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TERMS:

1/2% 10 Days, net 30 Days

FREIGHT:

COUPLINGS +

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.

CAM & GROOVE COUPLINGS

SPECIALTY CAM & GROOVE COUPLINGS



. WORKING		ALUMI	NUM	316 SS		
Size "	PSI	Part #	List	Part #	List	
1-1/2"	150	A 150IALBSP		A 150SSBSP		
2"	150	A 200IALBSP		A 200SSBSP		
3"	150	A 300IALBSP		A 300SSBSP		
4"	150	A 400IALBSP		A 400SSBSP		
6"	75	A 600IALBSP				



BSPT

ALUN	/INUM	316	SS
Part #	List	Part #	List
B 150IALBSP		B 150SSBSP	
B 200IALBSP		B 200SSBSP	
B 300IALBSP		B 300SSBSP	
B 400IALBSP		B 400SSBSP	
B 600IALBSP			

316 SS 316 SS Part # Bore List Part # Bore List Part # Bore List Part # Bore List PSI 150 AW 200AL 2.40' AW 200SSI 2.40" DW 200AL 2.390" DW 200SSI 2.390" 150 AW 300AL 3.535" AW 300SSI 3.535" DW 300SSI 3.530" 150 AW 400AL 4.530" AW 400SSI 4.530" DW 400AL 4.530' DW 400SSI 4.530"

edule 40 Pipe Only The Bore Size is for \$

The Bore Size is for Schedule 40 Pipe Only

FEMALE COUPLER X FEMALE BSPT



FLANGED ADAPTER - 150#

FLANGED COUPLER - 150#



	WORKING	ALUMINUM		316 9	SS
Size	PSI	Part #	List	Part #	List
1-1/2"	150	D 150IALBSP		D 150SSBSP	
2"	150	D 200IALBSP		D 200SSBSP	
3"	150	D 300IALBSP		D 300SSBSP	
4"	150	D 400IALBSP		D 400SSBSP	
6"	75	D 600IALBSP			



ALUM	IINUM	316	SS
Part #	List	Part #	List
F 150IALBSP		F 150SSBSP	
F 200IALBSP		F 200SSBSP	
F 300IALBSP		F 300SSBSP	
F 400IALBSP		F 400SSBSP	
F 600IALBSP			

WORKING 316 SS **ALUMINUM** 316 SS Size Part # List Part # List Part # List Part # List FA 100SS FC 100SS FA 150SS FC 150SS FC 200AL FA 200AL **FA 200SS** FC 200SS FA 300AL FA 300SS FC 300AL FC 300SS FA 400AL FC 400AL FA 400SS FC 400SS FA 600AL FA 600SS FC 600AL FC 600SS *PTK-is "Small Body *FC 800ALPTK 75 *FA 800ALPTK *PTK is-"Small Body

LOCKABLE DUST CAP



WARNING: Cam & Groove Couplings should NOT be used with any compressed gas, including steam or air. Metal fittings should not be used with Polypropylene Cam & Groove

ote: All Seal Fast Cam & Groove Stainless Bodies are 316 Investment with 304 Handles, * **Dust Caps** and **Dust Plugs** are **not** designed for pres

Note: All Seal Fast Cam & Groove Stainless Bodies are 316 Investment with 304 Handles, * Dust Caps and Dust Plugs are not designed for pressure applications WARNING: Cam & Groove Couplings should NOT be used with any compressed gas, including steam or air. Metal fittings should not be used with Polypropylene Cam & Groove.

* Available as:1-1/4 adapter or coupler X 1-1/4 NPT | Please specify: 1-1/2 adapter or coupler X 1-1/4 NPT | 1-1/2 adapter or coupler X 1-1/2 NPT

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CAM & GROOVE COUPLINGS SPECIALTY

SPECIALTY CAM & GROOVE COUPLINGS





	WORKING	316	SS
Size	WORKING	Part #	List
2" X 2" X 1/2" NPT	150	SA 200-1SS	
2" X 2" X 3/4" NPT	150	SA 200-2SS	
3" X 3" X 1/2" NPT	150	SA 300-1SS	
3" X 3" X 3/4" NPT	150	SA 300-2SS	
3" X 3" X 1" NPT	150	SA 300-3SS	

SPOOL ADAPTERS - MALE ADAPTER X MALE ADAPTER

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SA	4	4 里上

	WORKING	ALUM	INUM	BRA	ASS	316	SS
Size	PSI	Part #	List	Part #	List	Part #	List
3/4"	150					SA 075SS	
1"	150	SA 100AL		SA 100BR		SA 100SS	
1-1/4"	150	SA 125AL		SA 125BR		SA 125SS	
1-1/2"	150	SA 150AL		SA 150BR		SA 150SS	
1-1/2" X 2"	150	SA 1520AL				SA 1520SS	
2"	150	SA 200AL		SA 200BR		SA 200SS	
2" X 2-1/2"	150	SA 2025AL				SA 2025SS	
2" x 3"	150	SA 2030AL				SA 2030SS	
2" x 4"	150	SA 2040AL					
2-1/2"	150	SA 250AL		SA 250BR		SA 250SS	
3"	150	SA 300AL		SA 300BR		SA 300SS	
3" X 4"	150	SA 3040AL				SA 3040SS	
4"	150	SA 400AL		SA 400BR		SA 400SS	
4" X 1-1/2"	150	SA 4015AL					
4" X 2"	150	SA 4020AL					
4" X 5"	150	SA 4050AL					
4" X 6"	150	SA 4060AL				SA 4060SS	
5"	75	SA 500AL					
6"	75	SA 600AL				SA 600SS	

SPOOL COUPLERS - FEMALE COUPLER X FEMALE COUPLER



		NO STATE OF THE PARTY OF THE PA	The second second	The second second	1000		- 0
	WORKING	ALUM	INUM	BRA	ss	316	SS
Size	PSI	Part #	List	Part #	List	Part #	List
1-1/2"	150	DD 150AL				DD 150SS	
2"	150	DD 200AL				DD 200SS	
2" X 3"	150	DD 2030AL					
2-1/2"	150					DD 250SS	
3"	150	DD 300AL				DD 300SS	
3" X 2"	150	DD 3020AL				DD 3020SS	
3" X 2-1/2"	150	DD 3025AL					
3" X 4"	150	DD 3040AL				DD 3040SS	
4"	75	DD 400AL		DD 400BR		DD 400SS	
4-1/2"	75	DD 4015AL					
5" X 4"	75					DD 5040SS	
6"	75	DD 600AI					

Local: (713) 675-6324

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	WORKING	316 9	ss	
Size	PSI	Part #	List	

W /PIPE TAP

	WORKING		SS
Size	PSI	Part #	List
2" X 2" X 1/2" NPT	150	DD 200-1SS	
2" X 2" X 3/4" NPT	150	DD 200-2SS	
3" X 3" X 1/2" NPT	150	DD 300-1SS	
3" X 3" X 3/4" NPT	150	DD 300-2SS	

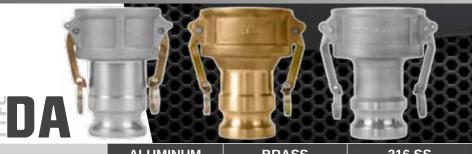
ple as:1-1/4 adapter or coupler X 1-1/4 NPT | Please specify: 1-1/2 adapter or coupler X 1-1/4 NPT | 1-1/2 adapter or coupler X 1-1/2 NP Note: All Seal Fast Cam & Groove Stainless Bodies are 316 Investment with 304 Handles. * Dust Caps and Dust Plugs are not designed for pressure applica

WARNING: Cam & Groove Couplings should NOT be used with any compressed gas, including steam or air. Metal fittings should not be used with Polypropylene Cam & Groove.

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REDUCING DA - FEMALE COUPLER X MALE ADAPTER



	960		HOHO				20
	WORKING	ALUMI	NUM	BRA	SS	316 S	S
Size	PSI	Part #	List	Part #	List	Part #	List
1-1/2" x 1"	150	DA 1510AL				DA 1510SS	
1-1/2" X 2"	150	DA 1520AL				DA 1520SS	
2" X 1"	150					DA 2010SS	
2" X 1-1/2"	150	DA 2015AL				DA 2015SS	
2" X 2"	150					DA 2020SS	
2" X 3"	150	DA 2030AL		DA 2030BR		DA 2030SS	
2" X 4"	150	DA 2040AL				DA 2040SS	
2-1/2" x 2"	150					DA 2520SS	
3" X 1-1/2"	150	DA 3015AL				DA 3015SS	
3" X 2"	150	DA 3020AL		DA 3020BR		DA 3020SS	
3" X 2-1/2"	150	DA 3025AL					
3" X 3"	150					DA 3030SS	
3" X 4"	150	DA 3040AL		DA 3040BR		DA 3040SS	
3" X 6"	150	DA 3060AL					
4" X 1-1/2"	150	DA 4015AL					
4" X 2"	150	DA 4020AL		DA 4020BR		DA 4020SS	
4" X 2.5"	150					DA 4025SS	
4" X 3"	150	DA 4030AL		DA 4030BR		DA 4030SS	
4" X 5"	150	DA 4050AL					
4" X 6"	150	DA 4060AL				DA 4060SS	
5" X 4"	150	DA 5040AL					
6" X 3"	75	DA 6030AL					
6" X 4"	75	DA 6040AL		DA 6040BR		DA 6040SS	
6" X 5"	75	DA 6050AL					
8" X 6"	75	*DA 8060ALPTK		*PTK is "Sm	nall Body"		

\times		4.00	1111-150	
		WORKING	316 9	SS
st	Size	PSI	Part #	List
	2"X2"X1/2"NPT	150	DA 2020-1SS	
	2"X2"X1/2"NPT	150	DA 2020-2SS	
	3" X 2" X 1/2" NPT	150	DA 3020-1SS	
	3"X2"X3/4"NPT	150	DA 3020-2SS	
	3"X2"X1"NPT	150	DA 3020-3SS	
	3"X3"X1/2"NPT	150	DA 3030-1SS	
	3"X4"X1/2"NPT	150	DA 3040-1SS	
	3"X4"X3/4"NPT	150	DA 3040-2SS	
	4"X3"X1/2"NPT	150	DA 4030-1SS	
	4"X3"X3/4"NPT	150	DA 4030-2SS	

REDUCING A - MXFNPT

REDUCING BR - FXMNPT

LONGNECK BLN- FXMNPT



	WORKING	ALUMINUM				
Size	PSI	Part #	List			
1-1/2" x 2"	150	AR 1520AL				
2" X 1-1/2"	150	AR 2015AL				
2" x 3"	150	AR 2030AL				
3" X 2"	150	AR 3020AL				
3" X 4"	150	AR 3040AL				
4" X 3"	150	AR 4030AL				
4" X 6"	150	AR 4060AL				
6" X 4"	75	AR 6040AI				



316 SS
rt # List
150SS
200SS
300SS
400SS
is "Large Body'
is "Small Body'

-1/4 adapter or coupler X 1-1/4 NPT | Please specify: 1-1/2 adapter or coupler X 1-1/4 NPT | 1-1/2 adapter or coupler X 1-1/2 NPT te: All Seal Fast Cam & Groove Stainless Bodies are 316 Investment with 304 Handles. * Dust Caps and Dust Plugs are not designed for pressure applic

WARNING: Cam & Groove Couplings should NOT be used with any compressed gas, including steam or air. Metal fittings should not be used vith Polypropylene Cam & Groove

CAM & GROOVE COUPLINGS

SPECIALTY

SPECIALTY CAM & GROOVE COUPLINGS

REDUCING C - **FEMALE COUPLER X SHANK**

REDUCING D - FEMALE COUPLER X FEMALE NPT



	WORKING	ALUMINUM		316	SS	
Size	PSI	★ Part #	List	* Part #	List	
1-1/2" X 1"	150	CR 1510AL		CR 1510SS		
2" X 1"	150	CR 2010AL				
2" X 1-1/4"	150	CR 2012AL				
2" X 1-1/2"	150	CR 2015AL		CR 2015SS		
2-1/2" x 1-1/2"	150	CR 2515AL				
2-1/2" x 2"	150	CR 2520AL				
3" x 2"	150	CR 3020AL		CR 3020SS		
3" x 2-1/2"	150	CR 3025AL		CR 3025SS		
3" x 4"	150	CR 3040AL				
4" x 3"	150	CR 4030AL		CR 4030SS		



ALUMINUM	
Part #	List
DR 1510AL	1870
DR 2015AL	
DR 3020AL	
DR 3040AL	
DR 4030AL	

REDUCING E - MALE ADAPTER X SHANK



	_					
	WORKING	ALUMIN	ALUMINUM		SS	
Size	PSI	★ Part #	List	★ Part #	List	
1-1/2" x 1"	150	ER 1510AL		ER 1510SS		
*1-1/2" x 1-1/2"	100					
1-1/2" x 2"						
1-1/2" x 3"	150	ER 1530AL				
2" x 1"	150	ER 2010AL				
2" x 1-1/2"	150	ER 2015AL		ER 2015SS		
2" x 2-1/2"	150	ER 2025AL				
*2-1/2" x 2-1/2"	100					
2" x 3"	150	ER 2030AL				
3" x 2"	150	ER 3020AL		ER 3020SS		
3" x 1-1/2"						
3" x 2-1/2"	150			ER 3025SS		
3" x 2-1/2"	150	ER 3025AL				
3" x 4"	150	ER 3040AL				
4" x 2"	150	ER 4020AL				
4" x 3"	150	ER 4030AL		ER 4030SS		
4" x 6"						

HYDRANT ADAPTER
w/NST Fire Threads
, te
HA ===

WORKING	ALUMINUM						
PSI	Part #	List					
150							
100	HA150AL						
150							
150							
150							
150							
100	HA250AL						

*WARNING: Working Pressures may vary depending on how the couplings are attached to the hose assembly. Before operation, always check the hose assembly for proper attachment and that couplings are in working order.

** Available as:1-1/4 adapter or coupler X 1-1/4 NPT | Please specify: 1-1/2 adapter or coupler X 1-1/4 NPT | 1-1/2 adapter or coupler X 1-1/2 NPT Note: All Seal Fast Cam & Groove Stainless Bodies are 316 Investment with 304 Handles. * Dust Caps and Dust Plugs are not designed for pressure applications

WARNING: Cam & Groove Couplings should NOT be used with any compressed gas, including steam or air. Metal fittings should not be used with Polypropylene Cam & Groove



THREAD INCREASER

MALENPT X FEMALENPT X MALENPT



Size	WORKING	ALUN	MUNIN
Size	PSI	Part #	List
6" NPT-M X 5" NPT-F X 4"NPT-M	100	6540AL	

THREAD REDUCER - MALENPT X FEMALENPT



Size	WORKING	ALUMIN	NUM	BRASS		
Size	PSI	Part #	List	Part #	List	
3" NPT-M X 2" NPT-F	150	3020AL		3020BR		
4" NPT-M X 3" NPT-F	150	4030AL		4030BR		
6 -1/2" NPT-M X 4" NPT-F	100	6540AL				



	WORKING	316 S	S
Size	PSI	Part #	List
3" Female NPSM Pipe Cap	0	PC 300SS	
3" SS Cap w/BSP Straight Thread	0	PC 300SSBSP	
PTFE 3" Gasket	0	300TG	
Pipe Cap Hook (10 pcs per bag)	0	HC 300SS	

lable as:1-1/4 adapter or coupler X 1-1/4 NPT | Please specify: 1-1/2 adapter or coupler X 1-1/4 NPT | 1-1/2 adapter or coupler X 1-1/2 NPT Note: All Seal Fast Cam & Groove Stainless Bodies are 316 Investment with 304 Handles. * Dust Caps and Dust Plugs are not designed for pressure applications

WARNING: Cam & Groove Couplings should NOT be used with any compressed gas, including steam or air. Metal fittings should not be used with Polypropylene Cam & Groove

Local: (713) 675-6324 6 National: (800) 231-0734 Local: (713) 675-6324 National: (800) 231-0734 **TECHNICAL DATA**

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 3. Fair Condition 2. Good x. Not Satisfact	nal	NOTES: No					3.		
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	Х	X	X	2	1	Х	2	2	2
Acetic Acid Vapor	X	X		3		Χ	2	2	3
Acetic Anhydride	Х	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	Х	3	3	3	1	Χ	3	2	2
Alums	X	3	2	3	1	Χ	3	2	2
Ammonia Gas	1	Χ	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	Χ		2		1	1	1	3
Ammonium Phosphate (Ammoniacal)		Χ				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		Χ	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		Χ				Χ	2	1	Χ
Calcium Hypochlorite	3	3	3	Χ	3	Χ	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	Χ	2	Χ	Χ	3	3
Chromic Acid		Х	X	Х	1	3	2	2	3
Citric Acid	X	3		1		3	Χ	1	2
Coke Oven Gas	1	3		2		1	1	1	2
Copper Sulfate	X	X		Χ		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	Χ	Χ	1	X	Χ	Χ	Χ
Ferric Sulfate	Х	Х		X		1	1	1	3
Formaldehyde	2	2		2		1	1	1	1

*3 to X at high temperatures. Local: (713) 675-6324

Chemical Chart is reprinted from 1996 RMA Hose Handbook 8 National: (800) 231-0734

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 3. Fair Conditional NOTES: No rationg indicates no data available									
2. Good x. Not Satisfactory									
AGENT	Mall. From Steel	Brass	Bronze	Aluminum	Glass	Stainless 410, 416, 430	Stainless 302, 202, 304, 308	Stainless 316	Monel
Formic Acid	Х	2		X		Х	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	Χ
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	Χ	X	1	X	X	X	X
Hydrocyanic Acid	3	X	0	1	\ <u>'</u>	3	1	1	2
Hydrofluoric Acid	Χ	3	3	Χ	X	X	X	X	X
Hydrogen Fluoride	1	3		4		X	X	3	1
Hydrogen	1	1 X		1		1	1	1	1
Hyrogen Peroxide Hydrogen Sulfide (Dry)	X 3	3		2		1	2	1	2
Hydrogen Sulfide (Wet)	3	3		2		3	2	1	3
Lacquers and Lacquer Solvents	3	2		1		1	1	1	1
Lactic Acid	X	2		3		Τ	3	2	1
Lime-Sulfur	2	Χ		2		1	1	2	т
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	Χ		Χ		1	1	1	2
Milk	3	3		1		2	1	1	3
Molasses	2	Χ		2		2	1	1	1
Natural Gas	1	2		1		1	1	1	1
Nickel Chloride		X		Χ		Χ	3	2	2
Nickel Sulfate		3		X		3	2	1	1
Nitric Acid	Χ	Χ	Χ	3	1	2	2	2	Χ
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	Χ
Petroleum Oils (Refined)	1	1	1	1		1	1	1	1
Phosphoric Acid 25%	3	Χ		3	3	Χ	3	1	2
Phosphoric Acid 25-50%	Χ	X		Χ	3	Χ	X	2	2
Phosphoric Acid 50-85%	X	X		X	Χ	Χ	Χ	2	2
Picric Acid	3	X		3		2	1	1	Χ
Potassium Chloride	2	3		3		3	2	1	1
Potassium Hydroxide	3	X		Χ		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)		Χ		1		1	1	1	2

*3 to X at high temperatures. Local: (713) 675-6324 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 3. Fair Condition 2. Good x. Not Satisfactor		NOTES: No	o rationg in	dicates no d	data availab	le			
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		Χ				Χ	X	3	2
Soda Ash (Sodium Carbonate)	1	2		Χ		1	1	1	1
Sodium Bicarbonate	3	1		Χ		1	1	1	1
Sodium Bisulfate	Х	3		3		X	1	1	1
Sodium Chloride	2	3	2	Χ	1	3	2	1	1
Sodium Cyanide	2	Χ		X		1	1	1	2
Sodium Hydroxide	3	Χ	3	Χ	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)	4	2		V		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		V		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 Sulfur	2	X		2		1 2	1	1	2
	2	X		2		X	2	1	3
Sulfur Chloride	X			1			3	2	2
Sulfur Dioxide (Dry) Sulfur Dioxide (Wet)	2	1 X		1		1 X	1 2	1	1 X
Sulfur Dioxide (Wet) Sulfuric Acid 10%		X	3	3		X	X	2	2
Sulfuric Acid 10% Sulfuric Acid 10-75%	X	X	X	X		X	X	X	2
Sulfuric Acid 10-75% Sulfuric Acid 75-95%	X	X	X	X			3	2	3
	3	X	X	٨		3	2	2	3 X
Sulfuric Acid 95% Surlfurous Acid	X	X		X		X	3	2	X
Tannic Acid	3	3	1	X		^	1	1	1
Tar	1	2	1	1		2	1	1	1
Toluene, Toluol	1	1		1		1	1	1	1
Trichlorethylene	3	1		3		1	1	1	1
Turpentine	J	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.

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10 National: (800) 231-0734

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:

CLASS A	(HIGH OIL RESISTANCE)	VOLUME CHANGE MAXIMUM +25%	TENSILE STRENGTH RETAINED 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. To 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 conditions 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-propylenediene-terpolymer

MQ - Dimethyl-polysiloxane

FKM-Fluoracarbon rubber

CM - Chloro-polyethylene

ECO/CO-Ephichlorohydrin
EXLPE- Chloro-sulfonylpolyethylene

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NOTES



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