

# Flexible Components PharmaSmooth™



## Smooth Outer

Saint-Gobain Performance Plastics' new PharmaSmooth™ flexible hose solves a long-standing problem associated with cleaning the rough surface of any hose covered with EPDM rubber. PharmaSmooth's EPDM outer surface achieves close to a 20 Ra rating, enabling you to quickly and easily remove dirt on the hose cover with a wet cloth and enhancing the overall cleanliness of your operation.

## Smooth Inner

The Chemfluor® FEP fluoropolymer liner used in PharmaSmooth™ has been the top choice in the process industry for many years. The high purity, ultra-smooth inner bore surface of the hose prevents virtually all material entrapment and bacteria build-up, meeting the stringent sanitary standards required in critical processing applications such as pharmaceutical, bio-pharmaceutical, food and beverage production. Chemfluor®'s superb chemical resistance minimizes the corrosive effects of transferred media, enabling PharmaSmooth™ to deliver exceptional flow rates over the life of the hose.

*Smooth OD and ID Chemfluor®  
FEP Fluoropolymer Lined EPDM  
Covered Flexible Hose*

## Features/Benefits

- Ultra smooth OD surface
- Easy to clean
- Smooth ID when bent
- Imparts no taste or odor
- Excellent bend radius
- Kink resistant
- Sterilizable and autoclavable
- Non-aging liner
- Full vacuum rated
- Super chemical resistant

## Typical Applications

- Load cells
- Skid transfer
- Pumping stations/portable pumps
- Vessel or tank transfer
- Rail car loading/unloading
- Transfer lines
- CIP
- Chemical process lines

## Fittings Options

### PermaSeal® Crimp Style Fittings

- Over 40 styles of crimp-style fittings in a wide range of materials

### Flare-Thru Fittings

- Available in Sanitary Clamp style, Flange style and locking or non-locking swivel female cam-lock styles

## PharmaSmooth™ Hose Specifications

Part Number	Inside Diameter		Outside Diameter		Maximum Working Pressure		Minimum Burst Pressure		Minimum Bend Radius		Vacuum Hg @ 70°F		Weight	
	in.	mm.	in.	mm.	PSI	Mpa	PSI	Mpa	in.	mm.	in.	mm.	lb./ft.	kg./m.
8PSTLCT	1/2	12.7	7/8	23.1	500	3.45	2,100	14.48	2.50	63.50	29.9	75.95	0.35	0.52
12PSTLCT	3/4	19.1	1-1/4	31.8	500	3.45	2,100	14.48	3.25	82.55	29.9	75.95	0.62	0.92
16PSTLCT	1	25.4	1-1/2	38.1	450	3.10	1,800	12.41	4.75	120.65	29.9	75.95	0.75	1.12
20PSTLCT	1-1/4	31.8	1-3/4	44.5	320	2.21	1,600	11.03	7.00	177.80	29.9	75.95	0.98	1.46
24PSTLCT	1-1/2	38.1	2	52.1	300	2.07	1,350	9.31	9.00	228.60	29.9	75.95	1.20	1.79
32PSTLCT	2	50.8	2-5/8	67.3	250	1.72	1,200	8.27	11.50	292.10	29.9	75.95	1.50	2.24
40PSTLCT	2-1/2	63.5	3-1/4	81.3	200	1.38	900	6.21	18.00	457.20	29.9	75.95	2.35	3.50
48PSTLCT	3	76.2	3-3/4	93.0	150	1.03	700	4.83	22.00	558.80	29.9	75.95	2.50	3.73
64PSTLCT	4	101.60	4-3/4	119.4	150	1.03	600	4.14	34.00	863.60	29.9	75.95	3.60	5.36

NOTE: Weights and outside diameter dimensions are nominal. End fitting vs. hose pressure limitations must be considered and the lower of the two ratings must be used on assemblies.

Chemfluor® Physical Properties	Durometer Hardness Shore, A, 15s	Color*	Maximum Recommended Operating Temp. °F (°C)	Tensile Strength psi (M Pa)	Ultimate Elongation %	Brittle Temperature	Specific Gravity	Water Absorption %	Chemical Solvent Resistance	Folding Endurance (cycles)
ASTM Method	D2240-91			D1457, D1708, D638	D1457, D1708, D638	D746-79	D792	D570-81		
Chemfluor® FEP	55D	Translucent	400 (204)	3400 (23)	325	-100°F	2.15	<0.01	Excellent	5 - 80 x 10 <sup>3</sup>
Chemfluor® PFA	60D	Translucent	500 (260)	3600 (25)	300	-320°F (-196°F)	2.15	<0.03	Excellent	50 - 500 x 10 <sup>3</sup>
Chemfluor® PTFE	58D	Translucent	500 (260)	3000 - 5000 (20.7 - 34.5)	300	-450°F	2.13 - 2.22	<0.01	Excellent	10 <sup>6</sup>

## Industry Approvals & Compliances

- FDA approved per 21CFR177.1550
- US Pharmacopeia Class VI

## Construction

- Inner Tube: Chemfluor® FEP
- Cover: EPDM rubber cover
- Reinforcement:
  - Multiple polyester plycord and EPDM rubber
  - Double helix, high tensile strength carbon steel wire

## Colors

- Light grey with a white layline in grey lettering
  - Other colors are available as special orders.
- Minimum quantity required. Consult factory for details.

## Temperature Rating

- -40°F TO +350°F (-40°C TO +177°C)

## Saint-Gobain Performance Plastics

460 Milltown Road  
Bridgewater, NJ 08807  
Tel: (800) 435-3992  
Fax: (908) 575-0459



**Limited Warranty:** For a period of 6 months from the date of first sale, Saint-Gobain Performance Plastics Corporation warrants this product(s) to be free from defects in manufacturing. Our only obligation will be to provide replacement product for any portion proving defective, or at our option, to refund the purchase price thereof. User assumes all other risks, if any, including the risk of injury, loss or damage, whether direct or consequential, arising out of the use, misuse, or inability to use this product(s). SAINT-GOBAIN PLASTICS DISCLAIMS ANY AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

**NOTE:** Saint-Gobain Performance Plastics Corporation does not assume any responsibility or liability for any advice furnished by it, or for the performance or results of any installation or use of the product(s) or of any final product into which the product(s) may be incorporated by the purchaser and/or user. The purchaser and/or user should perform its own tests to determine the suitability and fitness of the product(s) for the particular purpose desired in any given situation.

## Important Helpful Tips in Hose Applications

**Burst pressure** ratings at ambient 70°F (21°C). See applicable notes below on vacuum/pressure ratings at temperatures other than ambient.

**Working Pressure** is given @ 70°F; Decrease working pressure 1% for every 2°F above 212°F.

**Vacuum Rating** is given @ 70°F; Decrease vacuum rating 1% for every 2°F above 212°F. For 1-1/4" and larger sizes, vacuum rating decreases when installed less than 2 X min. bend radius.

**Flare-Thru fittings are pressure rated only. Not rated for vacuum service.**

**Extended Service Life Tip:** Flexible Components suggest using full-length anti-kink armor casing or at least 16" to 24" long anti-kink cuffs (see Hose Cover Options, pages 75-76) at each fitting end to help reduce the strain on the crimp collar and fittings in high load installations. Prolonged service at elevated temperatures will reduce total service life.

PharmaSmooth™ is a trademark.  
Chemfluor® and PermaSeal® are registered trademarks.