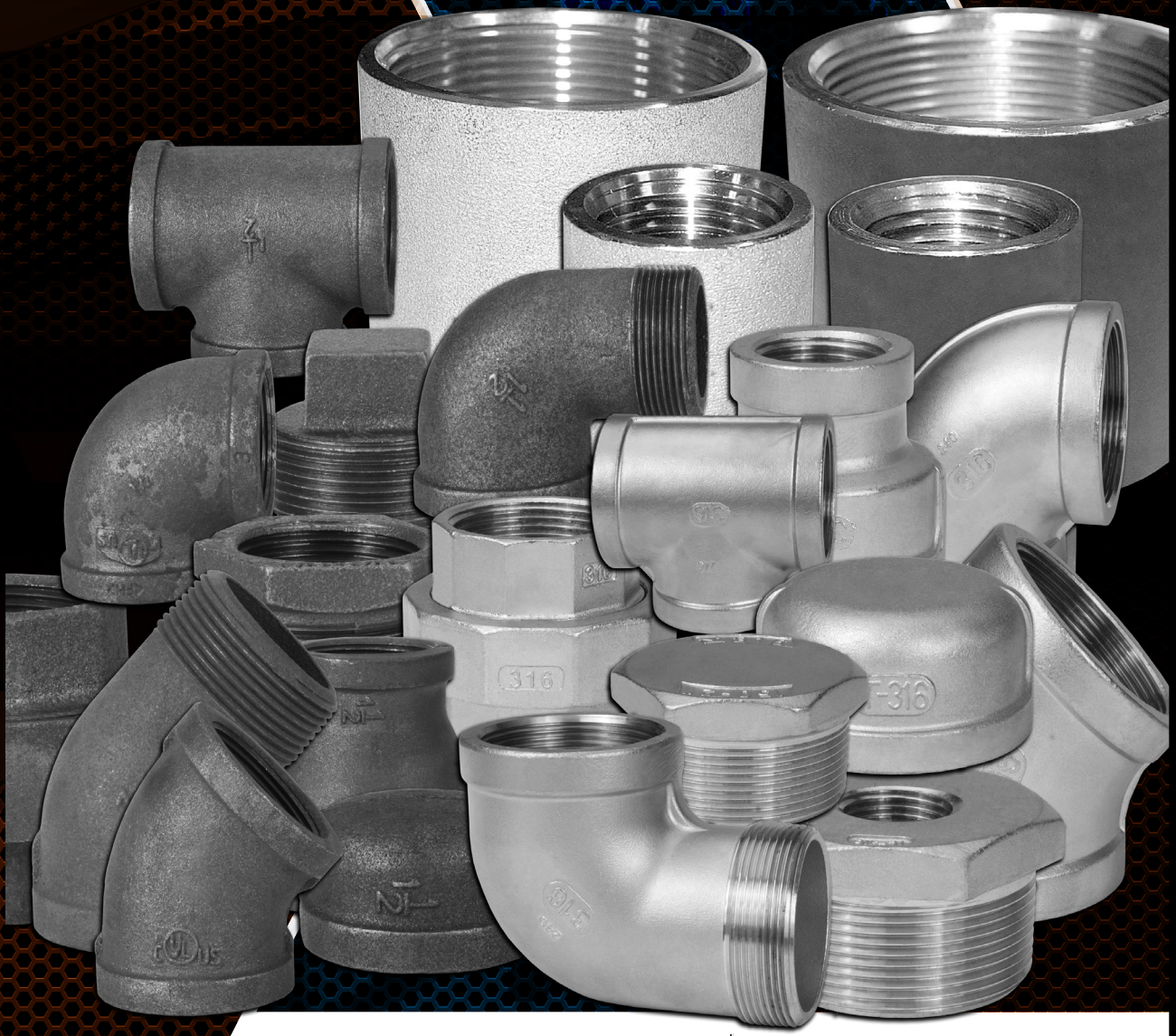
CAT 4

24

COUPLINGS

MERCHANT
STAINLESS STEEL THREADED
BMI



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.

MERCHANT COUPLINGS

Meets or exceeds all applicable ASTM, ANSI & API standards | WOG PSI 300 at 150 ° F / Saturated Stem Pressure 150 PSI

STRAIGHT

Size	O.D.	Length	Thread	Black Steel Part #	Black Steel List	Qty
1/4”						
	0.719”	1-3/16”	NPSM	MERCH025		25
3/8”						
	0.875”	1-3/16”	NPSM	MERCH038		25
1/2”						
	1.063”	1-9/16”	NPSM	MERCH050		25
3/4”						
	1.313”	1-5/8”	NPSM	MERCH075		25
1”						
	1.576”	2”	NPSM	MERCH100		25
1-1/4”						
	1.900”	2-1/16”	NPSM	MERCH125		25
1-1/2”						
	2.200”	2-1/16”	NPSM	MERCH150		25
2”						
	2.750”	2-1/18”	NPSM	MERCH200		25

TAPERED

Size	O.D.	Length	Thread	Black Steel Part #	Black Steel List	Qty
2-1/2”						
	3.250”	3-1/8”	NPT	MERCH250		10
3”						
	4.000”	3-1/4”	NPT	MERCH300		10
4”						
	5.000”	3-1/2”	NPT	MERCH400		10
5”						
	6.296”	3-3/4”	NPT	---		4
6”						
	7.390”	4-7/8”	NPT	MERCH600		4

MERCHANT COUPLINGS

Meets or exceeds all applicable ASTM, ANSI & API standards | WOG PSI 300 at 150 ° F / Saturated Stem Pressure 150 PSI

STRAIGHT

Size	O.D.	Length	Thread	316 SS Part #	316 SS List	Qty
1/4”						
	0.719”	1-3/16”	NPSM	MERCH025SS		25
3/8”						
	0.875”	1-3/16”	NPSM	MERCH038SS		25
1/2”						
	1.063”	1-9/16”	NPSM	MERCH050SS		25
3/4”						
	1.313”	1-5/8”	NPSM	MERCH075SS		25
1”						
	1.576”	2”	NPSM	MERCH100SS		25
1-1/4”						
	1.900”	2-1/16”	NPSM	MERCH125SS		25
1-1/2”						
	2.200”	2-1/16”	NPSM	MERCH150SS		25
2”						
	2.750”	2-1/18”	NPSM	MERCH200SS		25

TAPERED

Size	O.D.	Length	Thread	316 SS Part #	316 SS List	Qty
2-1/2”						
	3.250”	3-1/8”	NPT	MERCH250SS		10
3”						
	4.000”	3-1/4”	NPT	MERCH300SS		10
4”						
	5.000”	3-1/2”	NPT	MERCH400SS		10
5”						
	6.296”	3-3/4”	NPT	---		4
6”						
	7.390”	4-7/8”	NPT	MERCH600SS		4

PIPE FITTINGS/ VALVES

STAINLESS STEEL THREADED FITTINGS

CLASS 150



Size	90° ELBOW				90° STREET ELBOW				45° ELBOW			
	316 SS		304 SS		316 SS		304 SS		316 SS		304 SS	
	Part #	List	Part #	List	Part #	List	Part #	List	Part #	List	Part #	List
1/4”	PCSSEL9001		PCSS304EL9001		PCSSSEL9001		PCSS304SEL9001		---	---	---	
3/8”	PCSSEL9002		PCSS304EL9002		PCSSSEL9002		PCSS304SEL9002		---	---	---	
1/2”	PCSSEL9003		PCSS304EL9003		PCSSSEL9003		PCSS304SEL9003		PCSSEL4503		PCSS304EL4503	
3/4”	PCSSEL9004		PCSS304EL9004		PCSSSEL9004		PCSS304SEL9004		PCSSEL4504		PCSS304EL4504	
1”	PCSSEL9005		PCSS304EL9005		PCSSSEL9005		PCSS304SEL9005		PCSSEL4505		PCSS304EL4505	
1-1/4”	PCSSEL9006		PCSS304EL9006		---		---		PCSSEL4506		PCSS304EL4506	
1-1/2”	PCSSEL9007		PCSS304EL9007		---		---		PCSSEL4507		PCSS304EL4507	
2”	PCSSEL9008		PCSS304EL9008		PCSSSEL9008		PCSS304SEL9008		PCSSEL4508		PCSS304EL4508	
2-1/2”	PCSSEL9009		PCSS304EL9009		---		---		PCSSEL4509		PCSS304EL4509	
3”	PCSSEL9010		PCSS304EL9010		PCSSSEL9010		PCSS304SEL9010		PCSSEL4510		PCSS304EL4510	
4”	PCSSEL9011		PCSS304EL9011		PCSSSEL9011		PCSS304SEL9011		PCSSEL4511		PCSS304EL4511	



Size	HEX HEAD PLUG				UNION				Size	REDUCING COUPLING			
	316 SS		304 SS		316 SS		304 SS			316 SS		304 SS	
	Part #	List	Part #	List	Part #	List	Part #	List		Part #	List	Part #	List
1/8”	PCSSHP00		PCSS304HP00		---		---		1/2”x1/4”	PCSSRC0301		PCSS304RC0301	
1/4”	PCSSHP01		PCSS304HP01		PCSSUN01		PCSS304UN01		1/2”x3/8”	PCSSRC0302		PCSS304RC0302	
3/8”	PCSSHP02		PCSS304HP02		PCSSUN02		PCSS304UN02		1”x1/2”	PCSSRC0503		PCSS304RC0503	
1/2”	PCSSHP03		PCSS304HP03		PCSSUN03		PCSS304UN03		1”x3/4”	PCSSRC0504		PCSS304RC0504	
3/4”	PCSSHP04		PCSS304HP04		PCSSUN04		PCSS304UN04		1-1/2”x1”	PCSSRC0705		PCSS304RC0705	
1”	PCSSHP05		PCSS304HP05		PCSSUN05		PCSS304UN05		2”x1”	PCSSRC0805		PCSS304RC0805	
1-1/4”	PCSSHP06		PCSS304HP06		PCSSUN06		PCSS304UN06		2”x1-1/2”	PCSSRC0807		PCSS304RC0807	
1-1/2”	PCSSHP07		PCSS304HP07		PCSSUN07		PCSS304UN07		3” x 1”	PCSSRC1005		PCSS304RC1005	
2”	PCSSHP08		PCSS304HP08		PCSSUN08		PCSS304UN08		3”x1-1/2”	PCSSRC1007		PCSS304RC1007	
2-1/2”	PCSSHP09		PCSS304HP09		PCSSUN09		PCSS304UN09		3” x 2”	PCSSRC1008		PCSS304RC1008	
3”	PCSSHP10		PCSS304HP10		PCSSUN10		PCSS304UN10		4” x 2”	PCSSRC1108		PCSS304RC1108	
4”	PCSSHP11		PCSS304HP11		PCSSUN11		PCSS304UN11		4” x 3”	PCSSRC1110		PCSS304RC1110	



Size	TEE				CAP				Size	BUSHING			
	316 SS		304 SS		316 SS		304 SS			316 SS		304 SS	
	Part #	List	Part #	List	Part #	List	Part #	List		Part #	List	Part #	List
1/4”	PCSST01		PCSS304T01		PCSSCAP01		PCSS304CAP01		1/4” x 1/8”	PCSSBU0100		PCSS304BU0100	
3/8”	PCSST02		PCSS304T02		PCSSCAP02		PCSS304CAP02		3/8” x 1/4”	PCSSBU0201		PCSS304BU0201	
1/2”	PCSST03		PCSS304T03		PCSSCAP03		PCSS304CAP03		1/2” x 1/4”	PCSSBU0301		PCSS304BU0301	
3/4”	PCSST04		PCSS304T04		PCSSCAP04		PCSS304CAP04		1/2” x 3/8”	PCSSBU0302		PCSS304BU0302	
1”	PCSST05		PCSS304T05		PCSSCAP05		PCSS304CAP05		3/4” x 1/4”	PCSSBU0401		PCSS304BU0401	
1-1/4”	PCSST06		PCSS304T06		PCSSCAP06		PCSS304CAP06		3/4” x 3/8”	PCSSBU0402		PCSS304BU0402	
1-1/2”	PCSST07		PCSS304T07		PCSSCAP07		PCSS304CAP07		3/4” x 1/2”	PCSSBU0403		PCSS304BU0403	
2”	PCSST08		PCSS304T08		PCSSCAP08		PCSS304CAP08		1” x 1/4”	PCSSBU0501		PCSS304BU0501	
2-1/2”	PCSST09		PCSS304T09		PCSSCAP09		PCSS304CAP09		1” x 1/2”	PCSSBU0503		PCSS304BU0503	
3”	PCSST10		PCSS304T10		PCSSCAP10		PCSS304CAP10		1” x 3/4”	PCSSBU0504		PCSS304BU0504	
4”	PCSST11		PCSS304T11		PCSSCAP11		PCSS304CAP11		1-1/4” x 1/2”	PCSSBU0603		PCSS304BU0603	
									1-1/4” x 3/4”	PCSSBU0604		PCSS304BU0604	
									1-1/4” x 1”	PCSSBU0605		PCSS304BU0605	
									1-1/2” x 1/2”	PCSSBU0703		PCSS304BU0703	
									1-1/2” x 3/4”	PCSSBU0704		PCSS304BU0704	
									1-1/2” x 1”	PCSSBU0705		PCSS304BU0705	
									1-1/2” x 1-1/4”	PCSSBU0706		PCSS304BU0706	
									2” x 1/2”	PCSSBU0803		PCSS304BU0803	
									2” x 3/4”	PCSSBU0804		PCSS304BU0804	
									2” x 1”	PCSSBU0805		PCSS304BU0805	
									2” x 1-1/4”	PCSSBU0806		PCSS304BU0806	
									2” x 1-1/2”	PCSSBU0807		PCSS304BU0807	
									2-1/2” x 2”	PCSSBU0908		PCSS304BU0908	
									3” x 1-1/2”	PCSSBU1007		PCSS304BU1007	
									3” x 2”	PCSSBU1008		PCSS304BU1008	
									4” x 2”	PCSSBU1108		PCSS304BU1108	
									4” x 3”	PCSSBU1110		PCSS304BU1110	

BLACK MALLEABLE IRON THREADED FITTINGS

150 PSI ASTM & ANSI Standard




Size	90° ELBOW		90° STREET ELBOW		45° ELBOW		45° STREET ELBOW	
	BMI		BMI		BMI		BMI	
	Part #	List	Part #	List	Part #	List	Part #	List
1/8”	PCIEL9000		PCISEL9000		PCIEL4500		PCISEL4500	
1/4”	PCIEL9001		PCISEL9001		PCIEL4501		PCISEL4501	
3/8”	PCIEL9002		PCISEL9002		PCIEL4502		PCISEL4502	
1/2”	PCIEL9003		PCISEL9003		PCIEL4503		PCISEL4503	
3/4”	PCIEL9004		PCISEL9004		PCIEL4504		PCISEL4504	
1”	PCIEL9005		PCISEL9005		PCIEL4505		PCISEL4505	
1-1/4”	PCIEL9006		PCISEL9006		PCIEL4506		PCISEL4506	
1-1/2”	PCIEL9007		PCISEL9007		PCIEL4507		PCISEL4507	
2”	PCIEL9008		PCISEL9008		PCIEL4508		PCISEL4508	
2-1/2”	PCIEL9009		PCISEL9009		PCIEL4509		PCISEL4509	
3”	PCIEL9010		PCISEL9010		PCIEL4510		PCISEL4510	
4”	PCIEL9011		PCISEL9011		PCIEL4511		PCISEL4511	
6”	PCIEL9013		PCISEL9013		PCIEL4513			




Size	SQ HEAD PLUG		Size	UNION		Size	HEX BUSHING		Size	REDUCING COUPLING	
	BMI			BMI			BMI			BMI	
	Part #	List		Part #	List		Part #	List		Part #	List
1/8”	PCISP00			PCIUN00		1/4” x 1/8”	PCIBU0100		1/4” x 1/8”	PCIRC0100	
1/4”	PCISP01			PCIUN01		3/8” x 1/4”	PCIBU0201		3/8” x 1/8”	PCIRC0200	
3/8”	PCISP02			PCIUN02		1/2” x 1/4”	PCIBU0301		3/8” x 1/4”	PCIRC0201	
1/2”	PCISP03			PCIUN03		1/2” x 3/8”	PCIBU0302		1/2” x 1/4”	PCIRC0301	
3/4”	PCISP04			PCIUN04		3/4” x 1/4”	PCIBU0401		1/2” x 3/8”	PCIRC0302	
1”	PCISP05			PCIUN05		3/4” x 3/8”	PCIBU0402		3/4” x 1/4”	PCIRC0401	
1-1/4”	PCISP06			PCIUN06		3/4” x 1/2”	PCIBU0403		3/4” x 3/8”	PCIRC0402	
1-1/2”	PCISP07			PCIUN07		1” x 1/4”	PCIBU0501		3/4” x 1/2”	PCIRC0403	
2”	PCISP08			PCIUN08		1” x 3/8”	PCIBU0502		1” x 1/4”	PCIRC0501	
2-1/2”	PCISP09			PCIUN09		1” x 1/2”	PCIBU0503		1” x 3/8”	PCIRC0502	
3”	PCISP10			PCIUN10		1” x 3/4”	PCIBU0504		1” x 1/2”	PCIRC0503	
4”	PCISP11			PCIUN11		1-1/4” x 1/2”	PCIBU0603		1” x 3/4”	PCIRC0504	
6”	PCISP13			---		1-1/4” x 3/4”	PCIBU0604		1-1/4” x 1/2”	PCIRC0603	
						1-1/4” x 1”	PCIBU0605		1-1/4” x 3/4”	PCIRC0604	
						1-1/2” x 1/2”	PCIBU0703		1-1/4” x 1”	PCIRC0605	
						1-1/2” x 3/4”	PCIBU0704		1-1/2” x 1/2”	PCIRC0703	
						1-1/2” x 1”	PCIBU0705		1-1/2” x 3/4”	PCIRC0704	
						1-1/2” x 1/4”	PCIBU0706		1-1/2” x 1”	PCIRC0705	
						2” x 1/4”	PCIBU0801		1-1/2” x 1-1/4”	PCIRC0706	
						2” x 3/8”	PCIBU0802		2” x 1/2”	PCIRC0803	
						2” x 1/2”	PCIBU0803		2” x 3/4”	PCIRC0804	
						2” x 3/4”	PCIBU0804		2” x 1”	PCIRC0805	
						2” x 1”	PCIBU0805		2” x 1 1/4”	PCIRC0806	
						2” x 1-1/4”	PCIBU0806		2” x 1-1/2”	PCIRC0807	
						2” x 1-1/2”	PCIBU0807		2 1/2” x 1-1/2”	PCIRC0905	
						2 1/2” x 1”	PCIBU0905		2 1/2” x 1”	PCIRC0906	
						2 1/2” x 1 1/2”	PCIBU0907		2 1/2” x 1 1/2”	PCIRC0907	
						2 1/2” x 2”	PCIBU0908		2 1/2” x 2”	PCIRC0908	
						3” x 1”	PCIBU1005		3” x 1”	PCIRC1005	
						3” x 1-1/4”	PCIBU1006		3” x 1-1/2”	PCIRC1007	
						3” x 1-1/2”	PCIBU1007		3” x 2”	PCIRC1008	
						3 1/2” x 2”	PCIBU1008		3” x 2 1/2”	PCIRC1009	
						3” x 2 1/2”	PCIBU1009		4” x 1 1/2”	PCIRC1007	
						4” x 1”	PCIBU1105		4” x 1”	PCIRC1108	
						4” x 1 1/2”	PCIBU1107		4” x 3”	PCIRC1110	
						4” x 2”	PCIBU1108				
						4” x 2-1/2”	PCIBU1109				
						4 1/2” x 3”	PCIBU1110				
						6” x 2”	PCIBU1308				
						6” x 3”	PCIBU1310				
						6” x 4”	PCIBU1311				


Size	TEE		Size	CAP	
	BMI			BMI	
	Part #	List		Part #	List
1/8”	PCIT00		1/8”	PCICAP00	
1/4”	PCIT01		1/4”	PCICAP01	
3/8”	PCIT02		3/8”	PCICAP02	
1/2”	PCIT03		1/2”	PCICAP03	
3/4”	PCIT04		3/4”	PCICAP04	
1”	PCIT05		1”	PCICAP05	
1-1/4”	PCIT06		1-1/4”	PCICAP06	
1-1/2”	PCIT07		1-1/2”	PCICAP07	
2”	PCIT08		2”	PCICAP08	
2-1/2”	PCIT09		2-1/2”	PCICAP09	
3”	PCIT10		3”	PCICAP10	
4”	PCIT11		4”	PCICAP11	
6”	PCIT13		6”	PCICAP13	

PIPE FITTINGS/ VALVES

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. Chemical Chart is reprinted from 1996 RMA Hose Handbook

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

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

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											
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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	(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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