft	2	min. mm	610
Pressure Drop			see chart		see chart
Max. adm. Pressure drop		psi	40	kPa	280
Surface Flow Rate	exhaustion	gpm/ft <sup>2</sup>	2 - 20	m/h	5 - 50
	backwash	gpm/ft <sup>2</sup>	see chart	m/h	see chart
Bulk Flow Rate	exhaustion	gpm/ft <sup>3</sup>	1 - 6	BV/h	8 - 48
Bed Expansion		%	50 - 65	%	50 - 65
Freeboard	% of bed depth	%	65 - 75	%	65 - 75
Regenerant	type		NaCl    KCl		NaCl    KCl
	level	lb/ft <sup>3</sup>	3 - 20    5 - 20	g/l	48 - 320    80 - 320
	concentration	%	8 - 13    8 - 13	%	8 - 13    8 - 13
Surface Flow Rate	regeneration	gpm/ft <sup>2</sup>	0.4 - 4    0.4 - 4	m/h	1 - 10    1 - 10
	rinsing, slow / fast	gpm/ft <sup>2</sup>	0.4 - 4    /    2 - 20	m/h	1 - 10    /    5 - 50
Bulk Flow Rate	regeneration	gpm/ft <sup>3</sup>	0.3 - 1    0.3 - 1	BV/h	2 - 8    2 - 8
	rinsing, slow / fast	gpm/ft <sup>3</sup>	0.3 - 1    /    1 - 6	BV/h	2 - 8    /    8 - 48
Rinsing Water Requirement	slow / fast	gals./ft <sup>3</sup>	8 - 16    /    16 - 64	BV	1 - 2    /    2 - 8

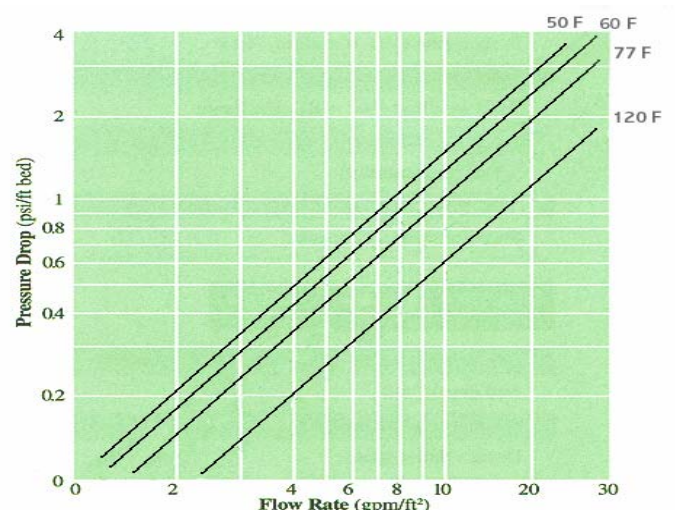
### Bed Expansion Curve



$$^{\circ}\text{C} = 5 / 9 ( ^{\circ}\text{F} - 32 )$$

$$\text{m} = \text{ft} * 0.3048$$

### Pressure Loss Curve



$$\text{kPa} = \text{psi} * 7.03$$

$$\text{m} / \text{hr} = \text{gpm} / \text{sq.ft.} * 2.44$$

Note: The information contained in this bulletin is current as of April 2003. Please contact Sybron Chemicals Inc. to determine whether this publication has been revised.

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact granted under the claims of any patent.