



# SILICONE TUBING FOR MEDICAL AND PHARMACEUTICAL APPLICATIONS



The world's leading pharmaceutical and medical device companies rely on HelixMark to provide an extensive selection of high-quality silicone tubing and fluid handling products.

All HelixMark products are clean room manufactured in compliance with medtech and pharmaceutical industry requirements.

The following criteria apply to all articles of this program:

- Materials approved in accordance with USP Class VI, ISO 10993-1, FDA 21CFR 177-2600 and EP 3.1.9 or EP 3.1.9 without appearance of solution
- Exclusive utilization of platinum-cured silicone
- Production and packaging in ISO Class 8 clean rooms
- Certified manufacturing in compliance with ISO 13485 quality standards
- Sterilizable in autoclaves, with ethylene oxide and by gamma irradiation
- Material certification in every package
- Lot traceability
- Double bagged and box packaging
- Off-the-shelf availability guarantees short delivery times
- Customer-specific solutions available outside the HelixMark standard product portfolio





# HELIXMARK® STANDARD TUBING

HelixMark standard silicone tubing meets the needs of a broad range of applications and is universally applicable for the transfer of fluids under standard requirements. The tubing is offered in four types of silicone elastomer: Dow Corning, Wacker, NuSil, and Momenive. Individually packed in pre-cut lengths of 50 feet.

Values listed are typical and may vary. Typical hardness: 50 Shore A and 60 Shore A. 50 foot coils (~15 m). Packaged double bagged in boxes. Material certificate and lot traceability documents included in every box.\*

**IN ACCORDANCE WITH**  
ISO: ISO 10993-1  
FDA: FDA 21CFR 177-2600  
USP: USP-CLASS VI  
EP: EP 3.1.9  
(EP): EP 3.1.9 without appearance of solution

\* Individual measured values may differ from mean values. These values are not to be considered as product specifications. Non-implantable, non-sterile.

INSIDE DIAMETER		OUTSIDE DIAMETER		WALL THICKNESS		DOW CORNING ISO, FDA, USP, EP	WACKER ISO, FDA, EP	NUSIL ISO, USP, EP	MOMENTIVE USP, FDA
inch	mm	inch	mm	inch	mm	REF	REF	REF	REF
.012	0.31	.025	0.64	.006	0.15	60-011-01	60-411-40	60-795-01	60-805-01
.020	0.51	.037	0.94	.008	0.20	60-011-02	60-411-41	60-795-02	60-805-02
.025	0.64	.047	1.19	.011	0.28	60-011-03	60-411-42	60-795-03	60-805-03
.030	0.76	.065	1.65	.018	0.46	60-011-04	60-411-43	60-795-04	60-805-04
.040	1.02	.085	2.16	.023	0.58	60-011-05	60-411-44	60-795-05	60-805-05
.058	1.47	.077	1.96	.009	0.23	60-011-06	60-411-45	60-795-06	60-805-06
.062	1.58	.095	2.41	.016	0.41	60-011-07	60-411-46	60-795-07	60-805-07
.062	1.58	.125	3.18	.032	0.81	60-011-08	60-411-47	60-795-08	60-805-08
.078	1.98	.125	3.18	.024	0.61	60-011-09	60-411-48	60-795-09	60-805-09
.104	2.64	.192	4.88	.044	1.12	60-011-10	60-411-49	60-795-10	60-805-10
.132	3.35	.183	4.65	.026	0.66	60-011-11	60-411-50	60-795-11	60-805-11
.125	3.18	.250	6.35	.063	1.59	60-011-21	60-411-51	60-795-21	60-805-21
.188	4.76	.313	7.94	.063	1.59	60-011-22	60-411-52	60-795-22	60-805-22
.188	4.76	.375	9.53	.094	2.38	60-011-23	60-411-53	60-795-23	60-805-23
.250	6.35	.375	9.53	.063	1.59	60-011-24	60-411-54	60-795-24	60-805-24
.250	6.35	.438	11.11	.094	2.38	60-011-25	60-411-55	60-795-25	60-805-25
.250	6.35	.500	12.70	.125	3.18	60-011-26	60-411-56	60-795-26	60-805-26
.313	7.94	.500	12.70	.094	2.38	60-011-27	60-411-57	60-795-27	60-805-27
.375	9.53	.500	12.70	.063	1.59	60-011-28	60-411-58	60-795-28	60-805-28
.375	9.53	.563	14.29	.094	2.38	60-011-29	60-411-59	60-795-29	60-805-29
.375	9.53	.625	15.88	.125	3.18	60-011-30	60-411-60	60-795-30	60-805-30
.500	12.70	.688	17.46	.094	2.38	60-011-31	60-411-61	60-795-31	60-805-31
.500	12.70	.750	19.05	.125	3.18	60-011-32	60-411-62	60-795-32	60-805-32
.625	12.70	.875	22.23	.125	3.18	60-011-33	60-411-63	60-795-33	60-805-33
.625	15.88	.938	23.82	.156	3.97	60-011-34	60-411-64	60-795-34	60-805-34
.750	19.05	1.000	25.40	.125	3.18	N/A	60-411-65	N/A	N/A

## TYPICAL MATERIAL PROPERTIES AS CURED

Specific Gravity [g/cm³]	1.16	1.15	1.14	1.15
Durometer Hardness, Shore A	50	60	50	50
Tear Strength, Die B, psi	262	218	230	270
Tensile Strength, Die C, psi	1473	1385	1350	1400
Elongation [%]	903	771	810	880

# HELIXMARK®

## PERISTALTIC PUMP TUBING

HelixMark peristaltic pump tubing is designed and manufactured for use with peristaltic pumps and other applications with higher effective forces. A special production process designed to meet these requirements ensures that the products provide greater stability and capacity to withstand high stress. Offered in a range of sizes suitable for use with all commonly used pump types. The tubing is individually packaged in pre-cut lengths of 25 feet.



Values listed are typical.  
Typical hardness: 60 Shore A.  
TW=Thick Wall (variance between competition pump numbers), 25 foot coils (~7 m).  
Packaged double bagged in boxes. Material certification and lot traceability documents included in every box.\*

**IN ACCORDANCE WITH**  
ISO: ISO 10993-1  
FDA: FDA 21CFR 177-2600  
USP: USP-CLASS VI  
EP: EP 3.1.9  
(EP): EP 3.1.9 without appearance of solution

\* Individual measured values may differ from mean values. These values are not to be considered as product specifications. Non-implantable, non-sterile.

INSIDE DIAMETER		OUTSIDE DIAMETER		WALL THICKNESS		FITS PUMP TUBE SIZE	ISO, FDA, USP
inch	mm	inch	mm	inch	mm	REF	
.020	0.51	.146	3.71	.063	1.60	#112	60-825-15
.031	0.79	.157	3.99	.063	1.60	#13	60-825-23
.039	0.99	.063	1.60	.012	0.31		60-825-27
.059	1.50	.099	2.52	.020	0.51		60-825-37
.063	1.60	.189	4.80	.063	1.60	#14	60-825-43
.063	1.60	.251	6.38	.094	2.39	#119	60-825-45
.079	2.01	.119	3.02	.020	0.51		60-825-51
.099	2.52	.139	3.53	.020	0.51		60-825-63
.118	3.00	.158	4.01	.020	0.51		60-825-70
.125	3.18	.251	6.38	.063	1.60	#16	60-825-79
.125	3.18	.313	7.95	.094	2.39	#120	60-825-82
.158	4.01	.214	5.44	.028	0.71		60-825-93
.188	4.78	.314	7.98	.063	1.60	#25	60-825-104
.188	4.78	.376	9.55	.094	2.39	#15	60-825-108
.188	4.78	.388	9.86	.100	2.54	#15TW	60-825-110
.188	4.78	.438	11.13	.125	3.18	#123	60-825-112
.250	6.35	.376	9.55	.063	1.60	#17	60-825-130
.250	6.35	.438	11.13	.094	2.39	#24	60-825-133
.250	6.35	.450	11.43	.100	2.54	#24TW	60-825-136
.250	6.35	.500	12.70	.125	3.18	#26	60-825-139
.250	6.35	.520	13.21	.135	3.43	#26TW	60-825-141
.313	7.95	.439	11.15	.063	1.60	#18	60-825-160
.313	7.95	.501	12.73	.094	2.39	#35/121	60-825-163
.313	7.95	.629	15.98	.158	4.01	#185	60-825-166
.375	9.53	.563	14.30	.094	2.39	#36/122	60-825-191
.375	9.53	.625	15.88	.125	3.18	#73	60-825-194
.375	9.53	.645	16.38	.135	3.43	#73TW	60-825-197
.375	9.53	.749	19.03	.187	4.75	#70/190	60-825-200
.473	12.01	.789	20.03	.158	4.01	#186	60-825-230
.500	12.70	.750	19.05	.125	3.18	#82	60-825-243
.500	12.70	.770	19.56	.135	3.43	#82TW	60-825-245
.500	12.70	.874	22.20	.187	4.75	#88	60-825-248
.625	15.88	.875	22.23	.125	3.18	#184	60-825-262
.625	15.88	.999	25.38	.187	4.75	#189	60-825-270
.630	16.00	.946	24.03	.158	4.01	#187	60-825-288
.750	19.05	1.124	28.55	.187	4.75	#191	60-825-310
1.000	25.40	1.374	34.90	.187	4.75	#92	60-825-420
1.000	25.40	1.400	35.56	.200	5.08	#92TW	60-825-428

# HELIXMARK®

## BRAIDED REINFORCED TUBING

HelixMark braided reinforced tubing is designed and manufactured for increased pressure and high temperature applications. Pressure-proof polyester braiding, firmly embedded between two layers of silicone, lends this tubing its particular durability and resistance to pressure. The tubing is individually packaged in pre-cut lengths of 25 feet.



INSIDE DIAMETER		OUTSIDE DIAMETER		MIN BURST	ISO, FDA, USP, EP
inch	mm	inch	mm	PSI	REF
.125	3.18	.365	9.27	705	60-664-20
.187	4.76	.447	11.35	655	60-664-30
.250	6.35	.520	13.21	630	60-664-40
.312	7.93	.592	15.04	555	60-664-45
.375	9.53	.655	16.64	505	60-664-50
.500	12.70	.800	20.32	430	60-664-60
.625	15.88	.965	24.51	355	60-664-70
.750	15.88	1.100	27.94	280	60-664-80
.875	22.23	1.235	31.37	255	60-664-90
1.000	25.40	1.360	27.94	230	60-664-100

Values listed are typical.  
 Typical hardness: 65 Shore A.  
 25 foot coils (~7 m). Packaged double bagged in boxes. Material certification and lot traceability documents included in every box.\* Minimum burst pressure measured at 70°F (21°C) .

**IN ACCORDANCE WITH**  
 ISO: ISO 10993-1  
 FDA: FDA 21CFR 177-2600  
 USP: USP-CLASS VI  
 EP: EP 3.1.9  
 (EP): EP 3.1.9 without appearance of solution

\* Individual measured values may differ from mean values. These values are not to be considered as product specifications.  
 Non-implantable, non-sterile.



## HELIXMARK® COLOR STRIPE TUBING

HelixMark color stripe tubing helps to maintain a clear overview in complex tubing systems and enables quick and easy identification of individual applications, sizes or functional configurations. The tubing is available with stripes in red, green and white, individually packaged in pre-cut lengths of 50 feet.

Values listed are typical.  
Typical hardness: 60 Shore A.  
50 foot coils (~15 m).  
Packaged double bagged in boxes. Material certification and lot traceability documents included in every box.\*

**IN ACCORDANCE WITH**  
ISO: ISO 10993-1  
FDA: FDA 21CFR 177-2600  
USP: USP-CLASS VI  
EP: EP 3.1.9  
(EP): EP 3.1.9 without appearance of solution

INSIDE DIAMETER		OUTSIDE DIAMETER		WALL THICKNESS		RED STRIPE ISO, FDA, USP	GREEN STRIPE ISO, FDA, USP	WHITE STRIPE ISO, FDA, USP
inch	mm	inch	mm	inch	mm	REF	REF	REF
.125	3.18	.250	6.35	.063	1.59	61-078-21	61-079-21	61-080-21
.188	4.76	.375	9.53	.094	2.38	61-078-23	61-079-23	61-080-23
.250	6.35	.500	12.70	.125	3.18	61-078-26	61-079-26	61-080-26
.313	7.94	.500	12.70	.094	2.38	61-078-27	61-079-27	61-080-27
.375	9.53	.625	15.88	.125	3.18	61-078-30	61-079-30	61-080-30
.500	12.70	.750	19.05	.125	3.18	61-078-32	61-079-32	61-080-32



## HELIXMARK® CLOSE TOLERANCE TUBING

HelixMark close tolerance silicone tubing maintains particularly tight tolerances with regard to inner diameter and wall thickness and is subjected to stringent quality assurance measures in production. This ensures increased dosing precision in demanding applications. The tubing is individually packaged in pre-cut lengths of 50 feet.

Values listed are typical.  
Typical hardness: 50 Shore A.  
50 foot coils (~15 m).  
Packaged double bagged in boxes.\* Material certification and lot traceability documents included in every box.

**IN ACCORDANCE WITH**  
ISO: ISO 10993-1  
FDA: FDA 21CFR 177-2600  
USP: USP-CLASS VI  
EP: EP 3.1.9  
(EP): EP 3.1.9 without appearance of solution

INSIDE DIAMETER		OUTSIDE DIAMETER		WALL THICKNESS	ISO, FDA, USP, EP
inch	mm	inch	mm	bar	REF
.125	3.18	.250	6.35	1.59	60-111-21
.188	4.76	.313	7.95	1.60	60-111-22
.250	6.35	.375	9.53	1.59	60-111-24
.250	6.35	.438	11.13	2.39	60-111-25
.375	9.53	.563	14.29	2.38	60-111-29
.375	9.53	.625	15.88	3.18	60-111-30
.500	12.70	.688	17.48	2.39	60-111-31
.500	12.70	.750	19.05	3.18	60-111-32
.625	15.88	.875	22.23	3.18	60-111-33

\* Individual measured values may differ from mean values. These values are not to be considered as product specifications. Non-implantable, non-sterile.





## HELIXMARK® PHARMAFOCUS® TUBING

HelixMark PharmaFocus tubing is manufactured with a platinum-cured silicone that was developed especially to meet the needs of the pharmaceutical industry. The tubing is individually packaged in pre-cut lengths of 50 feet.

INSIDE DIAMETER		OUTSIDE DIAMETER		WALL THICKNESS		ISO, FDA, USP, EP
inch	mm	inch	mm	inch	mm	REF
.125	3.18	.250	6.35	.063	1.59	<b>61-252-21</b>
.188	4.76	.313	7.94	.063	1.59	<b>61-252-22</b>
.188	4.76	.375	9.53	.094	2.38	<b>61-252-23</b>
.250	6.35	.438	11.11	.094	2.38	<b>61-252-25</b>
.250	6.35	.500	12.70	.125	3.18	<b>61-252-26</b>
.313	7.94	.500	12.70	.094	2.38	<b>61-252-27</b>
.375	9.53	.625	15.88	.125	3.18	<b>61-252-30</b>
.500	12.70	.750	19.05	.125	3.18	<b>61-252-32</b>
.625	15.88	.875	22.23	.125	3.18	<b>61-252-33</b>
.750	15.88	1.000	22.23	.125	3.18	<b>61-252-35</b>
1.000	19.05	1.500	25.40	.250	6.35	<b>61-252-36</b>

Values listed are typical.  
Typical hardness: 50 Shore A.  
50 foot coils (~15 m).  
Packaged double bagged in boxes. Material certification and lot traceability documents included in every box.\*

**IN ACCORDANCE WITH**  
ISO: ISO 10993-1  
FDA: FDA 21CFR 177-2600  
USP: USP-CLASS VI  
EP: EP 3.1.9  
(EP): EP 3.1.9 without appearance of solution



## HELIXMARK® CLAMP GASKETS

HelixMark clamp gaskets ensure reliable sealing of radial plug-in connectors. The gaskets are suitable for all commonly used diameters and sizes and are supplied in packages of 25.

TYPE	INSIDE DIAMETER		ISO, FDA, USP, EP
	inch	mm	REF
Mini	0.5	12.70	<b>70-400-05</b>
Mini	0.75	19.05	<b>70-400-07</b>
Standard	1.0	25.40	<b>70-400-10</b>
Standard	1.5	38.10	<b>70-400-15</b>
Standard	2.0	50.80	<b>70-400-20</b>
Standard	2.5	63.50	<b>70-400-25</b>
Standard	3.0	76.20	<b>70-400-30</b>
Standard	4.0	101.60	<b>70-400-40</b>
Standard	6.0	152.40	<b>70-400-60</b>

Values listed are typical. Typical hardness: 80 Shore A. Please contact customer service for tolerances and for custom size requests. Packaged 25 per zip bag in crush-resistant boxes.\* Material Certification and Lot Traceability included. Not for implantation. Nonsterile.

**IN ACCORDANCE WITH**  
ISO: ISO 10993-1  
FDA: FDA 21CFR 177-2600  
USP: USP-CLASS VI  
EP: EP 3.1.9  
(EP): EP 3.1.9 without appearance of solution

\* Individual measured values may differ from mean values. These values are not to be considered as product specifications. Non-implantable, non-sterile.



# HELIXMARK® STOPPERS

HelixMark silicone stoppers enable reliable sealing of glass tubes, vials and flasks. The stoppers are suitable for all commonly used diameters and sizes and are supplied in packages of 12.

Values listed are typical.  
Typical hardness: 50 Shore A.  
Please contact customer service for tolerances and custom size requests.  
Packaged 12 per zip bag in crush-resistant boxes.\*  
Material Certification and Lot Traceability included.  
Not for implantation.  
Nonsterile.

**IN ACCORDANCE WITH**  
ISO: ISO 10993-1  
FDA: FDA 21CFR 177-2600  
USP: USP-CLASS VI  
EP: EP 3.1.9  
(EP): EP 3.1.9 without appearance of solution

\* Individual measured values may differ from mean values. These values are not to be considered as product specifications. Non-implantable, non-sterile.

SZ	TOP DIAMETER		BOTTOM DIAMETER		HEIGHT		ISO, FDA, USP, EP
	inch	mm	inch	mm	inch	mm	REF
000	.512	13	.315	8	.984	25	70-416-99
00	.519	15	.394	10	.984	25	70-416-90
0	.669	17	.669	13	.984	25	70-416-00
1	.748	19	.787	14	.984	25	70-416-01
2	.787	20	.945	16	.984	25	70-416-02
3	.945	24	1.024	18	.984	25	70-416-03
4	1.024	26	1.063	20	.984	25	70-416-04
5	1.063	27	1.260	23	.984	25	70-416-05
6	1.260	32	1.457	30	.984	25	70-416-06
7	1.457	37	1.457	30	.984	25	70-416-07
8	1.614	41	1.614	33	.984	25	70-416-08
9	1.772	45	1.772	37	.984	25	70-416-09
10	1.969	50	1.969	42	.984	25	70-416-10
12	2.520	64	2.520	54	.984	25	70-416-12
13	2.677	68	2.284	58	.984	25	70-416-13

# HELIXMARK® TWO-HOLE STOPPERS

Values listed are typical.  
Typical hardness: 50 Shore A.  
Please contact customer service for tolerances and custom size requests.  
Packaged 12 per zip bag in crush-resistant boxes.\*  
Material Certification and Lot Traceability included.  
Not for implantation.  
Nonsterile.

**IN ACCORDANCE WITH**  
ISO: ISO 10993-1  
FDA: FDA 21CFR 177-2600  
USP: USP-CLASS VI  
EP: EP 3.1.9  
(EP): EP 3.1.9 without appearance of solution

\* Individual measured values may differ from mean values. These values are not to be considered as product specifications. Non-implantable, non-sterile.

SZ	TOP DIAMETER		BOTTOM DIAMETER		HEIGHT		HOLE DIAMETER		ISO, FDA, USP, EP
	inch	mm	inch	mm	inch	mm	inch	mm	REF
000	.512	13	.315	8	.984	25	.118	3	70-619-99
00	.591	15	.394	10	.984	25	.118	3	70-619-90
0	.669	17	.512	13	.984	25	.118	3	70-619-00
1	.748	19	.551	14	.984	25	.157	4	70-619-01
2	.787	20	.630	16	.984	25	.196	5	70-619-02
3	.945	24	.709	18	.984	25	.196	5	70-619-03
4	1.024	26	.787	20	.984	25	.196	5	70-619-04
5	1.063	27	.906	23	.984	25	.236	6	70-619-05
6	1.260	32	1.024	26	.984	25	.314	8	70-619-06
7	1.457	37	1.181	30	.984	25	.354	9	70-619-07
8	1.614	41	1.299	33	.984	25	.393	10	70-619-08
9	1.772	45	1.457	37	.984	25	.472	12	70-619-09
10	1.969	50	1.654	42	.984	25	.551	14	70-619-10
12	2.520	64	2.127	54	.984	25	.623	16	70-619-12
13	2.677	68	2.284	58	.984	25	.623	16	70-619-13



# HELIXMARK®

## CUSTOM SERVICES

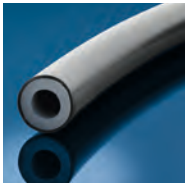
In addition to the products for the general needs of the medtech and pharmaceutical industry shown in our catalog, we also offer a wide range of options for customer-specific silicone tubing solutions. This allows the configuration of made-to-measure solutions to meet the customer's precise requirements.



**MULTI-LUMEN  
TUBING**



**CUSTOM COLORS**



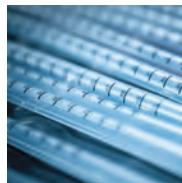
**UV-LIGHT SHIELDING  
TUBING**



**RADIOPAQUE  
TUBING**



**PACKAGING ON  
SPOOLS**



**PAD PRINTING**



**DOUBLE BRAIDED  
TUBING**



**LASER PRINTING**



**TUBING SYSTEMS**



**ADDITIONAL SERVICES**

- Precision cut-to-length
- Tip trimming
- Hole Punching
- Skiving
- Overmolding



**Freudenberg Medical manufactures products exclusively for the medical and pharmaceutical industry. This focus enables us to understand and rapidly and efficiently fulfill our customers' precise requirements. Our capabilities as a supplier and partner in the development of products and solutions are distinguished by exceptional flexibility and innovation.**

We are your global partner for the design, development and production of innovative medical technology and combination products. Our portfolio is comprised of complex medical components and catheter solutions for minimally invasive devices. We are a leading manufacturer not only in the field of precision molded components and tubing in silicone and thermoplastics, but also in coating technologies and the production of metal hypotubes.

Freudenberg Medical is a part of the Freudenberg Group, a technology group with a tradition reaching back over 165 years and a provider of innovative products for more than 30 market segments around the globe.

In our daily work, both our corporation and individual employees are committed to upholding the values for which we all stand:

- Value for customers
- Innovation
- Leadership
- People
- Responsibility and
- Long term orientation

As a development partner, we ensure that every innovation project our customers entrust to us is realized and led to commercial success by our unique combination of technical expertise, a global R & D network, financial stability and enormous flexibility.

# SILICONE CHEMICAL COMPATIBILITIES

- Little or no effect (Volume swell <10%)
- Possible loss of physical properties (Volume swell 10–20%)
- Noticeable change (Volume swell 20–40%)
- Not suitable for service

## Chemical Medium

- Acetaldehyde
- Acetamide
- Acetic Acid, 25% to 60%
- Acetic Anhydride
- Acetone
- Acetylene
- Acrylonitrile
- Alums
- Aluminum Chloride
- Aluminum Salts
- Aluminum Sulfate
- Ammonia Gas, Cold
- Ammonia Gas, Hot
- Ammonium Hydroxide, Concentrated
- Ammonium Nitrate
- Ammonium Phosphate
- Ammonium Salts
- Ammonium Sulfate
- Amyl Acetate
- Amyl Alcohol
- Amyl Borate
- Amyl Chloride
- Amyl Chloronaphthalene
- Amyl Naphthalene
- Aniline
- Aniline Hydrochloride
- Asphalt
- Barium Chloride
- Barium Hydroxide
- Barium Salts
- Beer
- Beet Sugar Liquors
- Benzaldehyde
- Benzene
- Benzoic Acid
- Bleach Liquor
- Borax
- Boric Acid
- Bromine
- Bromobenzene
- Butane
- Butyl Acetate
- Butyl Alcohol
- Butyraldehyde
- Calcium Bisulfide
- Calcium Chloride
- Calcium Hydroxide
- Calcium Hypochlorite
- Calcium Nitrate
- Calcium Salts
- Cane Sugar Liquors
- Carbitol
- Carbolic Acid
- Carbon Dioxide
- Carbon Monoxide
- Carbon Tetrachloride
- Carbonic Acid
- Castor Oil
- Caustic Soda
- Chlorinated Solvents
- Chlorinated Solvents, Dry
- Chlorinated Solvents, Wet
- Chlorobenzene
- Chlorobromomethane
- Chloroform
- Chloronaphthalene
- Chlorosulfonic Acid
- Chlorotoluene
- Chrome Plating Solution
- Chromic Acid
- Citric Acid
- Coconut Oil
- Cod Liver Oil
- Copper Salts
- Corn Oil
- Creosote, Coal Tar
- Creosote, Wood
- Cresol
- Cyclohexane
- Detergent Solutions
- Dextrose
- Diacetone Alcohol
- Dichlorobenzene
- Diethyl Ether
- Diethylamine
- Diethylene Glycol
- Dimethyl Formamide
- Dioctyl Phthalate
- Dioxane
- Diphenyl
- Ethers
- Ethanolamine
- Ethyl Acetate
- Ethyl Acetoacetate
- Ethyl Alcohol
- Ethyl Cellulose
- Ethyl Chloride
- Ethylene
- Ethylene Chlorohydrin
- Ethylene Diamine
- Ethylene Dichloride
- Ethylene Glycol
- Ethylene Oxide
- Ethylene Trichloride
- Fatty Acids
- Ferric Chloride
- Ferric Sulfate
- Fluorobenzene
- Formaldehyde
- Formic Acid
- Fuel Oil
- Fumaric Acid
- Gasoline
- Gelatin
- Glucose
- Glycerin
- Glycols
- Green Sulfate Liquor
- Halowax Oil
- Hexaldehyde
- Hexane
- Hydrazine
- Hydrobromic Acid
- Hydrochloric Acid, 3 Molar to 158°F
- Hydrochloric Acid, Hot 37%
- Hydrocyanic Acid
- Hydrofluoric Acid, Concentrated Hot
- Hydrofluorosilicic Acid
- Hydrogen Gas
- Hydrogen Peroxide
- Hydrogen Sulfide, Dry Cold
- Hydrogen Sulfide, Wet Cold
- Isobutyl Alcohol
- Isooctane
- Isopropanol
- Isopropyl Acetate
- Kerosene
- Lactic Acid, Cold
- Lard
- Lead Acetate
- Lead Nitrate
- Linseed Oil
- Lithium Hydroxide
- Lubricating Oils, Petroleum
- Lye
- Magnesium Chloride
- Magnesium Salts
- Magnesium Sulfate
- Manganese Sulfate
- Mercury
- Mesityl Oxide
- Methane
- Methanol
- Methyl Bromide
- Methyl Chloride
- Methylene Di-P-Phenylene Isocyanate
- Methyl Ethyl Ketone
- Methyl Isobutyl Ketone
- Methyl Methacrylate
- Methylene Chloride
- Milk
- Mineral Oils
- Monochlorobenzene
- Naphtha
- Naphthalene
- Natural Gas
- Nickel Chloride
- Nickel Salts
- Nitric Acid, 50–100%
- Nitrobenzene
- Nitroethane
- Nitrogen
- Nitrogen Oxides
- Animal Oil
- Lubricating Oils, Petroleum
- Mineral Oils
- Vegetable Oils
- Oleic Acid
- Oxalic Acid
- Oxygen, Cold
- Ozone
- Paraffins
- Perchloric Acid
- Perchloroethylene
- Petrol
- Phenol
- Phosphoric Acid
- Phthalic Acid
- Picric Acid
- Pinene
- Potassium Carbonate
- Potassium Chlorate
- Potassium Cyanide
- Potassium Dichromate
- Potassium Hydroxide
- Potassium Iodide
- Potassium Nitrate
- Potassium Salts
- Producer Gas
- Propane
- Pyridine
- Pyrrole
- Sea Water
- Sewage
- Silicone Oils
- Silver Nitrate
- Soap Solutions
- Soda Ash
- Sodium Bicarbonate
- Sodium Bisulfate
- Sodium Bisulfide
- Sodium Borate
- Sodium Chloride
- Sodium Cyanide
- Sodium Hydroxide
- Sodium Hypochlorite
- Sodium Nitrate
- Sodium Perborate
- Sodium Peroxide
- Sodium Phosphate, Dibasic
- Sodium Sulfate
- Sodium Sulfide
- Sodium Sulfite
- Sodium Thiosulfate
- Soybean Oil
- Stannic Chloride
- Stannous Chloride
- Stearic Acid
- Stoddard Solvent
- Styrene
- Sulfur Chloride
- Sulfur Dioxide
- Sulfur Hexafluoride
- Sulfur Dioxide
- Sulfur Trioxide
- Sulfuric Acid, Concentrated Room Temp
- Sulfuric Acid, Concentrated to 158°F
- Sulfurous Acid
- Tannic Acid
- Tar, Bituminous
- Tartaric Acid
- Tributyl Mercaptan
- Tin Chloride
- Toluene
- Trichloroethane
- Trichloroethylene
- Tricresyl Phosphate
- Turpentine
- Vegetable Oils
- Vinegar
- Water
- Whiskey
- Wine
- Xylene
- Xylol
- Yeast, Aqueous

**Note:** Volume swell is only one indicator of elastomer fluid compatibility and may be based on the solubility parameter alone. Fluid attack on the backbone of the polymer may show up as change in physical properties such as Tensile Strength, Elongation at Break, and Hardness. Elevated temperature and extended exposure times may create more aggressive conditions than cited in this guide.

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