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# NORDSTROM VALVES®

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## SEALANT AND

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## SEALANT EQUIPMENT

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*Nordstrom Valves*

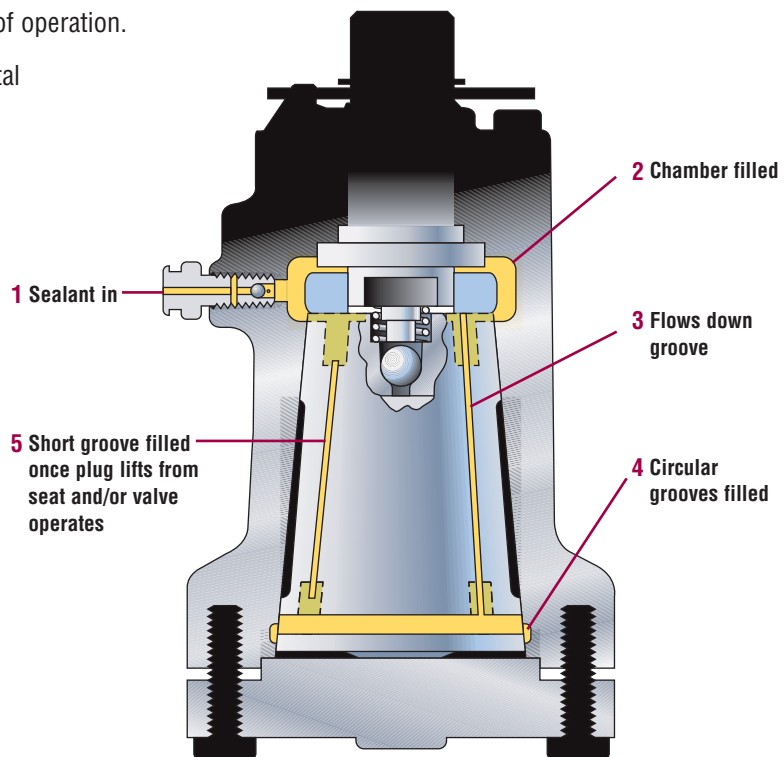
# What is Valve Sealant?

- Forms a flexible renewable seal around the valve port.
- An integral part of every lubricated plug valve.
- Resists chemical attack and dissolving characteristics of line medium.
- Combines base oils, thickeners, and additives.



# Why Use Valve Sealants?

- Lubricates the valve closure device for ease of operation.
- Extends valve life by preventing metal-to-metal abrasion of sealing components.
- Provides a renewable seat without disassembling the valve.
- Provides a hydraulic means of lifting the plug from its tapered seat, if needed.
- Helps prevent corrosion of valve internals.



When the valve lifts from the seat, sealant spreads along the plug/body contact surfaces. This sealant spreads when the plug operates.

# Why Use Nordstrom Valves Sealants?

- Manufactured by the world’s largest manufacturer of plug valves.
- Time-tested and proven by actual use in millions of valves.
- Nordstrom Valves Sealants have been tested to ensure maximum valve performance.
  - Valve operating torque
  - Solvent resistance
  - Water resistance
  - Shear force reaction
  - High and low temperature resistance
  - Degradation test
  - Sealability
- Laboratory tested to be environmentally safe and non-hazardous.
- Controlled manufacturing processes.
- Each batch of product traceable for a minimum period of five years.
- A wide variety of advanced valve sealant formulations available for different services.
- In-house technical expertise to ensure sealant quality and provide technical assistance when needed.



# Sealant Application

Due to varying service conditions, the following recommendations are to be used only as a guide in selecting the proper sealant.

## Gas Distribution and Gas Gathering

Product	Operating Temperature °F (°C)			
	Stick		Bulk	
	Min.	Max.	Min.	Max.
950	-20 (-29)	350 (177)	-25 (-32)	350 (77)
960	not available		-50 (-46)	300 (149)
1033	-10 (-23)	500 (260)	-20 (-29)	500 (260)
555	-10 (-23)	500 (260)	-20 (-29)	500 (260)

## Oil and Gas Production

Product	Operating Temperature °F (°C)			
	Stick		Bulk	
	Min.	Max.	Min.	Max.
555	-10 (-23)	500 (260)	-20 (-29)	500 (260)
950	-20 (-29)	350 (177)	-25 (-32)	350 (77)
1033	-10 (-23)	500 (260)	-20 (-29)	500 (260)

## Oil and Gas Transmission

Product	Operating Temperature °F (°C)			
	Stick		Bulk	
	Min.	Max.	Min.	Max.
950	-20 (-29)	350 (177)	-25 (-32)	350 (77)
1033	-10 (-23)	500 (260)	-20 (-29)	500 (260)
555	-10 (-23)	500 (260)	-20 (-29)	500 (260)

## Chemical Processing

Product	Operating Temperature °F (°C)			
	Stick		Bulk	
	Min.	Max.	Min.	Max.
755	30 (-1)	300 (149)	20 (-7)	300 (149)
1045	not available		30 (-34)	700 (371)

## Sealant Composition

Sealant	Base Oil	Thickener	Additive
167	Hydrocarbon	Silica, Organic Thickeners	Antioxidants
234	Silicone	Silica	None
421	Hydrocarbon	Soap thickener, Inorganic Non-soap Thickeners	None
555	Vegetable Oil	Inorganic Non-soap Thickeners Organic Thickeners	Antioxidants, Friction Modifier
654	Hydrocarbon	Soap, Organic Thickeners	None
755	Polyglycols	Gel Thickeners	Corrosion Inhibitor
950	Synthetic	Inorganic Non-soap Thickeners	Antioxidants, Copper Corrosion Inhibitor
960	Synthetic	Inorganic Non-soap Thickeners	Antioxidants, Friction Modifier
1033	Synthetic	Silica	Antioxidants, Corrosion Inhibitor
1045	Synthetic	Organic Thickeners	Antioxidants

## Gate Valve Sealant

Product	Operating Temperature °F (°C)			
	Stick		Bulk	
	Min.	Max.	Min.	Max.
X-183	not available		-75 (-59)	200 (93)
X-184	not available		-40 (-40)	500 (260)
X-195	not available		-75 (59)	200 (93)
X-196RS	not available		-20 (-29)	300 (149)

## Water/Wastewater

Product	Operating Temperature °F (°C)			
	Stick		Bulk	
	Min.	Max.	Min.	Max.
167	50 (10)	650 (343)	20 (-7)	650 (343)
234*	not available		-40 (-40)	400 (204)
142*	10 (-12)	350 (177)	0 (-18)	300 (149)

\* For use in portable water service.

## HVAC

Product	Operating Temperature °F (°C)			
	Stick		Bulk	
	Min.	Max.	Min.	Max.
167 <sup>1</sup>	50 (10)	650 (343)	20 (-7)	650 (343)
234 <sup>2</sup>	not available		-40 (-40)	400 (204)
421 <sup>2</sup>	10 (-12)	350 (177)	0 (-18)	300 (149)

<sup>1</sup> chilled water system

<sup>2</sup> hot water system

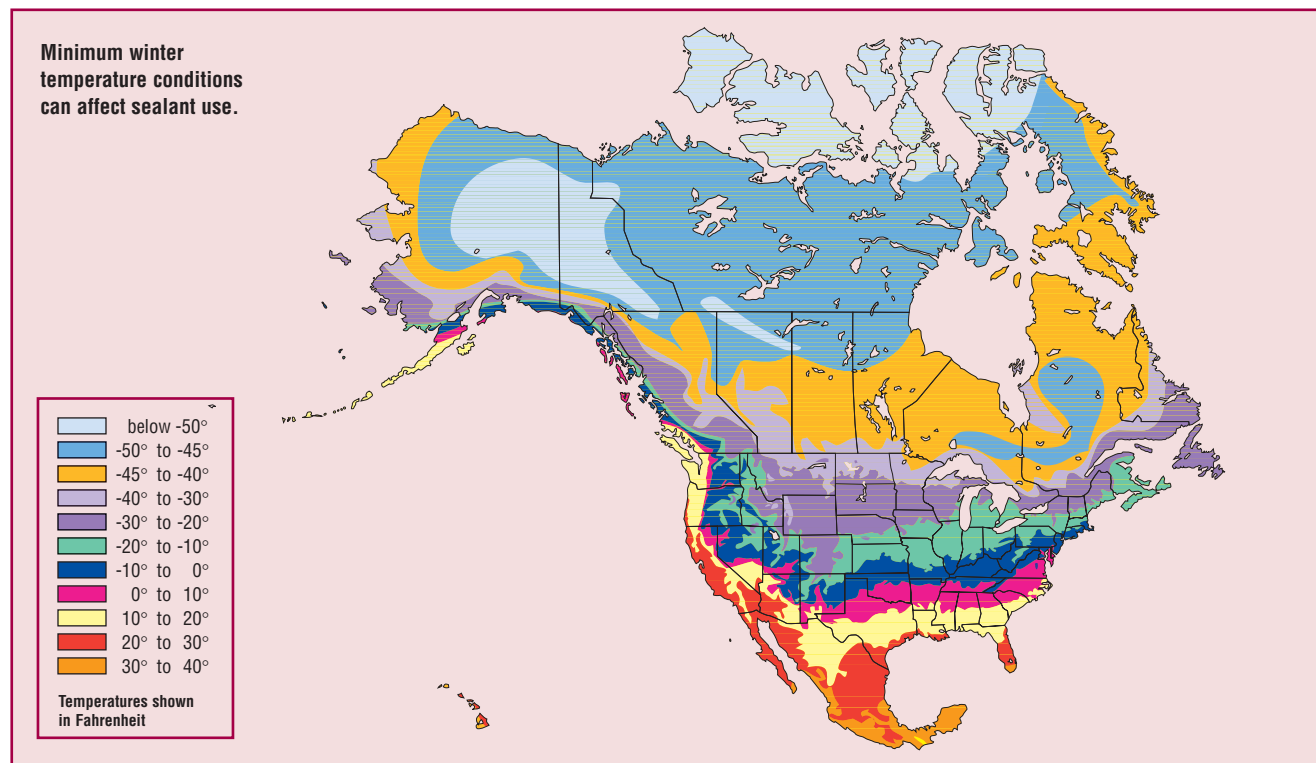
## Mining/Slurry

Product	Operating Temperature °F (°C)			
	Stick		Bulk	
	Min.	Max.	Min.	Max.
654	50 (10)	500 (260)	0 (-18)	500 (260)

## VXX Valve Cleaner

An economical alternative to removing a valve from the line or disassembling and cleaning, periodic injection into valves, VXX Valve Cleaner will dissolve hardened debris within the valve sealant system.

# Temperature Gradients



## Sealant Grades and Packaging

### Bulk Grade Sealant

Nordstrom Valves bulk grade sealants are injected into valves using all models of Nordstrom Valves sealant injection equipment and are available in various packaging forms, depending upon the method chosen for valve injection.

- The five-quart can is for use in the Hypregun-Plus 5Q.
- The five-gallon pail is for use in the Hypregun-Plus 5G.
- Gun Pak, a sealed soft plastic pouch, is for use in the 400-D Hand Gun.
- Cartridges (15 ounce) are available.
- 16 gallon and 55 gallon drums are also available container sizes for bulk grade sealants.

Super Soft bulk grade sealant (SS) is available in 950, 555 and 167. SS sealant has improved “pumpability” characteristics and must be ordered as “SS”.

### Stick Grade Sealant

Nordstrom Valves stick-grade sealants are high-viscosity sealants for manual injection with a Combination Button-head Fitting or for use with the 400-A or 400-D Hand Guns. The sealant is a consistency that maintains its extruded shape. The following chart lists available stick sizes and the method of injection.

Stick Size	Diameter		Length	
	mm	in.	mm	in.
A	6.4	.25	22.4	.88
B	9.7	.38	35.1	1.38
C	14.0	.55	50.8	2.00
D	16.8	.66	62.0	2.44
G	21.8	.86	85.9	3.38
J	37.3	1.47	222.3	8.75
K	38.9	1.53	254.0	10.00

Sealant stick sizes A through G are for manual injection of sealant.

Sealant stick size J is used in the 400-D or 400-A Hand Gun. Sealant stick size K is used in the 400-A Hand Gun.

# Why Use Nordstrom Valves Injection Equipment?

## How is Sealant Injected into Valves?

- Manually – A, B, C, D, and G Sticks
- Hypregun-Plus 5Q – five-quart can
- Hypregun-Plus 5G – five-gallon pail
- 400-D Hydraulic Hand Gun – J-Stick or Gun Pak
- 400-A Hand Gun – J-Stick or K-Stick
- 400-B Bucket Pump – 30-pound bulk capacity

For more detailed information on sealant injection equipment, refer to specific product brochures.

## Hypregun-Plus 5Q and Hypregun-Plus 5G

- Compact and efficient design.
- Air-operated sealant injection with 15,000 psi gauge.
- Versatile design for servicing small or large valves.
- Motors operate at 100:1 pressure on 100 to 125 psi (7-8.6 bar) air.
- Ideal for refineries, compressor stations, pipelines and manifold.
- Both the five-quart and five-gallon (4.7 and 18.9 liter) Hypreguns work for all size valves.



# Injection Equipment

## Giant Button-head Coupler

- Comes standard on all Nordstrom Valves sealant injection equipment.
- Allows easy connection to a valve's button-head sealant fitting.
- Automatically locks to the sealant fitting when the gun is pressurized.
- Coupler cannot be attached or removed from the fitting with the gun under pressure.
- Sealant will not pass through coupler unless connected to the valve sealant fitting.



## 400-D Hydraulic Hand Gun

- Versatile hand-held operation.
- Ideal for use with size 6 and smaller valves.
- Perfect for tight quarters or remote locations.
- Rated at 10,000 to 11,000 psi (690-759 bar).
- Includes 15,000 psi gauge.
- Large fluid capacity allows long intervals before recharging.
- Dependable performance under all conditions.
- Uses J-Stick or Gun Pack bulk grade sealant.



## 400-A Hand Gun

- Polished hardened steel piston in high-pressure barrel.
- Powerful spring-loaded primer piston allows 30 or more strokes without repriming.
- Check valve and bleeder relief valve.
- Positive action makes the 400-A easy to handle and use.
- Includes shoulder strap.
- Uses convenient J-Stick and K-Stick sealants.
- Includes 15,000 psi gauge.



## 400-B Bucket Pump

- Powerful, lightweight and portable.
- Hand-operated 15,000 psi sealant injection.
- Includes 15,000 psi gauge.
- 30-pound bulk capacity.
- Designed for heavy bulk lubricants.
- Easy to use.



# How to Order

Inquiries and orders for Nordstrom Valves sealants and sealant injection equipment should always include complete descriptions so that the proper sealant is supplied. The following information is required at the time of order placement. If you are uncertain which sealant formula is required for your application, please provide the valve service conditions instead of a formula number.

## Stick Grade Sealant Information Requirements

- Quantity
- Container type (Box)
- Formula number
- Product size
- Sticks per box

Example: qty. 3, Boxes, 1033, size J, 6 sticks per box

## Stick Grade Sealant Packaging

Product Size	Sticks per Box	Boxes per Case*
A	24	n/a
B	24	150
C	24	120
D	24	50
G	24	24
J	6	10
K	12	n/a

\* Stick grade sealants are sold by the box; however, for storage convenience, stick sealant boxes can be packaged and shipped in cases.

## Authorized Distributors

For detailed information on these and other Flowserve products, call your customer service representative for the name and number of the nearest authorized Nordstrom Valves distributor.



Nordstrom Valves

## Bulk Grade Sealant Information Requirements

- Required quantity
- Formula number
- Container size

Example: qty. 2, 1033, 5 quart can

## Bulk Grade Sealant Packaging

Container Size	Units per Container	Containers per Case
5.3 oz. Tube <sup>(1)</sup>	2 tubes per box	n/a
Cartridge <sup>(2)</sup>	4 cartridges per box	n/a
Gun Pak	6 Gun Paks per box	10
5 Quart Can	n/a	1, 2 or 4
5 Gallon Pail	n/a	1
16 Gallon Drum	n/a	n/a
55 Gallon Drum	n/a	n/a

<sup>(1)</sup> Plastic tubes are standard packaging only for 234 sealant.

<sup>(2)</sup> Cartridge dimensions are 2.07" diameter by 9.25" in length (15 ounce).

## Valve Cleaner

VXX Valve Cleaner is packaged the same as bulk grade sealant.

Example: qty. 4, VXX Valve Cleaner, 5 quart can

## Sealant Injection Equipment

Provide equipment description. Refer to pages 6 and 7 for information on sealant injection equipment.

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