

CONTENTS



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.

COUPLINGS

S'MOOTH™ THREAD SEALANT W/PTFE



Size	Plastic-Brush Top Container				
Size	Part #	List	Features		
1/4 Pt. Plastic-Brush Top	15005		- Plastic-Brush Top		
1/2 Pt. Plastic-Brush Top	15008		- Fast drying - Non-toxic, non-corrosive		
1 Pt. Plastic-Brush Top	15018		- Food Grade compliant, suitable for incidental food contact under FDA Regulation CFR 175.300 - Suitable for uses in potable water - Long service life and good chemical resis tance		

S'MOOTHTM is a general-purpose metal pipe thread sealant for industrial and residential use. This white paste has a smooth consistency and no grit.

- Excellent lubrication, eases assembly, resists

Pipe thread sealant for 1/2" to 2" NPT metal piping. For 1-1/2" to 2" NPT, we recommend putting a thin coating on both the female and male threads. For systems carrying potable water, steam, compressed air, natural gas, sprinkler systems, gasoline, diesel fuel, kerosene, heating oil, propane, anti-freeze solutions, refrigeration gases, dilute acids, caustics and many other common chemicals. Use for repair and maintenance in may industries including marine, automotive, plumbing, pool and spa, food service, agricultural, institutional, municipal and utilities.

PTFE JOINT SEALANT



Part # List Features 1/4" X 50' PTFE Joint Sealant 28007 - Self-adhesive-easy to work 3/8" X 25' PTFE Joint Sealant 28010 - Flanges part easily - No re-torquing required - Will not deteriorate with age - Resists cold flow and creep - Reduces inventory of cut gaskets	Size			Roll
3/8" X 25' PTFE Joint Sealant 28010 - Flanges part easily No re-torquing required 1/2" X 15' PTFE Joint Sealant 28014 - Will not deteriorate with age Resists cold flow and creep Reduces inventory of cut gaskets	0120	Part #	List	Features
- No re-torquing required - Vill not deteriorate with age - Resists cold flow and creep - Reduces inventory of cut gaskets	1/4" X 50' PTFE Joint Sealant	28007		
1/2" X 15' PTFE Joint Sealant 28014 - Will not deteriorate with age Resists cold flow and creep - Reduces inventory of cut gaskets	3/8" X 25' PTFE Joint Sealant	28010		
3/4" X 15' PTFE Joint Sealant 28020 - Reduces inventory of cut gaskets	1/2" X 15' PTFE Joint Sealant	28014		- Will not deteriorate with age
	3/4" X 15' PTFE Joint Sealant	28020		

PTFE Joint Sealant is a 100% expanded PTFE gasket material. It comes in a soft, pliable ribbon with a self-adhesive tape applied to one side. It is a tough, flexible and economical universal gasket that replaces cut gaskets in a variety of regular and service applications. PTFE joint sealant will not deteriorate with age. It is unaffected by common chemicals, will withstand pressures up to 3,000 psi and temperatures -450° F to +600° F (-268° C to +316° C). This unique material is highly compressible and will fill severe irregularities in sealing surfaces.

Flanges, pump and compressor housings, heat exchanger, manhole covers, on rough or irregular surfaces, FRP vessels, steam vessel flanges, concrete lids, glass joints, food service and processes PTFE joint sealant is spooled in a range of sizes from 1 to 25 mm in diameter (3/64" to 1"). Cut material with scissors and apply to sealing surface. Self-adhesive strip will hold firmly in place. Available in: spools of 1/4", 3/8", 1/2", and 3/4" diameters.

PTFE TAPE

			Control of the last	1000	-
					Roll
Size	Color	Qnty - Carton	Part #	List	
1/2" x 260"	White	100 rolls	*26130		- Moi
1/2" x 520"	White	100 rolls	*26135		Low
1/2" x 1296"	White	100 rolls	*26140		Poly-
3/4" x 260"	White	100 rolls	*26145		PTFI rema
3/4" x 520"	White	100 rolls	*26150		servi withs
1" x 520"	White	100 rolls	*26160		-400
1/2" x 260"	Gray	100 rolls	**46231		comp
1/2" x 260"	Yellow	100 rolls	**46330		life o
1/2" x 260"	Green	100 rolls	**26031M		more
1/2" x 260"	Pink	100 rolls	**46430		

ore economiy suited for some markets, Density PTFE thread seal tape complints our line of premium -Temp® tapes. Still made with virgin E (Polytetrafluoroethylene), this tape ains flexible, is a thread sealant for all rices, chemiy inert, non-hardening, and nstands temperature ranges between 0° to 500°F (-240° to 260°C). It is nnatible with all pine materials without eption, forms a permanent seal for the of the connection, and is recommended all pipe sizes (larger thread sizes require re wraps). Meets MIL-T-27730A

Features

Low Density PTFE - **Premium PTFE Tapes - 1/2" width

46231 GRAY STAINLESS STEEL PTFE THREAD SEAL TAPE

This tape has nickel pigment color added for use on all stainless steel fittings. Prevents galling, seizing or corrosion. A high density rating, this is the tape for coarse stainless steel threads. Also carries a temperature range of -450F to +550F. Exceeds Mil. Spec. T-27730A. UL Listed

46330 YELLOW GAS LINE PTFE THREAD SEAL TAPE

Designed for gas lines of all types... Natural gas, propane and butane lines. Meets gas company standards world wide. Full density (1.6) makes this the heaviest tape available. Seals threads easily and quickly with confidence. Has a temperature range of -450F to +550F. Exceeds Mil. Spec.

26031M GREEN OXYGEN PTFE THREAD SEAL TAPE

Color coded green for oxygen applications. Grease free, density of 1.2 . This is the tape for all your oxygen lines. Will not support combustion. Temperature range of -450F to +550F. Exceeds Mil. pec. T-27730A. UL Listed

46430 PINK PLUMBER'S TAPE Same material as the POLY-TEMP® XHD, extra thick & extra density material for the quality-minded lumber, pipe-fitter, and contractor.

TFE™ PIPE THREAD SEALANT W/PTFE

▶*WARNING - Do Not Use on Oxygen Systems

Size	Plastic-Brush Top		c-Brush Top Container
3126	Part #	List	Features
1/4 Pt. Plastic-Brush Top	14005		- Heavy-Duty Sealant
1/2 Pt. Plastic-Brush Top	14012		- Non-Staining - Non-Hardening
1 Pt. Plastic-Plain Top	14018		- Non-Toxic
1Qt. Plastic-Plain Top	14025		- Non-Dripping - can be applied to newly cut hot threads
			 Prevents corrosion, seizing and galling Contains no solvents Non-Corrosive Self-Lubircating Non-Hazardous

TFE is a superior grade, non-hardening, easy to apply, heavy duty pipe thread sealant. It is formulated to a thick paste consistency, fortified with an extra amount of PTFE and PTFE materials to insure a positive seal with less effort. TFE is designed for all pipe fitters, fabricators, plumbers and mechanical contractors. Because of its unique solids content, TFE fills thread imperfections and provides leakproof joints that seal for the life of the connection.

TFE is recommended for pipe threads carrying water, steam, LP and natural gas, refrigerants, solvents, caustics, dilute acids, oils and diesel fuel. Withstands temperatures to 500°F (260°C) and pressures to 10,000 psi (Liquid), 2000 psi (gas).

Applications:

All pipe and threaded connections-Cast Iron, Malleable, Brass, Copper, Stainless Steel, PVC, CPVC, ABS and Polypropylene



National: (800) 231-0734 National: (800) 231-0734 Local: (713) 675-6324 2 Local: (713) 675-6324 3

SHOP AIDS

SHOP AIDS

COUPLINGS

COP-GRAF™ COPPER & GRAPHITE BASED



Size		Pla	stic-Brush Top Container
Size	Part #	List	Features
8 oz Plastic-Brush Top	11010		- Protects against rust and corrosion Reduces
1 lb Plastic-Brush Top	11018		frictionProvides constant torque/tension - Speeds assembly of disassembly - Prevents seizing, galling and cold welding - Retards galvanic action between dissimilar metals - Resists salt water corrosion - Compatible with all types of metals/most

Cop-Graf is a top quality anti-seize compound composed of pure copper particles and graphite in a high heat resistant carrier. It is designed to lubricate and protect threaded connections and flanges at temperatures to 1800° F (980° C) and extreme load pressure conditions. Cop-Graf has water resistant and anti-oxidant properties that prevent seizing and galling, while protecting against rust and corrosion. Cop-Graf does not separate. It is non-dripping, non-hardening, permits quick, easy disassembly and removal of connection even after lengthy service or severe conditions. Stress, strain and time to disassemble are greatly diminished. Exceeds MIL-A-907 specifications.

ANTI-SEIZE SPECIAL™



Size	Aerosol						
Size	Part #	List	Features				
12.5 oz Aerosol	18014		Protect against rust and corrosion Reduce friction Speed assembly and disassembly Resist seizing, galling, and cold welding Retards galvanic action between dissimilar metals Resists salt water corrosion Compatible with all types of metals & most plastics Non-hardening and non-dripping				

Anti-Seize Special™ is a superior grade assembly compound and high pressure lubricant. This high quality aluminum, copper and graphite based anti-seize formula has unique particle shapes suspended in special carriers. It will protect metal parts under extreme heat, pressure and contaminating conditions to 2000° F (1095° C). Anti-seize Special is designed with ultra fine metallic and graphite particles enhancing a longer lasting protective film, resisting washout, burn-off and corrosion. Exceeds MIL-A-907 specifications.

Applications:

All nuts and bolts, bushings, centers, cam rollers, conveyors, couplings, dies, drills, fittings, flanges, gears, keyways, motors, press fits, pumps, shafts, sleeves, slides, spark plugs, taps, valves, wristpins, and more. They are used in steel mills, foundries, oil refineries, chemical plants, construction and farm equipment, autos, trucks (fleet maintenance), electric power and other utilities, oil drilling, mining, diesel and gasoline engines, marine motors, shipyards, paper mills, and machine shops.

PTFE JOINT SEALANT



Size		Plastic-B	rush Top Container
3126	Part #	List	Features
8 oz Plastic-Brush Top	13008		- Offers maximum protection from acids,
1 lb Plastic-Brush Top	13018		caustics, chemicals, and extreme heat - Eliminates galling and cold welding - Protects against corrosion and oxidation - Reduces friction and lowers torque - Provides a nickel plating as a barrier between metal surfaces

Nickel-Graf is a premium quality anti-seize lubricant designed especially for maximum resistance to the most corrosive and extreme temperature environments. Performs to temperatures of 2600 $^{\circ}$ F (1426 $^{\circ}$ C). Nickel-Graf is composed of pure colloidal nickel and graphite flakes dispensed in a superior high performance petroleum carrier. It does not contain any copper, lead or molydisulfide. Nickel-Graf will not poison catalyst beds, reaction chambers or special alloy fittings. It is safe to use with anhydrous ammonia, acetylene and other vinyl monomers. Exceeds MIL-A-907 specifications.

ANAEROBIC SEALING COMPOUNDS PIPE SEALANTS W/PTFE

Size			Tube
Size	Part #	List	Features
50 ml. Tube	22050		- Superior to other anaerobic sealants
250 ml. Tube	22250		Prevents vibration loosening Does not plug up filters, valves, or gauges Seals pipes-including 3" and larger Lubricates, prevents corrosion, seizing and galling Low locking strength provides for disassembly Not volatile or flammable UL approved Allows easy adjustment up to 16 hours after assembly

to 1,000 psi immediately after application and up to burst rating of typical pipe after curing. Due to its small particle size, will not clog small orifices, valve openings and screens typiy found in most hydraulic systems.

Most metal threads, particularly steel and brass. Ideal for fittings, pipes, valves, gauges and connections in hydraulic, pneumatic, lubrication, steam and refrigerant systems. Inert to most industrial hazards, hydrocarbons (gasoline, diesel fuel, etc.), acids, chemicals, solvents

Available In: 50 ml., 250 ml. tubes.

AST-SEAL Std 50 ml (1.69 fl oc.)

ANAEROBIC-HD SEALING COMPOUNDS (stainless steel grade)

Size			Tube
0120	Part #	List	Features
Heavy-Duty 50 ml. Tube	22151		- Superior to other anaerobic sealants
Heavy-Duty 250 ml. Tube	22152		- Prevents vibration loosening - Does not plug up filters, valves, or
			gauges - Seals pipes-including 3" and larger - Lubricates, prevents corrosion, seizing and galling - Low locking strength provides for disassembly - Not volatile or flammable UL approved - Allows easy adjustment up to 16 hours after assembly
to 1,000 psi immediately afte	application a will not clog	nd up to bur	eratures from -65° F to +375° F. Seals st rating of typical pipe after curing. s, valve openings and screens typiy

Most metal threads, particularly steel and brass. Ideal for fittings, pipes, valves, gauges and connections in hydraulic, pneumatic, lubrication, steam and refrigerant systems. Inert to most industrial hazards, hydrocarbons (gasoline, diesel fuel, etc.), acids, chemicals, solvents

Available In: 50 ml., 250 ml. tubes.



Local: (713) 675-6324 National: (800) 231-0734 National: (800) 231-0734 4 Local: (713) 675-6324 5

COUPLINGS +

PTFE SPRAY LIGHT-COAT (Dry Lubricant & Release Agent)



Size		Aerosol				
Size	Part #	List	Features			
10 oz. Aerosol	17075		Dry film lubricant and release agent Not affected by most chemicals and solvents Low coefficient of friction (12)			

Low coefficient of friction (.02)Will not react or combine with process materials

- Fast drying and non-staining

· Will not freeze and withstands 500°F (260°C)

National: (800) 231-0734

PTFE Spray Light-Coat is a multi-purpose PTFE powder lubricant that is non-staining and non-oily and will not collect dirt or dust. It is chemiy inert, and is an excellent mold release agent. This fast drying dry film lubricant has a very low coefficient of friction which can solve many friction problems.

Applications:

Light duty gears, bearings, rollers, sliding surfaces, as a mold release, textile and paper machinery where cleanliness is critical.

Available In: 10 oz. Aerosol CFC Free (P/N 17075)

ANTI-SEIZE SPECIAL™



	Size	Pressurized Containers / Cartridges		urized Containers / Cartridges / Tubes
	3120	Part #	List	Features
ш	White Silicone Adhesive/Sealant 8 oz.	27084		- Superior caulking, bonding and sealing qualities
WHITE	White Silicone Adhesive/Sealant 10.3 oz.	27104		Easier to use than other gasketing methods Fills in small surface defects
≶	White Silicone Adhesive/Sealant 3 oz.	27034		- Resists chemicals, temperature extremes, weather,
Re	Red Hi Temp Silicone Adhesive/Sealant 8 oz.	27085		vibration, moisture, and ozone - Will not sag, run off or shrink
RED	Red Hi Temp Silicone Adhesive/Sealant 10.3 oz.	27105		 Functions in hundreds of applications as a specialty sealant and flexible adhesive
	Red Hi Temp Silicone Adhesive/Sealant 3 oz.	27035		- Excellent non-conducting characteristics
œ	Clear Silicone Adhesive/Sealant 8 oz.	27086		
CLEAR	Clear Silicone Adhesive/Sealant 10.3 oz.	27106		
Ö	Clear Silicone Adhesive/Sealant 3 oz.	27036		
BLUE	Blue Silicone Adhesive/Sealant 8 oz.	27087		
Я	Blue Silicone Adhesive/Sealant 10.3 oz.	27107		

100% RTV Silicone is a multi-purpose, single component adhesive sealant which quickly adheres to most surfaces. It cures in 24 hours to provide a tough, resilient silicone rubber to handle hundreds of applications. 100% RTV Silicone can be used for gasketing, sealing, bonding, insulating, caulking, encapsulating and coating. This flexible material resists shrinking, cracking, weather, ozone, chemicals, moisture, vibration and extreme temperatures ranging from -85° F to +450° F (-65° C) to +232° C) (Hi-Temp Red to 500° F (260° C) continuous and 600° F intermittent exposure).

Applications Include:

Local: (713) 675-6324

RTV Silicone is great for making replacements of custom gaskets and seals for all types of motors, transmissions, gear housing, pumps, power tools, machinery, etc. It's better than conventional gaskets because it fills in surface irregularities. As a Sealer and Caulk-Use it to seal heating and ventilating ducts. RTV silicone seals cracks or gaps around windows, vents, doors, machinery, truck cabs and trailers, fixtures, lights, walls, bathtubs, sinks, etc. It can be used to waterproof electrical connections and boxes. It will seal out water from compartments in machinery, as well as seal holes where wire tubing or refrigeration lines run through walls. As a Flexible Adhesive, versatile RTV Silicone will easily bond dissimilar materials. Provides excellent adhesion to clean metal, glass, most types of wood, ceramic, porcelain, painted and many plastic surfaces. Attach name plates and signs to equipment, walls, doors, windows, (interior or exterior). It will bond gaskets in heating and refrigeration units. As a Specialty Sealant, RTV Silicone can be used to seal or coat components exposed to moisture, vibration, shock, certain fuels, oils, solvents, chemicals and corrosives for a long period of time. This product can be used as a formed-in-place gasket where irregular shapes and harsh conditions reject ordinary seals. It is also effective for repairing electrical insulation, sealing insulators and entrance ports to transformers. RTV Silicone is USDA, UL and NSF approved. Meets FDA reg. No. 21 CFR 177-2600 and MIL-A-46106 Specs. The equivalent of Dow Corning 732 & 736, GM, Ford and Chrysler Specs.

6

Available In: A variety of colors and cure types in patented 8 oz. pressurized containers, standard 10.3 oz. Cartridges and 3 oz. Tubes.



Size		Aerosol					
Size	Part #	List	Features				
12 oz. Aerosol	17061		 Penetrates hard to reach places on contact Frees and lubricates frozen and rusted parts Inhibits rust and corrosion and protects metal surfaces Displaces moisture Cleans and degreases tools and equipment Unique aerosol can be sprayed in any position 				

All-Purpose 4-Way is specially formulated to lubricate and penetrate, leaving parts with a protective anti-rust film. This quality lubricant protects metal parts which helps eliminate pounding and breakage during disassembly. All-Purpose 4-Way has no CFC's, chlorinated solvents or silicones.

Applications Include:

nuts & bolts, auto and truck parts/engines, hand tools, farm equipment, marine engines, locks,

Available in: 12 oz. Aerosol

A.S.T. PENETRANT II™

Size	Aerosol			
	Part #	List	Features	
12 oz. Aerosol	17063		 Deep penetrating action. Quickly attacks heavy rust, corrosion and mineral deposits. Frees metal parts faster than other penetrants. Reduces costs in time and labor. Eliminates excessive parts breakage. Jet stream delivery allows precision spraying. 	

A.S.T. Penetrant II is a heavy-duty, industrial strength penetrant. It quickly penetrates deep through rust, scale and corrosion on frozen nuts and bolts, threaded connections, machinery and tools. Frees metal parts faster than all ordinary penetrant / lubricants. A.s.t. Penetrant II has no cfc's chlorinated solvents or silicones.

Heavily rusted and corroded nuts and bolts, heavy equipment, farm and marine equipment,

valves and couplings. Also excellent for rusted hand tools, machinery linkages, pipe joints and

Available in: 12 oz. Aerosol * CFC free

CHAIN & CABLE LUBE

Size		Aerosol					
	Part #	List	Features				
16 oz. Aerosol	17040		Multi-purpose, heavy-duty lubricant Contains molybdenum disulfide for added wear resistance Thick foam penetrates and clings to all surfaces Provides a non-gumming protective film Can be applied while machinery is running Displaces water, eliminating moisture & preventing corrosion				

Chain and Cable Lube is a heavy duty lubricant for reducing friction and wear. It is a mixture of penetrants, anti-oxidants, oils and grease; plus molybdenum disulfide which creeps into chain components and cable strands to provide excellent lubrication and rust protection. This lubricant forms a non-gumming thin film providing maximum lubrication and protection under severe conditions.

oller chains and drives, hoists and conveyors, wire rope and cable, chain saws, sprockets,

assemblies, hinges and many outdoor/indoor applications.

Available in: 16 oz. Aerosol *CFC free

Local: (713) 675-6324





National: (800) 231-0734

COUPLINGS +

COUPLINGS

SILICONE LUBRICANT (Industrial Grade)



Size			Aerosol
Size	Part # List	Features	
10 oz. Aerosol	17067		- 100% pure silicone - Not affected by temperature extreme: - 40° F to +400° F (40° C to +204° C) - Provides a non-tacky film of lubrication - Provides excellent release properties for metallic and non-metallic surfaces

Silicone Lubricant Industrial Grade is a dry non-staining lubricant and release agent that makes everything slide easier with no greasy mess. This non-toxic, odorless and colorless lubricant allows unlimited uses. A universal dry lubricant that waterproofs, protects and rustproof almost any surface. High viscous silicone. Resists breakdown under heavy loads or mechanical shear.

Applications include:

Refrigeration equipment, plastic and rubber molds, doors, windows, locks, guides, rails, electronic equipment, conveyors, hinges, squeaky springs, lawn mower blades, molding, casting and stamping dies, aircraft, autos and boats, business machines and construction equipment.

Available in: 10 oz. Aerosol *CFC free

BELT DRESSING



Size	Aerosol				
0.20	Part # List	Features			
12 oz. Aerosol	17030		- Can be applied while belt is moving and motor is running - For both indoor and outdoor use - Eliminates slippage on incline conveyor belts - Prolongs life of all belts - Prevents rotting and deterioration even under severe outdoor conditions - Anti-slip agent increases power without gumming		

Belt dressing is designed for all types of belt drives and will improve performance under the most severe conditions. It will waterproof and preserve all types of belts and will not glaze or cause buildup. Belt dressing does not contain rosin, silicones, sticky oils, varnishes or other harmful substances.

Practiy all flat, round or v-style belts. Works great on all industrial belt drives including compressors, pumps, generators, auto and marine engine belts, canvas and other fabric belts.

Available in: 12-3/4 oz. Aerosol *CFC free

ZINC COLD GALVANIZING SPRAY



Local: (713) 675-6324

Size	Aerosol					
	Part #	List	Features			
15 oz. Aerosol	17045		- Contains 95% pure zinc for a rich, protective coating - Prevents rust and corrosion for up to 3 years - Exceptional heat resistance - continuous dry heat up to 750° F(400° C), short period heat up to 1000° F (538° C), and water temperature above boiling - Dries quickly to an attractive gray color and be painted over if desired			

Zinc Cold Galvanizing Spray is a convenient smooth-flowing compound that stops rust, rust creepage and corrosion on any ferrous or non-ferrous metal by providing a zinc-rich coating, which electro chemiy bonds with metal resulting in a protective, self-forming oxide. Zinc cold galvanizing spray meets or exceeds the following military specifications: MIL-p-46105 weld thru primer. U.s. Navy galvanizing repair specification MIL-p-21034. U.S. Air force MIL-t-26433 for towers (temperate and arctic zones). Also MIL-p-26915a.

National: (800) 231-0734

Applications include:

Heating and air conditioning systems, weldments, road and farm equipment, bridges, boat and marine equipment, fencing, storage tanks, metal signs, gutters and more.

Available in: 15 oz. Aerosol *CFC free

8

CA-020™ INSTANT ADHESIVE

Size		Bottle				
Size	Part #	List	Features			
20 gram Bottle	23020	33	Most versatile instant adhesive available Fast overall cure speed Convenient dispenser bottle with screw cap Temperatures -40° F to +176° F (intermittent +250° F)			

CA-020 Instant Adhesive is a cyanoacrylate adhesive. Ca-020 is a medium viscosity, fast curing product with good elasticity for bonding plastics, metal, rubber, glass and dissimilar materials. It is a versatile adhesive with good thermal, climatic and impact resistance.

Electronic equipment including pc boards, connectors and transformers. Plastic cases, rubber fabrication and gaskets, appliances and office equipment.

Available in: 20 gram bottle (p/n 23020).

READY-STICK™ EPOXY PUTTY

Size	Part #	List	Features
4 oz. Tube/Stick	34114	7	 Ready-stick epoxy allows you the option of breaking off any portion and keeping the unuser stick for future use Withstands temperatures of -40° F to +250° F Sets steel-hard in 20 minutes Adhesive bonding to metal, wood, glass and most materials Can be tapped, drilled, filed, sanded and painter

Plumbing repair, electrical repair, construction equipment, auto/truck repair, home/shop repair, concrete pools, oil and water tanks, tools, sink and pipe joints, gas tanks & radiators.

Available in: 4 oz. Tube/stick (p/n 34114).

ADHESIVE SPRAY

Size	Aerosol				
	Part #	List	Features		
16 oz Aerosol	17066		- Colorless - Non-clogging - Non-toxic solids - Temperatures to +110 F - Low soak-in - Waterproof - Fast aggressive tack action		

Adhesive Spray is a multi-purpose, pressure-sensitive a designed to form either permanent or temporary bonds between two porous or non-porous materials. Adhesive spray is specially designed for many industrial applications as well as contractor, office, home and hobby use. Adhesive solids are non-toxic, non-irritating and meet requirements for indirect food additives as outlined in Fed. Reg. Paragraphs 121.2507 to 121.2577.

Permanent or temporary bonds on paper, cardboard, all types of gaskets, cloth, foil, mylar or acetate sheet, glass, many plastics, urethane foam, leather and foam rubber. Temporary bond eliminates need for tacks or pins, making any surface a bulletin board. Adhesive spray is used in: Printing plants, advertising agencies, trucking companies and shipping departments, or any industry for sealing packages and applying labels.

Available in: 16 oz. Aerosol (p/n 17066). *CFC free



National: (800) 231-0734 Local: (713) 675-6324

SHOP AIDS

AST GASKET MAKER



Size	Bottle			
Size	Part #	List	Features	
50 ml Bottle	50152		Alleviates the need for preformed gaskets. Remains Liquid when exposed to air. Cures when confined between mating flanges.	

Prevents corrosion and galling of threads.Can fill gaps as large as 0.050. AST Gasket Maker is an anaerobic gasket product designed to replace pre-cut gaskets, or can be used with pre cut gaskets to enhance their sealing ability. AST Gasket Maker cures and polymerizes in the absence of air and presence of metal to form a strong leak proof seal. It can fill imperfections in surfaces up

Cleaning and Application:

to 0.01" and provides an instant low pressure seal.

For best results make sure the bond surface areas are clean of all foreign

materials and free of grease or other lubricants or cleaning solvents. Apply AST Gasket Maker onto one surface of the flange or joint. Tighten the flanges using the recommended torque and torque pattern as soon as possible after assembly.

Available in: 50mL (1.69 FLoz)

AST RUBBER COAT



Size	Aerosol				
	Part #	List	Features		
16 oz Aerosol	17048		- Extremely durable rust and corrosion inhibitor Lays down smooth with a black finish Will not crack or peel with age Resists chipping Paintable Elastic Waterproof Deadens sound.		

AST Rubber Coat is a rubberized undercoating and spray sealer in an easy to use aerosol can. When dry, it forms a long lasting barrier that seeps into small cracks to create a waterproof seal that is durable even in extreme temperatures. AST Rubber Coat forms a protective barrier that seals out moisture, deadens noise, and forms a protective barrier to prevent further corrosion.

Applications include:

Automotive undercoating, truck chassis, roof flashings, duct sealer, foundation sealer, marine applications, drainpipes, and many others.

Cleaning:

For best results remove any excessive rust from your project using wire brush, media blasting, or pressure washing. Shake the AST Rubber Coat can for up to 1 minute. It's best to apply several light coats rather than

Available in: 16oz aerosol (453g)

SHOP AIDS

COUPLINGS

SLICKON FLOW-LUBE

Size	Aerosol				
	Part #	List	Features		
15 oz. Aerosol	17064		- Long lasting lubrication - Frees sticky mechanisms - Contains P.T.F.E for advanced lubrication - Extends equipment life - Protects against rust and corrosion - Does not contain silicones or wax - Ideal for humid environments - Extension tube for pinpoint lubrications		

SLICKON Flow-Lube is an advanced blend of high performance, low viscosity petroleum oils that provide long lasting lubrication for moving or sliding parts. It contains special wetting agents that help to penetrate grime so the lubricant maintains contact with the surface.

Conveyors, forklifts, hand truck and cartwheels, door hinges, loading dock doors, truck doors, machinery, tools, office equipment, shredders, deskdrawers, locks, cables, gears, landscaping equipment, snow removal, recreation gear, and much more.

Available in: 15oz Aerosol (425g)

GRAPHITE-SPRAY

Size	Aerosol				
Size	Part #	List	Features		
12 oz. Aerosol	17041		- Dry film of highly lubricous graphite - Parts slide easliy, reduces friction - Fast drying - Dry film lubricant does not attract dirt - Will effectively lubricatre up to 18,000 psi - Hardens to a tough long lasting tack free film		

Graphite-Spray contains a high purity graphite along with an organic binder that will adhere the coating to most surfaces. This leaves a dry, tack-free film of highly lubricous graphite which vill lubricate and reduce friction in parts so they slide or rotate easily.

Mold release, foundry molds, hinges and hinge pins, drawer slides, chains, rollers, gears, slides, sprockets, nuts and bolts, automotive and industrial gaskets, plant machinery, and much more.

Available in: 12oz aerosol (340g)

METAL PARTS PROTECTOR COAT

Size			Aerosol
OI2C	Part #	List	Features
11 oz. Aerosol	17043		 Protects for up to 2 years Penetrates to displace moisture Prevents rust and corrosion Guards against salt damage Coating is flexible and resilient Silicone free No chlorinated solvents

Metal Parts Protector Light Coat is a rust and corrosion preventative coating in an aerosol can. It will protect your parts during storage or transportaion. It protects parts from weather, humidity, chemical vapors, and salt exposure.

Bare metal, battery terminals and cables, cables and chains, forklifts, tractors, metal stampings, molds, tools, guns and rifles in storage. Marine use to protect parts against salt spray and hu-

Available in: 11oz aerosol (312g)





Local: (713) 675-6324 National: (800) 231-0734 Local: (713) 675-6324 National: (800) 231-0734 10 11

SHOP AIDS



* 22542	* 22543	39092	39422	39902	3972	12		
		Details			Bot	tle		
		•	s up to 1" diameter created to r, and non-polar solvents. (50		*22542			
	AST-SEAL™ PM:	Same as 22542 but five tir	mes more (250mL)		*22543			
AST-SE		se, low viscosity, retaining ies MIL-R-46082B, Type I	compound, green color for p 1.69 oz.	ress-fit	39092			
AST-LOCK		thread locking, removable to 3/4". MIL-S-46163A, T	e, adhesive/sealant, blue colo ype II 1.69 oz.	or for bolts	39422			
AST-LOCK™ 90		nedium/high strength, adh L-S-46163A,Type III. Grad	esive/sealant, green color for de R 1.69 oz.	preassembled	39902			
А	~	rength, adhesive sealant, 46163A, Type I. Grade K 1	red color for bolt/stud locking L.69 oz.		39712			

* For Hydraulic Use

HAND & TOOL WIPES



Size	Container						
Size	Part #	List	Features				
70 count	49370		 High powered multipurpose cleaner Uses include: industrial, plumbing, printing, manufacturing, construction, painting, transportaion, maintenance, marine, and much more 				

Hand and Tool Wipes are designed for use in industrial and manufacturing settings. Each towel is pre-moistened with a powerful cleaning formula capable of cleaning hard working hands as well as non-porous surfaces. Each towel is made from an abrasive, yet non-scratching fabric that helps lift away heavy deposits of grime and dirt of hands and surfaces.

1. Scrub greasy surfaces with abrasive side of towel until the grease is loosened, then use the smooth side to wipe the surface clean. 2. Discard used towel.

Available in: 70 count

SHOP AIDS

COUPLINGS +

SOF-SET PREMIUM GENERAL PURPOSE

	Part #	List	Features	$\sim\sim$	****	$\sim\sim$
1/2 pt Brush Top	29010		- Dries to a soft set	52525	*****	722
1 pt Brush Top	29018		- Corrosion inhibiting - Non-seizing to allow disassembly	∞		
1 gal can	29026		- Non-metallic solids, no heavy metals - Non-dripping - Can be applied to newly cut hot threads - Withstands temps to 4000F and pressures to 10,000 psi (liquid) & 2,600 psi (gas)			
eature allows the user			g, thread sealing compound. This slow drying uring application without fear of solvent loss.			
eature allows the user Applications: Threaded connections	for water, steamers to water, steamers to see the control of the c	an open di eam, LP an on all meta	uring application without fear of solvent loss. Indicate the many statements of the control of		a	

TUF-SET HIGH PERFORMANCE

Size Part # List Features 1/4 pt Brush Top 56004 - Smooth consistancy 1/2 pt Brush Top 56008 - Fast drying, firm setting Non-toxic, no heavy metal fillers Excellent corrosion protection Broad chemical resistance Will not run or drip after application Allows for easy disassembly Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam, and propane lines, and much more.	Part # List Features 1/4 pt Brush Top 56004 - Smooth consistancy 1/2 pt Brush Top 56008 - Fast drying, firm setting Non-toxic, no heavy metal fillers Excellent corrosion protection Broad chemical resistance Will not run or drip after application Allows for easy disassembly Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems,	Part # List Features 1/4 pt Brush Top 56004 - Smooth consistancy 1/2 pt Brush Top 56008 - Fast drying, firm setting Non-toxic, no heavy metal fillers Excellent corrosion protection Broad chemical resistance Will not run or drip after application Allows for easy disassembly Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residental plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam, and propane lines, and much more.				
Part # List Features 1/4 pt Brush Top 56004 - Smooth consistancy 1/2 pt Brush Top 56008 - Fast drying, firm setting Non-toxic, no heavy metal fillers Excellent corrosion protection Broad chemical resistance Will not run or drip after application Allows for easy disassembly Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam, and propane lines, and much more.	Part # List Features 1/4 pt Brush Top 56004 - Smooth consistancy 1/2 pt Brush Top 56008 - Fast drying, firm setting Non-toxic, no heavy metal fillers Excellent corrosion protection Broad chemical resistance Will not run or drip after application Allows for easy disassembly Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam, and propane lines, and much more.	Part # List Features 1/4 pt Brush Top 56004 - Smooth consistancy 1/2 pt Brush Top 56008 - Fast drying, firm setting Non-toxic, no heavy metal fillers Excellent corrosion protection Broad chemical resistance Will not run or drip after application Allows for easy disassembly Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam, and propane lines, and much more.	Sizo			
1/2 pt Brush Top 56008 - Fast drying, firm setting Non-toxic, no heavy metal fillers Excellent corrosion protection Broad chemical resistance Will not run or drip after application Allows for easy disassembly Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam, and propane lines, and much more.	1/2 pt Brush Top 56008 - Fast drying, firm setting Non-toxic, no heavy metal fillers Excellent corrosion protection Broad chemical resistance Will not run or drip after application Allows for easy disassembly Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam,and propane lines, and much more.	1/2 pt Brush Top 56008 - Fast drying, firm setting Non-toxic, no heavy metal fillers Excellent corrosion protection Broad chemical resistance Will not run or drip after application Allows for easy disassembly Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam, and propane lines, and much more.	Size	Part #	List	Features
1 gal can 56026 - Non-toxic, no heavy metal fillers - Excellent corrosion protection - Broad chemical resistance - Will not run or drip after application - Allows for easy disassembly - Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam, and propane lines, and much more.	1 gal can 56026 - Non-toxic, no heavy metal fillers - Excellent corrosion protection - Broad chemical resistance - Will not run or drip after application - Allows for easy disassembly - Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam, and propane lines, and much more.	1 gal can 56026 - Non-toxic, no heavy metal fillers - Excellent corrosion protection - Broad chemical resistance - Will not run or drip after application - Allows for easy disassembly - Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam, and propane lines, and much more.	1/4 pt Brush Top	56004		
1 gal can 56026 - Excellent corrosion protection - Broad chemical resistance - Will not run or drip after application - Allows for easy disassembly - Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam, and propane lines, and much more.	1 gal can 56026 Excellent corrosion protection Broad chemical resistance Will not run or drip after application Allows for easy disassembly Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam, and propane lines, and much more.	1 gal can 56018 - Excellent corrosion protection - Broad chemical resistance - Will not run or drip after application - Allows for easy disassembly - Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam,and propane lines, and much more.	1/2 pt Brush Top	56008		
1 gal can - Will not run or drip after application - Allows for easy disassembly - Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam, and propane lines, and much more.	- Will not run or drip after application - Allows for easy disassembly - Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam, and propane lines, and much more.	- Will not run or drip after application - Allows for easy disassembly - Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam,and propane lines, and much more.	1 pt Brush Top	56018		- Excellent corrosion protection
- Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam,and propane lines, and much more.	- Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam,and propane lines, and much more.	- Withstands temps to 4000F and pressures to 10,000 psi (liquid). Tuf-Set is a high performance pipe thread sealant specifiy designed for threaded connections commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam,and propane lines, and much more.	1 gal can	56026		
commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam, and propane lines, and much more.	commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam,and propane lines, and much more.	commonly used in heating, ventilation and refrigeration, HVAC, commercial and residentail plumbing, and industrial applications. It is fast drying, firm setting, and will stay flexible to resist vibration loosening Applications: Refrigerant lines, all plumbing pipe connections, fuel and kerosene lines, hydraulic systems, potable water lines, natural gas, steam, and propane lines, and much more.				- Withstands temps to 4000F and pressures
	Available in: 1/4 pt 1/2 pt 1 pt 1 gal	Available in: 1/4 pt 1/2 pt 1 pt 1 gal	plumbing, and industri- resist vibration loosenii Applications: Refrigerant lines, all plu potable water lines, nat	al application ng umbing pipe o ural gas, stea	s. It is fas connection m,and pro	at drying, firm setting, and will stay flexible to
Tuf-Set	Tuf-Set					and desirate
Tuf-Set	Tuf-56k non-punchan and ny venan sinan	SPECIAL SPECIA				

Local: (713) 675-6324 12 National: (800) 231-0734 Local: (713) 675-6324 13 National: (800) 231-0734

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	1. Excellent 2. Good	3. Fair Conditiona x. Not Satisfactory		NOTES:	No rationg in	dicates no	data availab	ole			
	AGENT		Mall. From Steel	Brass	Bronze	Aluminum	Glass	Stainless 410, 416, 430	Stainless 302, 202, 304, 308	Stainless 316	Monel
Acet	tate, Solvent	ts, Crude		3				2	1	1	2
Ace	etate, Solven	nts, Pure		1	1	1		1	1	1	1
	Acetic Ac	cid	Χ	X	X	2	1	X	2	2	2
А	cetic Acid	Vapor	Χ	Χ		3		Χ	2	2	3
F	Acetic Anhy	vdride	Χ	Х		2		Х	2	2	2
	Acetone	е	1	1	1	1	1	1	1	1	1
	Acetylen	ie .	1	2		1		1	1	1	2
	Alcohols	S	1	2		1		1	1	1	1
P	Aluminum Sı	ulfate	Χ	3	3	3	1	Χ	3	2	2
	Alums		Χ	3	2	3	1	X	3	2	2
	Ammonia (Gas	1	Χ	3	1	3	1	1	1	Χ
Ar	mmonium Cl	hloride	1	3		1*		3	3	1	1
Am	ımonium Hy	droxide	2	X		2		1	1	1	3
A	mmonium N	Nitrate	1	X		2		1	1	1	3
Ammoniun	n Phosphate	e (Ammoniacal)		Χ				1	1	1	2
Ammon	ium Phosph	ate (Neutral)		3				1	1	1	2
Ammo	nium Phosp	hate (Acid)		3				3	2	1	2
А	mmonium S	Sulfate	1	3				2	1	1	2
	Asphalt	t	1	2				2	1	1	1
	Beer		2	2	1	1		Χ	1	1	1
В	eet SugarLi	quors	1	2		1		2	1	1	1
	Benzene, Be	enzol	1	1	1	1	1	1	1	1	1
Benzin	ne (petroleur	m-naphtha)	1	1		1		1	1	1	1
	Borax		2	2				1	1	1	1
	Boric Aci	id	Χ	3		1		3	2	1	1
E	Butane, Buty	ylene	1	1	1	1		1	1	1	1
	Butadien	ne		1				1	1	1	1
C	Calcium Bist	ulfate		Χ				Χ	2	1	X
Ca	lcium Hypod	chlorite	3	3	3	X	3	Χ	3	2	3
Ca	ane Sugar L	iquors	1	2		1		2	1	1	1
Ca	arbon Dioxid	le (Dry)	1	1		1		1	1	1	1
Carbon Di	oxide (Wet &	& Aqueous Sol)	2	3		2		2	1	1	2
	Carbon Disu	ulfide	2	3		2		2	1	1	3
Ca	ırbon Tetrac	hloride	3	1	2	3	1	1	1	1	1
	Chlorine (D	Ory)	2	2	2	1	2	2	2	2	1
	Chlorine (V	Wet)	Χ	Χ	3	Χ	2	Χ	Χ	3	3
	Chromic A			X	Х	X	1	3	2	2	3
	Citric Aci	id	Χ	3		1		3	Χ	1	2
	Coke Oven		1	3		2		1	1	1	2
	Copper Sul		Χ	X		Χ		1	1	1	3
	Core Oil			1	1			1	1	1	1
	Cottonseed	d Oil	1	1	1	1		1	1	1	1
	Creosot		2	3		1		1	1	1	1
	Ethers		2	1		1		1	1	1	1
	Ethylene GI	_	2	2				1	1	1	1
	Ferric Chlo		Χ	X	Χ	Χ	1	Χ	X	Χ	Χ
	Ferric Sulf	fate	Χ	X		Х		1	1	1	3
	Formaldeh	yde	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 14 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	NO	TES. NOT	ationy maic	ales 110 uai	la avaliable				
AGENT	Mall. From Steel	Brass	Bronze	Aluminum	Glass	Stainless 410, 416, 430	Stainless 302, 202, 304, 308	Stainless 316	Monel
Formic Acid	Χ	2		X		Χ	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	Χ	X
Hydrocyanic Acid	3	X		1		3	1	1	2
Hydrofluoric Acid	Χ	3	3	Χ	X	X	X	X	X
Hydrogen Fluoride	1	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	V		3		1	3	2	1
Lime-Sulfur	2	X		2		1	1	2	1
Linseed Oil Magnesium Chloride	3	3		1 X		3	1 2	1	1
Magnesium Hydroxide		2		X		1	1	1	1
Magnesium Hydroxide 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	Χ	X	Χ	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	Χ
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 15 National: (800) 231-0734

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 2. 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				Χ	Χ	3	2
Soda Ash (Sodium Carbonate)	1	2		Χ		1	1	1	1
Sodium Bicarbonate	3	1		Χ		1	1	1	1
Sodium Bisulfate	X	3		3		Χ	1	1	1
Sodium Chloride	2	3	2	Χ	1	3	2	1	1
Sodium Cyanide	2	Χ		Χ		1	1	1	2
Sodium Hydroxide	3	Χ	3	Χ	Χ	2	2	2	1
Sodium Hypochlorite	Х	Χ		Χ		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				Χ	2	1	1
Sodium Silicate	1	3		Χ		1	1	1	1
Sodium Sulfate	1	2		3		1	1	1	1
Sodium Sulfide	1	Χ				1	1	1	2
Sodium Thiosulfate (Hypo)	3	X		Χ		1	1	1	2
Stearic Acid	3	3		3		2	2	1	1
Sulfate Liquors		Χ				1	1	1	2
Sulfur	2	Χ		2		2	2	1	3
Sulfur Chloride	X	Χ				X	3	2	2
Sulfur Dioxide (Dry)	2	1		1		1	1	1	1
Sulfur Dioxide (Wet)		X				Χ	2	1	Χ
Sulfuric Acid 10%	X	Χ	3	3		Χ	Χ	2	2
Sulfuric Acid 10-75%	X	Χ	Χ	Χ		Χ	Χ	Χ	2
Sulfuric Acid 75-95%	3	Χ	X	Χ		3	3	2	3
Sulfuric Acid 95%	2	Χ	Χ			2	2	2	Χ
Surlfurous Acid	X	Χ		Χ		Х	3	2	Х
Tannic Acid	3	3	1	Χ			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	Χ		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		Χ		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

Local: (713) 675-6324 National: (800) 231-0734

16

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:

CLASSA	(HICH OIL DESISTANCE)	VOLUME CHANGE MAXIMUM +25%	TENSILE STRENGTH RETAINED 80%
	(MEDIUM/HIGH OIL RESISTANCE)		50%
	(MEDIUM OIL RESISTANCE)		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 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
- diene-terpolymer MQ - Dimethyl-polysiloxane FKM-Fluoracarbon rubber

EPDM - Ethylene-propylene-

- **CM** Chloro-polyethylene ECO/CO-Ephichlorohydrin
- **EXLPE-** Chloro-sulfonvlpolyethylene

National: (800) 231-0734 Local: (713) 675-6324 17

NOTES



Local: (713) 675-6324 18 National: (800) 231-0734