CAT 4

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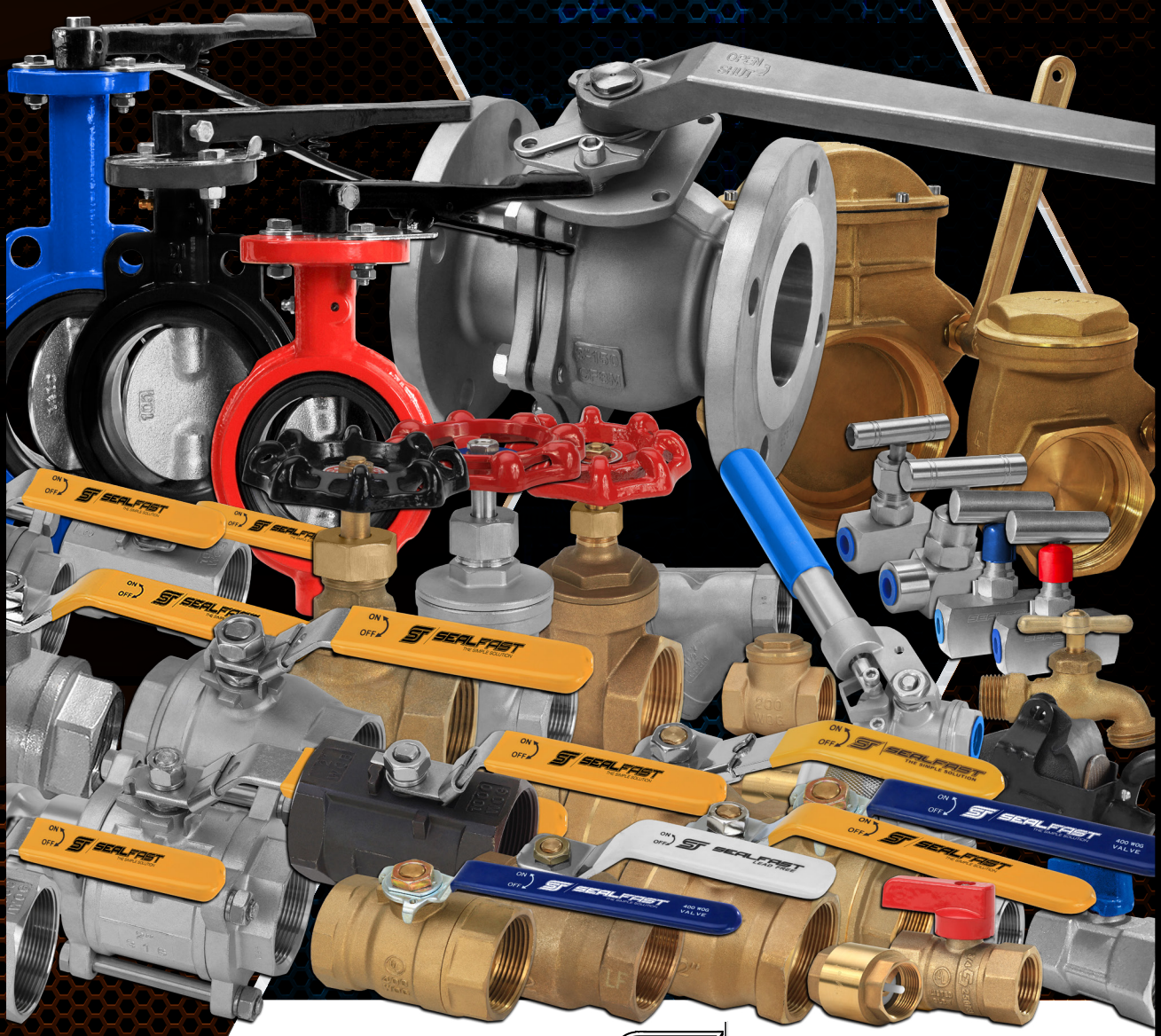
VALVES

BALL VALVES
GATE
GLOBE
BUTTERFLY
SPRING LOADED CHECK
SWING CHECK
BRASS BIBB
THREADED END BUTTERFLY
BRASS LEVER
MOLASSES
NEEDLE



SEALFAST
THE SIMPLE SOLUTION

INDEX

TERMS OF SALE

TERMS:

1/2% 10 Days, net 30 Days

FREIGHT:

All shipments are made FOB Seal Fast Inc. or Point of Manufacturer. (Applies to shipments from Houston Warehouse Only) Freight prepaid on 1000 net couplings and accessories, $1500 Net Couplings, PVC Tubing, Braided Tubing and Fire Hose. Freight prepaid on $3000 Net Couplings, Rubber Hose, PVC Hose and Sheet Rubber with the exclusion of all PVC Suction including 6" and 8" PVC Suction ONLY orders. If combined with other items freight is prepaid at $3000 Net, otherwise these items will Not be applied toward prepaid freight. **Effective immediately, regardless of invoice value, all uncoupled cut lengths of hoses are shipped FOB Seal Fast Inc.** Seal Fast Inc. reserves the right to determine the most Economical shipping method on all prepaid shipments. **In addition, Seal Fast Inc. reserves the right to refuse any prepaid shipments exceeding 6% freight cost of the order unless items are added or subtracted to keep said freight cost at or below 6%.** Applies to Continental United States, excluding Alaska and Hawaii. **Any evidence of shortage must be reported to Seal Fast Inc. within 10 days. Any Damage to hose/hoses, etc. customer is responsible for filing a claim with the delivery carrier within 10 days. Seal Fast Inc. will not issue credit.**

ALL UPS prepay and add or collect shipments will endure a **$7.50** shipping and handling fee including All backorders.

All drop shipments will endure a $5.00 fee.

WARRANTY:

Products are warranted against defects in workmanship and defects in material. Products having such defects will be replaced or credited as Seal Fast elects. Liability is limited to the invoice value of the defective item. Our responsibility shall not exceed the original purchase price of the defective product. In any event, Seal Fast, Inc. shall not be held responsible for any special or consequential damages.

RETURNED GOODS:

If for any reason you wish to return goods, please contact Seal Fast Inc. for prior authorization number. Goods must be returned within 30 days and must be in new and resaleable condition. Minimum handling charge is 15%.

All discrepancies in shipment / invoice must be reported within 10 days of receipt of goods.

PROMPTPAYMENT:

Orders receive preferred treatment when the account is paid promptly. Orders may be held up if any unpaid invoice exceeds 30 days.

MINIMUM INVOICE:

All invoices are subject to a minimum billing charge of 50.00 net. Returned checks are subject to a $25.00 service charge.

GENERAL:

Orders will be accepted subject to delays caused by accident, strike, fire or other causes beyond the control of the seller including failure of seller's suppliers to deliver. Prices, discounts and other specifications are subject to change without notice. All prices are subject to any applicable taxes imposed. The possessions of this price schedule is not to be construed as an offer to sell at the prices shown. Special price for volume quotes will be accepted in writing only.

PLEASE NOTE:

Extra care is taken in the preparation of this literature but Seal Fast, Inc. is not responsible for any inadvertent typographical errors or omissions.

STOCKING WAREHOUSES

SEAL FAST, INC.
5603 Harvey Wilson Dr.
Houston, TX 77020

(713) 675-6324 or 800-231-0734 | FAX (713) 675-0146 or 800-681-1515 | E-mail sales@sealfast.com

PORTER ASSOCIATES
1150 Boot Road
Unit 1
Downingtown, PA 19335
(610) 518-2301

ASPEN MARKETING, INC
5160 Fox Street
Denver, CO 80216
(303) 455-8175
(303) 477-6504 Fax

THE WAGNER GROUP
125 State St.
P O Box 1683
Elkhart, IN 46516
(574) 294-2769
(574) 522-2083 Fax

DISCLAIMERS

Product Images

- Seal Fast makes every reasonable effort to show accurate product representation, however pictures are for reference only, and do not necessarily reflect the exact product you will receive.
- Seal Fast reserves the right to alter product appearance without notice. Some product features shown in pictures may no longer be available.

Product Specifications

- Seal Fast is continuously working to provide the best quality for the best price.
- We reserve the right to alter product specifications without notice.

Product Usage

- Our Sales Team will do their best to assist in choosing the best product for a particular application. However, it is ultimately the customer's responsibility to determine the correct product for the correct application.
- Seal Fast will not be held liable for the abuse or misuse of our products in a manner in which they are not designed.
- Seal Fast cannot guarantee the integrity of an assembly if other manufacturers parts are used.

Product Availability

- Seal Fast reserves the right to discontinue products at any time without prior notice.

Product Pricing

- Seal Fast is constantly doing our best to maintain pricing levels. However, circumstances change and while many prices go down, others will increase.
- Please contact your sales associate for current pricing.

BALL VALVE

BRASS

Applications: Plumbing or heating projects, low pressure steam, compressed air, HVAC
WOG = Rating indicates the maximum non-shock pressure at ambient temperatures at which the valve may be used.
CWP = Cold working pressure

Full Bore - 2 Piece
600 WOG/CWP

Full Bore - 2 Piece
600 WOG/CWP

LEAD FREE

Full Bore - 2 Piece
600 WOG/CWP

Size	Brass	
	Part #	List
1/4”	BFV 025600B	
3/8”	BFV 038600B	
1/2”	BFV 050600B	
3/4”	BFV 075600B	
1”	BFV 100600B	
1-1/4”	BFV 125600B	
1-1/2”	BFV 150600B	
2”	BFV 200600B	
2-1/2”	BFV 250600B	
3”	BFV 300600B	
4”	BFV 400600B	

Brass	
Locking Handle	
Part #	List
BFVL 025600B	
BFVL 038600B	
BFVL 050600B	
BFVL 075600B	
BFVL 100600B	
BFVL 125600B	
BFVL 150600B	
BFVL 200600B	
BFVL 250600B	
BFVL 300600B	
BFVL 400600B	

Brass - Lead Free	
Part #	List
BFVLF 025600B	
BFVLF 038600B	
BFVLF 050600B	
BFVLF 075600B	
BFVLF 100600B	
BFVLF 125600B	
BFVLF 150600B	
BFVLF 200600B	

DISCONTINUED:
while supplies last

Standard Port - 2 Piece
400 WOG/CWP

Full Bore - 2 Piece
600 WOG/CWP

Mini – 1 Piece 450PSI

Size	Brass	
	Part #	List
1/8”	---	
1/4”	BV 025	
3/8”	BV 038	
1/2”	BV 050	
3/4”	BV 075	
1”	BV 100	
1-1/4”	BV 125	
1-1/2”	BV 150	
2”	BV 200	
2-1/2”	BV 250	
3”	BV 300	
4”	BV 400	

Brass	
Part #	List

BFV 025	
BFV 038	
BFV 050	
BFV 075	
BFV 100	
BFV 125	
BFV 150	
BFV 200	

Nickel Plated Brass	
Part #	List
BVM 018	
BVM 025	
BVM 038	
BVM 050	

1/4” thru 1” Good for 125 PSI LP Gas

1/4” thru 1” Good for 125 PSI LP Gas

316 & 304 SS

Applications: Plumbing or heating projects, low pressure steam, compressed air, HVAC
WOG = Rating indicates the maximum non-shock pressure at ambient temperatures at which the valve may be used.
CWP = Cold working pressure

Standard Port - 1 Piece
1000 WOG/CWP

Standard Port - 1 Piece
1000 WOG/CWP

Standard Port - 1 Piece
1000 WOG/CWP

Standard Port - 1 Piece
2000 WOG/CWP

Size	316 SS - PTFE seat	
	NL = Non Locking Handle	
	Part #	List
1/4”	SV 025NL	
3/8”	SV 038NL	
1/2”	SV 050NL	
3/4”	SV 075NL	
1”	SV 100NL	
1-1/4”	SV 125NL	
1-1/2”	SV 150NL	
2”	SV 200NL	
2-1/2”	---	
3”	---	
4”	---	

316 SS - PTFE seat	
Locking Handle	
Part #	List
SV 025	
SV 038	
SV 050	
SV 075	
SV 100	
SV 125	
SV 150	
SV 200	

---	

304 SS - PTFE seat	
Locking Handle	
Part #	List
SV 025SS304	
SV 038SS304	
SV 050SS304	
SV 075SS304	
SV 100SS304	
SV 125SS304	
SV 150SS304	
SV 200SS304	
SV 250SS304	
SV 300SS304	
---	---

316 SS - PTFE seat	
Locking Handle	
Part #	List
SV 025-2	
SV 038-2	
SV 050-2	
SV 075-2	
SV 100-2	
SV 125-2 *	
SV 150-2 *	
SV 200-2 *	

Full Bore - 2 Piece
2000 WOG/CWP

Full Bore - 2 Piece
1000 WOG/CWP

Full Port - 3 Piece
1000 WOG/CWP

Size	316 SS - PTFE seat	
	Locking Handle	
	Part #	List
1/4”	SFV 025-2	
3/8”	SFV 038-2	
1/2”	SFV 050-2	
3/4”	SFV 075-2	
1”	SFV 100-2	
1-1/4”	SFV 125-2	
1-1/2”	SFV 150-2	
2”	SFV 200-2	
2-1/2”	SFV 250-2	
3”	---	
4”	---	

316 SS - PTFE seat	
Locking Handle	
Part #	List
SFV 025	
SFV 038	
SFV 050	
SFV 075	
SFV 100	
SFV 125	
SFV 150	
SFV 200	
SFV 250	
SFV 300	
SFV 400	

316 SS - PTFE seat	
Locking Handle	
Part #	List
SSFV 025	
SSFV 038	
SSFV 050	
SSFV 075	
SSFV 100	
SSFV 125	
SSFV 150	
SSFV 200	
SSFV 250	
SSFV 300	
SSFV 400	

1/4” thru 1” is 2000 WOG
* 1-1/4” thru 2” is 1500 WOG

BALL VALVE

BALL | GATE | GLOBE

CARBON STEEL

Standard Port - 1 Piece
1000 WOG

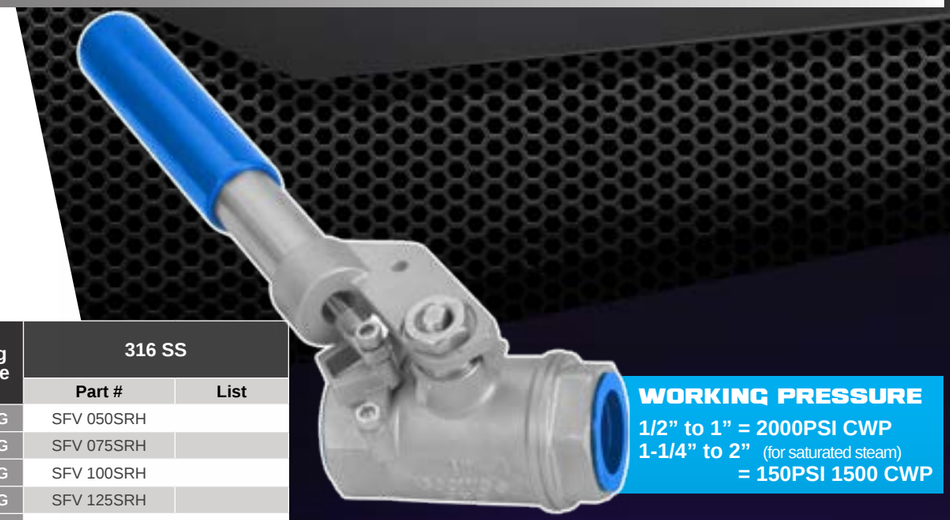
Size	Carbon Steel	
	Part #	List
1/4”	CV 025	
3/8”	CV 038	
1/2”	CV 050	
3/4”	CV 075	
1”	CV 100	
1-1/4”	CV 125	
1-1/2”	CV 150	
2”	CV 200	

BALL TYPE w/CAM ADAPTER

Stainless Steel
Full Bore - 3 Piece
1000 WOG

Size	316 SS	
	Part #	List
2” NPT Female X 2” Cam Adapter	SSFV 200A	

SPRING LOADED RETURN HANDLE “DEADMAN” BALL VALVES



WORKING PRESSURE
1/2” to 1” = 2000PSI CWP
1-1/4” to 2” (for saturated steam)
= 150PSI 1500 CWP

Size	Working Pressure	316 SS	
		Part #	List
1/2"	2000 WOG	SFV 050SRH	
3/4"	2000 WOG	SFV 075SRH	
1"	2000 WOG	SFV 100SRH	
1-1/4"	1500 WOG	SFV 125SRH	
1-1/2"	1500 WOG	SFV 150SRH	
2"	1500 WOG	SFV 200SRH	

FLANGE END

Flange End - Stainless Steel
Full Port - 2 Piece
150 WOG

Size	316 SS	
	Part #	List
1”	SFLV 100	
1-1/2”	SFLV 150	
2”	SFLV 200	
3”	SFLV 300	

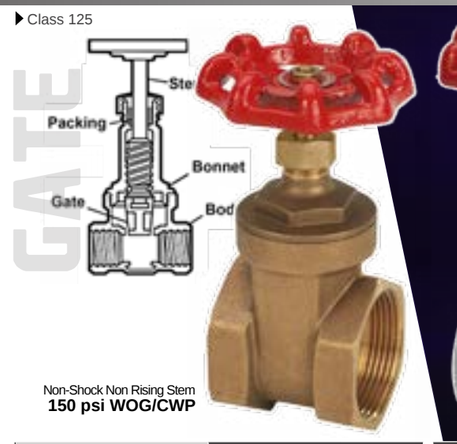
LEVER-HANDLE GAS

AGA Approved - UL Listed
Lever-Handle

Size	Brass	
	Part #	List
3/8”	AGA 038	
1/2”	AGA 050	
3/4”	AGA 075	
1”	AGA 100	

GATE VALVES

Class 125



Non-Shock Non Rising Stem
150 psi WOG/CWP

- Body; ASTM A351-CF8
- Screwed Bonnet
- Disc; ASTM A351-CF8M, Wedge Disc
- Handwheel Operated
- NPT Thread Inside Screw
- 200 WOG

Size	Brass		316 SS	
	Gate Valve		Gate Valve	
	Part #	List	Part #	List
1/4”	GV 025		---	
3/8”	GV 038		---	
1/2”	GV 050		GV 050SS	
3/4”	GV 075		GV 075SS	
1”	GV 100		GV 100SS	
1-1/4”	GV 125		GV 125SS	
1-1/2”	GV 150		GV 150SS	
2”	GV 200		GV 200SS	
2 1/2”	GV 250		---	
3”	GV 300		---	
4”	GV 400		---	

GLOBE VALVES

Size	Brass	
	Globe Valve	
	Part #	List
1/4”	---	
3/8”	---	
1/2”	GLV 050	
3/4”	GLV 075	
1”	GLV 100	
1-1/4”	GLV 125	
1-1/2”	GLV 150	
2”	GLV 200	
2 1/2”	GLV250	
3”	GLV300	
4”	GLV400	

NOTCHED BODY w/SHORT NECK

150 PSI

- ENP Pinless Disc
- 10 Position Handle
- Buna - N Seat
- HB Handle w/Double D Stem
- Zerk Fitting

Size	Ductile Iron	
	Part #	List
2”	WV 2N	
3”	WV 3N	
4”	WV 4N	
6”	WV 6N	
8”	WV 8N	
10”	WV 10N	
12”	WV 12N	

150 PSI

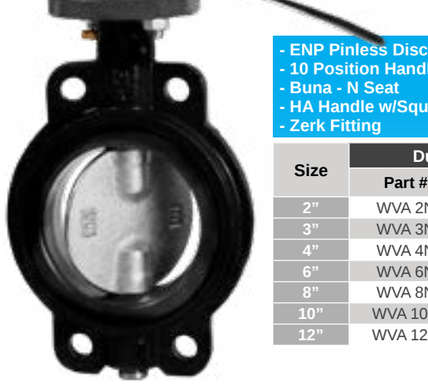
- 316 SS Pinless Disc
- 10 Position Handle
- *Viton Seat
- HB Handle w/Double D Stem
- Zerk Fitting

Size	Ductile Iron	
	Part #	List
2”	WV 2VSS	
3”	WV 3VSS	
4”	WV 4VSS	
6”	WV 6VSS	
8”	WV 8VSS	

*VITON is a registered trademark of DuPont Dow Elastomer

ALIGNMENT HOLES w/SHORT NECK

150 PSI



- ENP Pinless Disc
- 10 Position Handle
- Buna - N Seat
- HA Handle w/Square Stem
- Zerk Fitting

Size	Ductile Iron	
	Part #	List
2”	WVA 2N	
3”	WVA 3N	
4”	WVA 4N	
6”	WVA 6N	
8”	WVA 8N	
10”	WVA 10N	
12”	WVA 12N	

ALIGNMENT HOLES w/LONG NECK

150 PSI

- ENP Pinless Disc
- 10 Position Handle
- Buna - N Seat
- HA Handle w/Square Stem
- Zerk Fitting

Size	Ductile Iron	
	Part #	List
2”	WVAL 2N	
3”	WVAL 3N	
4”	WVAL 4N	
6”	WVAL 6N	
8”	WVAL 8N	
10”	WVAL 10N	
12”	WVAL 12N	

SPRING LOADED CHECK

- 200 WOG/CWP
- Cracking Pressure: 0.50 PSI

- 200 WOG/CWP
- Cracking Pressure: 0.50 PSI

Size	Brass			
	w/Filter		w/Out Filter	
	Part #	List	Part #	List
1/2”	SLCVF050		SLCV050	3.68
3/4”	SLCVF075		SLCV075	
1”	SLCVF100		SLCV100	
1-1/4”	SLCVF125		SLCV125	
1-1/2”	SLCVF150		SLCV150	
2”	SLCVF200		SLCV200	
2-1/2”	SLCVF250		SLCV250	
3”	SLCVF300		SLCV300	
4”	SLCVF400		SLCV400	

SWING CHECK

- Body; ASTM A351-CF8M
- Cap; Screwed
- Disc; ASTM A351-CF8M, Swing Type
- 200 CWP/WOG, NPT Thread
- Integral Seat

- Standard Length
- Body & Cap; ASTM A351-CF8M
- Screen; S/S304 20 Mesh
- Hole Size 1.0mm
- 800 CWP/WOG, NPT Thread
- Replacement Screens Available

Y- TYPE STRAINER

200 CWP/WOG 200 CWP/WOG 800 CWP/WOG

Size	Brass		316 SS		Brass		316 SS	
	Part #	List	Part #	List	Part #	List	Part #	List
1/2”	SC 050		SC050SS		YS050		YS050SS	
3/4”	SC 075		SC075SS		YS075		YS075SS	
1”	SC 100		SC100SS		YS100		YS100SS	
1-1/4”	SC 125		SC125SS		YS125		YS125SS	
1-1/2”	SC 150		SC150SS		YS150		YS150SS	
2”	SC 200		SC200SS		YS200		YS200SS	
3”	SC 300		---					
4”	SC 400		---					

BRASS BIBB FAUCET

BRASS GARDEN HOSE WYE

Size	Brass		Brass	
	Part #	List	Part #	List
1/2”	105-50		---	
3/4”	105-75		21A-12	

MISCELLANEOUS NEEDLE VALVES

BRASS LEVER VALVE

Size	Brass			
			REPLACEMENT HANDLES	
	Part #	List	Part #	List
2”	LV200NPT		LV200RH	
3”	LV300NPT		LV300RH	
4”	LV400NPT		LV400RH	
6”	LV600NPT		LV600RH	

SYRACO OIL & MOLASSES GATE

Style E

Suitable for Non-Fammable viscous liquids stored in or dispensed from Non-Pressurized containers at ambient room temperature. Seal Fast Inc. is not responsible for the function or safety of this product if it has been altered in any way or used under conditions other than stated above.

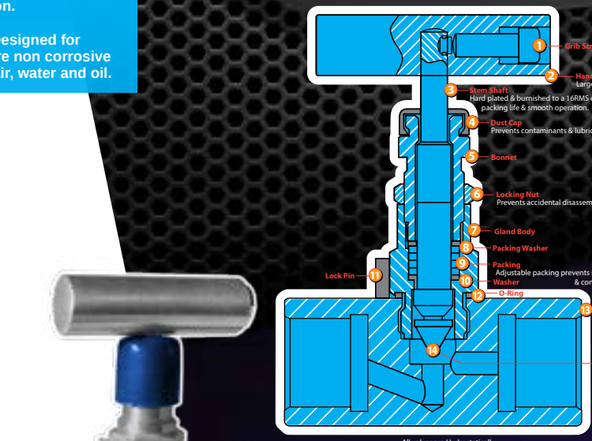
Size	Cast Iron					
	Regular Handle		Long Handle		Self-Closing Handle	
	Part #	List	Part #	List	Part #	List
3/4”	71		---		S71	
1”	72		---		---	
1-1/4”	73		---		---	
1-1/2”	74		---		---	
2”	75		23		---	
3”	39		---		---	
4”	40		---		---	

* Actual valve may not look like picture

FULL SIZE

316 SS: Designed for applications where caustic liquids & corrosive media are common.

Carbon Steel: Designed for applications where non corrosive media are used, air, water and oil.



FULL SIZE 6K

FULL SIZE 10K

Size	Details	Nylon Seat Valves Alloy Steel / 6,000		Nylon Seat Valves 316 SS / 6,000		Hard Seat Valves Alloy Steel / 10,000		Hard Seat Valves 316 SS / 10,000	
		CARBON STEEL		STAINLESS STEEL		CARBON STEEL		STAINLESS STEEL	
		Part #	List	Part #	List	Part #	List	Part #	List
1/4”									
	F x F	NVC4F4F-6		NVS4F4F-6		NVC4F4F-1		NVS4F4F-1	
	M x F	NVC4M4F-6		NVS4M4F-6		NVC4M4F-1		NVS4M4F-1	
	M x F Angle	NVCA4M4F-6		NVSA4MAF-6		NVCA4M4F-1		NVSA4M4F-1	
3/8”									
	F x F	---		NVS6F6F-6		---		---	
	M x F	---		NVS6M6F-6		---		---	
1/2”									
	F x F	NVC8F8F-6		NVS8F8F-6		NVC8F8F-1		NVS8F8F-1	
	M x F	NVC8M8F-6		NVS8M8F-6		NVC8M8F-1		NVS8M8F-1	
	M x F Angle	NVCA8M8F-6		NVSA8M8F-6		NVCA8M8F-1		NVSA8M8F-1	
3/4”									
	F x F	NVC12F12F-6		NVS12F12F-6		NVC12F12F-1		NVS12F12F-1	
	M x F	NVC12M12F-6		NVS12M12F-6		NVC12M12F-1		NVS12M12F-1	
1”									
	F x F	NVC16F16F-6		NVS16F16F-6		NVC16F16F-1		NVS16F16F-1	
	M x F	NVC16M16F-6		NVS16M16F-6		NVC16M16F-1		NVS16M16F-1	

MINI

Size	Details	Nylon Seat Valves Alloy Steel / 6,000		Nylon Seat Valves 316 SS / 6,000	
		CARBON STEEL		STAINLESS STEEL	
		Part #	List	Part #	List
1/4”					
	F x F	NVCM4F4F		NVSM4F4F	
	M x F	NVCM4M4F		NVSM4M4F	
1/2”					
	M x F	NVCM8M8F		NVSM8M8F	

MINI 6K

CORROSION RESISTANCE OF COUPLING MATERIALS

CAUTION: The following data has been compiled from generally available sources end should not be relied upon without consulting and following the specific recommendations of the manufacturer regarding particular coupling materials.

RATINGS: 1. Excellent 2. Good 3. Fair Conditional x. Not Satisfactory **NOTES:** No rationg indicates no data available

AGENT	Mall. From Steel	Brass	Bronze	Aluminum	Glass	Stainless 410, 416, 430	Stainless 302, 202, 304, 308	Stainless 316	Monel
Acetate, Solvents, Crude		3				2	1	1	2
Acetate, Solvents, Pure		1	1	1		1	1	1	1
Acetic Acid	X	X	X	2	1	X	2	2	2
Acetic Acid Vapor	X	X		3		X	2	2	3
Acetic Anhydride	X	X		2		X	2	2	2
Acetone	1	1	1	1	1	1	1	1	1
Acetylene	1	2		1		1	1	1	2
Alcohols	1	2		1		1	1	1	1
Aluminum Sulfate	X	3	3	3	1	X	3	2	2
Alums	X	3	2	3	1	X	3	2	2
Ammonia Gas	1	X	3	1	3	1	1	1	X
Ammonium Chloride	1	3		1*		3	3	1	1
Ammonium Hydroxide	2	X		2		1	1	1	3
Ammonium Nitrate	1	X		2		1	1	1	3
Ammonium Phosphate (Ammoniacal)		X				1	1	1	2
Ammonium Phosphate (Neutral)		3				1	1	1	2
Ammonium Phosphate (Acid)		3				3	2	1	2
Ammonium Sulfate	1	3				2	1	1	2
Asphalt	1	2				2	1	1	1
Beer	2	2	1	1		X	1	1	1
Beet SugarLiquors	1	2		1		2	1	1	1
Benzene, Benzol	1	1	1	1	1	1	1	1	1
Benzine (petroleum-naphtha)	1	1		1		1	1	1	1
Borax	2	2				1	1	1	1
Boric Acid	X	3		1		3	2	1	1
Butane, Butylene	1	1	1	1		1	1	1	1
Butadiene		1				1	1	1	1
Calcium Bisulfate		X				X	2	1	X
Calcium Hypochlorite	3	3	3	X	3	X	3	2	3
Cane Sugar Liquors	1	2		1		2	1	1	1
Carbon Dioxide (Dry)	1	1		1		1	1	1	1
Carbon Dioxide (Wet & Aqueous Sol)	2	3		2		2	1	1	2
Carbon Disulfide	2	3		2		2	1	1	3
Carbon Tetrachloride	3	1	2	3	1	1	1	1	1
Chlorine (Dry)	2	2	2	1	2	2	2	2	1
Chlorine (Wet)	X	X	3	X	2	X	X	3	3
Chromic Acid		X	X	X	1	3	2	2	3
Citric Acid	X	3		1		3	X	1	2
Coke Oven Gas	1	3		2		1	1	1	2
Copper Sulfate	X	X		X		1	1	1	3
Core Oils		1	1			1	1	1	1
Cottonseed Oil	1	1	1	1		1	1	1	1
Creosote	2	3		1		1	1	1	1
Ethers	2	1		1		1	1	1	1
Ethylene Glycol	2	2				1	1	1	1
Ferric Chloride	X	X	X	X	1	X	X	X	X
Ferric Sulfate	X	X		X		1	1	1	3
Formaldehyde	2	2		2		1	1	1	1

*3 to X at high temperatures.

Chemical Chart is reprinted from 1996 RMA Hose Handbook

TECHNICAL DATA

CORROSION RESISTANCE OF COUPLING MATERIALS

CAUTION: The following data has been compiled from generally available sources end should not be relied upon without consulting and following the specific recommendations of the manufacturer regarding particular coupling materials.

RATINGS: 1. Excellent 2. Good 3. Fair Conditional x. Not Satisfactory **NOTES:** No rationg indicates no data available

AGENT	Mall. From Steel	Brass	Bronze	Aluminum	Glass	Stainless 410, 416, 430	Stainless 302, 202, 304, 308	Stainless 316	Monel
Formic Acid	X	2		X		X	2	1	2
Freon	3	1	1	1		1	1	1	1
Furfural	1	2		1		1	1	1	1
Gasoline (Sour)	3	3		3		3	1	1	X
Gasoline (Refined)	1	1	1	1		1	1	1	1
Gelatin	1	3		1		1	1	1	1
Glucose	1	1		1		1	1	1	1
Glue	1	3		1		1	1	1	1
Glycerine or Glycerol	1	2		1		1	1	1	1
Hydrochloric Acid	X	X	X	X	1	X	X	X	X
Hydrocyanic Acid	3	X		1		3	1	1	2
Hydrofluoric Acid	X	3	3	X	X	X	X	X	X
Hydrogen Fluoride		3				X	X	3	1
Hydrogen	1	1		1		1	1	1	1
Hyrogen Peroxide	X	X		1		1	2	1	2
Hydrogen Sulfide (Dry)	3	3		2		3	2	1	3
Hydrogen Sulfide (Wet)	3	3		2		3	2	1	3
Lacquers and Lacquer Solvents	3	2		1		1	1	1	1
Lactic Acid	X			3			3	2	1
Lime-Sulfur	2	X		2		1	1	2	
Linseed Oil	1	1		1			1	1	1
Magnesium Chloride	3	3		X		3	2	1	1
Magnesium Hydroxide	1	2		X		1	1	1	1
Magnesium Sulfate	2	2		3		1	1	1	1
Mercuric Chloride	3	X		X		X	X	3	X
Mercury	1	X		X		1	1	1	2
Milk	3	3		1		2	1	1	3
Molasses	2	X		2		2	1	1	1
Natural Gas	1	2		1		1	1	1	1
Nickel Chloride		X		X		X	3	2	2
Nickel Sulfate		3		X		3	2	1	1
Nitric Acid	X	X	X	3	1	2	2	2	X
Oleic Acid	2	3		1		2	2	1	1
Oxalic Acid	3	3		2		3	2	1	1
Oxygen	1	1	1	1		1	1	1	1
Palmitic Acid	1	3		1		2	2	1	1
Petroleum Oils (Sour)		3				3	1	1	X
Petroleum Oils (Refined)	1	1	1	1		1	1	1	1
Phosphoric Acid 25%	3	X		3	3	X	3	1	2
Phosphoric Acid 25-50%	X	X		X	3	X	X	2	2
Phosphoric Acid 50-85%	X	X		X	X	X	X	2	2
Picric Acid	3	X		3		2	1	1	X
Potassium Chloride	2	3		3		3	2	1	1
Potassium Hydroxide	3	X		X		1	1	1	1
Potassium Sulfate	2	2		1		1	1	1	1
Propane	1	1				1	1	1	1
Rosin (Dark)	1	2			1	1	1	1	1
Rosin (Light)		X		1		1	1	1	2

*3 to X at high temperatures.

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CORROSION RESISTANCE OF COUPLING MATERIALS

CAUTION: The following data has been compiled from generally available sources end should not be relied upon without consulting and following the specific recommendations of the manufacturer regarding particular coupling materials.

RATINGS: 1. Excellent 2. Good 3. Fair Conditional x. Not Satisfactory **NOTES:** No rationg indicates no data available

AGENT	Mall. From Steel	Brass	Bronze	Aluminum	Glass	Stainless 410, 416, 430	Stainless 302, 202, 304, 308	Stainless 316	Monel
Shellac		2		2		1	1	1	1
Sludge Acid		X				X	X	3	2
Soda Ash (Sodium Carbonate)	1	2		X		1	1	1	1
Sodium Bicarbonate	3	1		X		1	1	1	1
Sodium Bisulfate	X	3		3		X	1	1	1
Sodium Chloride	2	3	2	X	1	3	2	1	1
Sodium Cyanide	2	X		X		1	1	1	2
Sodium Hydroxide	3	X	3	X	X	2	2	2	1
Sodium Hypochlorite	X	X		X		X	3	2	3
Sodium Metaphosphate	X	3		1		2	1	1	1
Sodium Nitrate	1	3		1		1	1	1	1
Sodium Perborate	3	3		1		1	1	1	1
Sodium Peroxide	3	3		1		1	1	1	1
Sodium Phosphate (Alkaline)		3				1	1	1	1
Sodium Phosphate (Neutral)		2				1	1	1	1
Sodium Phosphate (Acid)		2				X	2	1	1
Sodium Silicate	1	3		X		1	1	1	1
Sodium Sulfate	1	2		3		1	1	1	1
Sodium Sulfide	1	X				1	1	1	2
Sodium Thiosulfate (Hypo)	3	X		X		1	1	1	2
Stearic Acid	3	3		3		2	2	1	1
Sulfate Liquors		X				1	1	1	2
Sulfur	2	X		2		2	2	1	3
Sulfur Chloride	X	X				X	3	2	2
Sulfur Dioxide (Dry)	2	1		1		1	1	1	1
Sulfur Dioxide (Wet)		X				X	2	1	X
Sulfuric Acid 10%	X	X	3	3		X	X	2	2
Sulfuric Acid 10-75%	X	X	X	X		X	X	X	2
Sulfuric Acid 75-95%	3	X	X	X		3	3	2	3
Sulfuric Acid 95%	2	X	X			2	2	2	X
Surlfurous Acid	X	X		X		X	3	2	X
Tannic Acid	3	3	1	X			1	1	1
Tar	1	2		1		2	1	1	1
Toluene, Toluol	1	1		1		1	1	1	1
Trichlorethylene	3	1		3		1	1	1	1
Turpentine		3		1		3	1	1	1
Varnish	2	2				1	1	1	1
Vegetable Oils	1	2		1		1	1	1	1
Vinegar	3	3		3		3	2	1	2
Water (Acid Mine Water)	3	X		3		2	1	1	3
Water (Fresh)	3	1		1		1	1	1	1
Water (Salt)	3	3	2	X		3	2	2	1
Whiskey	X	2				3	1	1	2
Wines	X	2				3	1	1	2
Xylene, Xylol	2	1		1		1	1	1	1
Zinc Chloride	X	X		X		3	2	1	1
Zinc Sulfate	3	3		3		3	2	1	1

*3 to X at high temperatures.

Chemical Chart is reprinted from 1996 RMA Hose Handbook

TECHNICAL DATA

OIL & GASOLINE RESISTANCE

Rubber hose is used to convey petroleum products both in the crude and refined stages. The aromatic content of refined gasoline is often adjusted to control the octane rating. The presence of aromatic hydrocarbons in this fuel generally has a greater effect on rubber components than do aliphatic hydrocarbons. Aromatic materials in contact with rubber tend to soften it and reduce its physical properties. For long lasting service, the buyer of gasoline hose should inform the hose manufacturer of the aromatic content of the fuel to be handled so that the proper tube compound can be recommended for the specific application.

The effects of oil on rubber depend on a number of factors that include the type of rubber compound, the composition of the oil, the temperature and time of exposure. Rubber compounds can be classified as to their degree of oil resistance based on their physical properties after exposure to a standard test fluid. In this RMA classification, the rubber samples are immersed in IRM 903 oil at 100°C for 70 hours. (See ASTM Method D-471 for a detailed description of the oil and the testing procedure.) As a guide to the user of hose in contact with oil, the oil resistance classes and a corresponding description are listed.

PHYSICAL PROPERTIES AFTER EXPOSURE TO OIL:

		VOLUME CHANGE MAXIMUM	TENSILE STRENGTH RETAINED
CLASS A	(HIGH OIL RESISTANCE)……....	**+25%**	**80%**
CLASS B	(MEDIUM/HIGH OIL RESISTANCE)……....	**+65%**	**50%**
CLASS C	(MEDIUM OIL RESISTANCE)……....	**+100%**	**40%**

CHEMICAL RECOMMENDATIONS

The materials being handled by flexible rubber hose are constantly increasing in number and diversity. T o assist in the selection of the proper elastomer for the service conditions encountered, the following table has been prepared. The reader is cautioned that it is only a guide and should be used as such, as the degree of resistance of an elastomer with a particular fluid depends upon such variables as temperature, concentration, pressure, velocity of flow, duration of exposure, aeration, stability of the fluid, etc. Also variations in elastomer types and special compounding of stocks to meet specific service conditions have considerable influence on the results obtained. When in doubt, it is always advisable to test the tube compound under actual service conditions. If this is not practical, tests should be devised that simulate service condtions or the hose manufacturer contacted for Recommendations.

The following table lists the more commonly used materials, chemicals, solvents, oils, etc. The recommendation are based on room temperature and pressure conditions normally recommended for the particular type of hose being used. Where conditions beyond this can be met readily, they have been so indicated; where conditions are not normal and cannot be readily met, the hose manufacturer should always be consulted. The table does not imply conformance to the Food & Drug Administration requirements of Federal or State Laws when handling food products.

TABLE OF CHEMICAL, OIL & SOLVENT RESISTANCE OF HOSE:

WARNING: The following data has been compiled from generally available sources and should not be relied upon without consulting and following the hose manufacturer's specific chemical recommendations. Neglecting to do so might result in failure of the hose to fulfill its intended purpose, and may result in possible damage to property and serious bodily injury.

RESISTANCE RATING

A - Good Resistance, usually suitable for service.

F - Fair Resistance, the chemical has some deteriorative effects, but the elastomer is still adequate for moderate service.

C- Depends on Condition, moderate service may be possible if chemical exposure is limited or infrequent.

X- Not recommended, unsuitable for service.

I - Insufficient Information, not enough data available at the time of publication to determine rating.

RELASTOMERS/PLASTICS

NR- Natural Rubber
IR - Isoprene, synthetic
SBR - Styrene-butadiene
CR- Chloroprene
NBR - Nitrile-butadiene
IIR- Isobutene-isoprene
CSM - Chloro-sulfonyl-polyethylene
EPDM - Ethylene-propylene-diene-terpolymer
MQ - Dimethyl-polysiloxane
FKM- Fluoracarbon rubber
CM - Chloro-polyethylene
ECO/CO- Ephichlorohydrin
EXLPE- Chloro-sulfonyl-polyethylene

ELASTOMERS

Commonly used Elastomers: **Special Elastomers:**

MATERIAL	NR lor IR	SBR	CR	NBR	IIR	CSM	EPDM	MQ	FKM	CM	ECO CO	XLPE
	(Maximum Temperature 100° F (38°C) Unless Otherwise Specified											
Acetic Acid, Dilute, 10%	F	C	C	C	A	C	A	A	X	A	F	A
Glacial	C	X	X	X	F	C	F	F	X	A	X	A
Anhydride	C	C	F	F	F	A	I	C	X	A	X	A
Acetone	A	A	F	X	A	F	A	A	X	A	X	A
Acetylene	A	A	F	A	A	F	A	C	A	I	I	I
Air 150°F (65°C)	A	A	A	A	A	A	A	A		A	A	A
Aluminum Chloride 150°F (65°C)	A	A	A	A	A	A	A	A	A	A	A	A
Aluminum Fluoride 150°F (65°C)	A	A	A	A	A	A	A	F			A	A
Aluminum Sulfate 150°F (65°C)	A	A	A	A	A	A	A	A	A	A	I	A
Alums 150°F (65°C)	A	A	A	A	A	A	A	A		A	I	A
Ammonia Gas	A	A	A	A	A	A	A	A	X	A	I	A
Ammonium Chloride	A	A	A	A	A	A	A	C	A	A	A	A
Ammonium Hydroxide	C	F	F	F	A	A	A	A	A	A	I	A
Ammonium Nitrate	A	A	A	A	A	A	A	A		I	A	A
Ammonium Phosphate, monobasic	A	A	A	A	A	A	A	A		A	I	A
dibasic	A	A	A	A	A	A	A	A		I	I	A
tribasic	A	A	A	A	A	A	A	A		I	I	A
Ammonium Sulfate	A	A	A	A	A	A	A	A	A	A	I	A
Amyl Acetate	F	X	X	X	F	X	A	A	X	C	X	A
Amyl Alcohol	A	A	A	A	A	A	A	A	A	A	A	A
Aniline, Aniline Oil	X	X	C	X	A	X	C	C	A	C	X	A
Aniline Dyes	F	F	F	F	A	F	C	C			I	I
Asphalt	X	X	F	F	X	F	X		A		A	X
Barium Chloride 150°F (65°C)	A	A	A	A	A	A	A	A	A	A	A	A
Barium Hydroxide 150°F (65°C)	A	A	A	A	A	A	A	A	A	A	A	A
Barium Sulfide 150°F (65°C)	A	A	A	A	A	A	A	A	A	I	A	A
Beer	A	A	A	A	A	A	A	A	A	I	A	A
Beet Sugar Liquors	A	A	A	A	A	A	A	A	A	I	I	A
Benzene, Benzol	X	X	X	C	X	X	X	C	A	C	X	A
Benzine, petroleum ether and												
Benzine, petroleum naphtha	X	X	C	F	X	F	X	C	A		I	A
Black Sulfate Liquor	A	A	A	A	A	A	A	A		I	I	A
Blast Furnace Gas	C	C	A	C	C	C	C	C	A	I	I	A
Borax	A	A	A	A	A	A	A	A	A	I	I	A
Boric Acid	A	A	A	A	A	A	A	A	A	I	A	A
Bromine	X	X	X	X	X	C	X	F	A	C		F
Butane	X	X	F	A	X	A	X	A	A	A	A	A
Butyl Acetate	C	X	X	X	F	X	F	A	X	F	X	A
Butyl alcohol, butanol	A	A	A	A	A	A	A	A	A	F	I	A
Calcium bisulfate	C	C	A	A	F	A	F	C	A	A	I	A
Calcium chloride	A	A	A	A	A	A	A	A	A	A	A	A
Calcium hydroxide	A	A	A	A	A	A	A	A	A	A	A	A
Calcium hypochlorite	X	X	X	X	A	F	A	C	A	A	F	F
Caliche liquors	A	A	A	A	A	A	A				I	A
Cane sugar liquors	A	A	A	A	A	A	A	A	A	A	A	A
Carbolic acid, phenol	C	C	C	C	C	C	A	A	A	A		A

Chart is reprinted from 1996 RMA Hose Handbook

TECHNICAL DATA

ELASTOMERS

Commonly used Elastomers: **Special Elastomers:**

MATERIAL	NR lor IR	SBR	CR	NBR	IIR	CSM	EPDM	MQ	FKM	CM	ECO CO	XLPE
	(Maximum Temperature 100° F (38°C) Unless Otherwise Specified											
Carbon dioxide, dry/wet	A	A	A	A	A	A	A	A	A	A	A	A
Carbon disulfide	X	X	X	X	X	X	X	C	A	C		C
Carbon monoxide 150°C (65°C)	C	C	C	C	C	F	C	A	A	I		A
Carbon tetrachloride	X	X	X	C	X	X	X	C	A	C	F	A
Castor oil	A	A	A	A	A	A	A	A	A	A	A	A
Cellosolve acetate	F	F	X	X	A		A	C	C			A
CFC-12	X	X	A	A	F		F	X	A		A	I
China wood oil, tung oil	X	X	F	A	A	F	A	A	C		I	A
Chlorine, dry/wet	X	X	X	X	X	X	X	X	C	X	X	F
Chlorinated solvents	X	X	X	X	X	X	X	C	C	C		A
Chloroacetic acid	X	C	C	C	X	A	I	C	X			A
Chlorosulfonic acid	X	X	C	C	X	X	X	C	X			F
Chromic acid	X	X	X	X	C	A	I	C	C	A		F
Citric acid	A	A	A	F	A	A	A	A	A	A	A	A
Coke oven gas	C	C	C	C	C	A		A	X	A	X	C
Copper chloride 150°F (65°C)	C	A	F	A	A	F	A	A	A	A	I	A
Copper sulfate 150°F (65°C)	C	A	A	A	F	A	A	A	A	A	A	A
Corn oil	X	C	F	A	A	F	C	A	A	A	A	A
Cottonseed oil	X	C	F	A	A	F	C	A	A	A	I	A
Creosote, coal tar	X	X	F	A	X	F	X	C	F		X	A
Wood	X	X	F	A	X		X	C	A			A
Creosols, cresylic acid	C	X	X	C	C	F	X	C		F		A
Ethers	C	C	C	C	C	F	X	C	X	A		A
Ethyl acetate	F	X	X	X	F	X	F	F	X	F	X	A
Ethyl alcohol	A	A	A	A	A	A	A	A	A	A	A	A
Ethyl cellulose	F	F	F	F	F		F	C	X	F		A
Ethyl chloride	A	F	F	X	A	F	A	C	F	F	F	F
Ethylene glycol	A	A	A	A	A	A	A	A	A	A	A	A
Ferric chloride 150°F (65°C)	A	A	A	A	A	A	A	A	I	A	A	A
Ferric Sulfate 150°F (65°C)	A	A	A	A	A	A	A	A	A	A	A	A
Formaldehyde	A	A	C	A	A	A	A	A	A	A	F	A
Formic acid	A	A	C	F	A	A	A	A	X	A	F	F
Fuel oil	X	X	A	A	X	F	X	C	A	F	A	A
Furfural	X	C	C	X	A	F	C	C	X	A	X	A
Gasoline, Non Leaded	X	X	X	A	X	X	X		A	C	A	A
Gasoline, + MTBE	X	X	X	A	X	X	X	C	A	C	A	A
Hi-test-+ MTBE	X	X	X	A	X	X	X	C	A	C	A	A
Gelatin	A	A	A	A	A	A	A	A	A		A	A
Glucose	A	A	A	A	A	A	A	A	A		A	A
Glue	F	F	A	A	F	A	A	A	C		A	A
Glycerine, glycerol	A	A	A	A	A	A	A	A	A	A	A	A
Green sulfate liquor	A	A	A	A	A	A	A	A	A	A	A	A
HFC-134A	F	X	A	A	A	F	A		X	F		A

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ELASTOMERS

Commonly used Elastomers: **Special Elastomers:**

MATERIAL	NR lor IR	SBR	CR	NBR	IIR	CSM	EPDM	MQ	FKM	CM	ECO CO	XLPE
	(Maximum Temperature 100° F (38°C) Unless Otherwise Specified											
Hydraulic fluids												
Petroleum	X	X	A	A	X	F	X			A	A	
Phosphate ester alkyl	X	X	C	X	A	X	A			A	X	
Phosphate ester arly	X	X	X	X	C	X	C			C	X	
Phosphate ester blends		X	X	X	X	X	X	C			C	X
Silicate ester	X	X	C	C	X	C	X			C	C	
Water-Glycol	A	A	A	A	A	A	A		A	A	A	
Hydrobromic acid	C	X	C	C	A	A	A	C	A	A		I
Hydrochloric acid	A	X	X	X	C	C	C	C	A	A	X	A
Hydrocyanic acid	F	F	C	F	C	A	C	A	A			A
Hydrofluoric acid	X	X	X	X	C	A	C	X	A	A		A
Hydrofluosilicic acid	A	F	F	F	A		A	A	A	A		I
Hydrogen Gas	F	F	A	A	A		A	A	A		A	A
Hydrogen peroxide	X	X	C	C	C	C	C	A	A	A		I
Hydrogen sulfide, dry	C	C	F	C	A	A	A	C	F			A
wet	C	C	F	C	A	A	A	C	C		F	A
Kerosene	X	X	F	A	X	C	X	C	A	A	A	A
Lacquers	X	X	X	X	C	X	X		X		X	F
Lacquers solvents	X	X	X	X	C	X	X		X		X	F
Lactic acid	C	C	C	C	C	A	C	A	A			A
Linseed oil	C	X	F	A	A	A	A	A	A	A	A	A
Lubricating oil, crude	X	X	F	A	X	C	X	C	A		A	A
refined	X	X	F	A	X	C	X	C		A	A	A
Magnesium chloride 150°F (65°C)	A	A	A	A	A	A	A	A	A	A	A	A
Magnesium hydroxide 150°F (65°C)	A	F	F	F	A	A	A	F	A	A	A	A
Magnesium sulfate 150°F (65°C)	A	A	A	A	A	A	A	A	A	A	A	A
Mercuric chloride	F	F	C	F	A	A	A	A	A		A	A
Mercury	A	A	A	A	A	A	A	A	A		A	A
Methyl alcohol, methanol	A	A	A	A	A	A	A	A	C	A	F	A
Methyl chloride	C	C	C	C	C	X	C	X	A			F
Methyl ethly ketone	X	X	X	X	F	C	A	C	X	C	X	A
Methyl isopropyl ketone	X	X	X	X	F	C	C	C	X	F	X	A
MTBE												A
Milk	C	C	F	F	A	A	A	A	A	A	A	A
Mineral oils	X	C	F	A	X	F	X	A	A	A	A	A
Natural gas	C	C	A	A	C	A	X	C	A	A	A	A
Nickel chloride 150°F (65°C)	A	A	A	A	A	A	A	A	A	A	I	A
Nickel sulfate 150°F (65°C)	A	A	A	A	A	A	A	A	A	A	I	A
Nitric acid, crude	X	X	X	X	C	C	X	X	C	A	X	F
Diluted 10%	X	X	C	X	C	C	X	X	C	A	X	F
Concentrated 70%	X	X	X	X	C	C	X	X	C	X	X	F
Nitrobenzene	X	X	X	X	X	X	X	C	F	C	X	A
Oleic acid	X	F	C	F	F	F	F	A	C	A		A
Oleum spirits	X	C	C	C			I		C			I

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TECHNICAL DATA

ELASTOMERS

Commonly used Elastomers: **Special Elastomers:**

MATERIAL	NR lor IR	SBR	CR	NBR	IIR	CSM	EPDM	MQ	FKM	CM	ECO CO	XLPE
	(Maximum Temperature 100° F (38°C) Unless Otherwise Specified											
Oxalic acid	F	C	F	F	A	A	A	A	A	A	F	A
Oxygen	F	C	A	C	A		A	A	A	A	F	A
Palmitic acid	X	F	A	A	F	F	F	C	A	A	F	A
Perchlorethylene	X	X	X	C	X	X	X	C	A	C	F	A
Petroleum oils and crude 200°F (95°C)	X	X	F	A	X	C	X	C	A	C	F	A
Phosphoric acid, crude	A	C	C	C	C	A	C	C	A	A		A
pure 45%	A	C	C	C	C	A	C	C	A	A		I
Picric acid, molten	C	C	C	C	C		I					I
water solution	A	C	F	F	A	A	I	A	A			I
Potassium chloride	A	A	A	A	A	A	A	A	A	A	A	A
Potassium cyanide	A	A	A	A	A	A	A	A	A	A	A	A
Potassium hydroxide	F	F	C	C	A	A	A	A	C	A	A	A
Potassium sulfate	A	A	A	A	A	A	A	A	A	A	A	A
Propane	X	X	F	A	X	F	X	A	A	A	A	A
Sewage	C	C	F	A	C	A	C	C	A		I	A
Soap solutions	A	A	F	A	A	A	A	A	A	A	A	A
Soda ash, sodium carbonate	A	A	A	A	A	A	A	A	A	A	A	A
Sodium bicarbonate, baking soda	A	A	A	A	A	A	A	A	A	A	A	A
Sodium bisulfate	A	A	A	A	A	A	A	A	A	A	A	A
Sodium chloride	A	A	A	A	A	A	A	A	A	A	A	A
Sodium cyanide	A	A	A	A	A	A	A	A	A	A	A	A
Sodium hydroxide	F	F	C	C	A	C	A	A	C	A	F	A
Sodium hypochlorite	X	X	X	X	A	F	A	C	A	A	F	F
Sodium metaphosphate	A	A	C	A	A	F	A	A	A	A	I	A
Sodium nitrate	C	C	C	C	A	A	A	C		A	A	A
Sodium perborate	C	C	C	C	A	A	A	A	A			A
Sodium peroxide	C	C	C	C	A	A	A	C	A			A
Sodium phosphate.monobasic	A	F	C	F	A	A	A	A	A	A		A
dibasic	A	F	C	F	A	A	A	A				A
tribasic	A	F	C	F	A	A	A	A				A
Sodium silicate	A	A	A	A	A	A	A	A	A	A	I	A
Sodium sulfate	A	A	A	A	A	A	A	A	A	A	A	A
Sodium sulfide	A	A	A	A	A	A	A	A	A	A	I	A
Sodium thiosulfate, “hypo”	A	A	A	A	A	A	A	A	A	A	I	A
Soybean oil	X	C	F	A	A	A	A	A	A	A	A	A
Stannic chloride	A	A	A	A	F	A	F	A	A	A	I	A
Steam 450°F (230°C)	C	C	C	C	A	A	F	C	X		X	X
Stearic acid	X	X	C	F	F	C	F	A	I		F	A
Sulfur	F	F	A	F	A	A	A	F	A		F	C
Sulfur chloride	X	X	C	C	X	A	X	C	A			A
Sulfur dioxide , dry	C	C	C	C	C	A	C	A	A		I	I
Sulfur trioxide, dry	X	C	C	C	C	F	C	A	A			I
Sulfuric acid, 10%	A	A	A	A	A	A	A	A	A	A	A	A

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TECHNICAL DATA

ELASTOMERS

Commonly used Elastomers: **Special Elastomers:**

MATERIAL	NR lor IR	SBR	CR	NBR	IIR	CSM	EPDM	MQ	FKM	CM	ECO CO	XLPE
	(Maximum Temperature 100° F (38°C) Unless Otherwise Specified											
11%-75%	C	C	C	C	F	A	C	C	A	A	F	A
76%-95%	X	X	X	X	C	A	X	X	A	X	X	A
fuming	X	X	X	X	X	X	X	X	X	X	X	X
Sulfurous acid	C	C	C	C	C	A	C	C	A	A	C	A
Tannic acid	A	C	A	C	A	A	A	A	A	A	I	A
Tar	X	X	C	C	X	C	X	C	F		F	X
Tartaric acid	A	C	C	C	F	A	F	A	A	A	F	A
Toluene, toluol	X	X	X	C	X	X	X	C	A	C	X	A
Trichloroethylene	X	X	X	X	X	X	X	C	A	C	X	A
Turpentine	X	X	X	F	X	X	X	C	A	F	A	A
Vinegar	C	C	C	C	A	A	A	A	A	A		A
Water, acid mine	A	A	C	A	A	A	A	A	A	A	I	A
Water, fresh	A	A	C	A	A	A	A	A	A	A	A	A
distilled	A	A	C	A	A	A	A	A	A	A	A	A
Whiskey and wines	A	A	A	C	A	A	A	A	A	A	I	A
Xylene.xylol	X	X	X	C	X	X	X	C	A	X	X	A
Zinc chloride	C	C	C	C	A	A	A	A	A	A	I	A
Zinc sulfate	A	A	A	A	A	A	A	A	A	A	I	A

NOZZLES - SPECS

Nozzle Style & Size	Inlet PSI	Pressure KPA	Straight GPM	Stream IPM	30 GPM	30 IPM	60 GPM	60 IPM	90 GPM	90 IPM
	50	345	18	68	21	79	24	91	27	102
10464	75	517	22	83	25	95	28	106	32	121
1”	100	690	24	91	28	106	32	121	36	136
	50	345	45	170	50	189	55	208	60	227
10464	75	517	50	189	55	208	65	246	75	284
1-1/2”	100	690	55	208	60	227	75	284	85	322
	50	345	90	341	120	454	130	492	145	549
10464	75	517	100	379	140	530	150	568	180	681
2-1/2”	100	690	110	416	165	625	180	681	205	776

Threads Per Inch				
1-1/2” Size	2.100 (NYFD)	1.990 (NST)	2.093 (NYCORP)	1.878 (NPSH)

Threads Per Inch				
	6”	7”	7-1/2”	8”
	3.058	3.13	2.990 (CHICAGO)	3.062
	3.093		3.062 (NST)	3.093
	3.125		3.125 (DETROIT)	3.140
	3.156			3.156
2-1/2”	3.187			3.312
	3.234			3.031 (NYFD)
	3.250			3.00 (NY CORP)
	3.312			2.841 (NPSH)
	3.062 (PITTSBURGH)			3.78 (CLEVELAND)

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