

Venaflon® HF-X

Ref: DO 03.10 FT 264. Rev. 10
Date: 03/10/2023



Applications

It is specially recommended for the transport of liquid or semi-liquid fluids in the food, cosmetic, chemical and pharmaceutical industries.

This hose presents a wide field of application due to its construction which gives it a balance between strength and lightness. The inner layer for this hose is made of PFA (Perfluoroalkoxy) which has a high compatibility with highly aggressive chemicals.

This hose is able to transport liquid or semi-liquid food-stuffs by impulsion or suction since its design can resist either pressure or vacuum.

Limitations

Respect the bending radius and work pressure established values.

Mind the chemical compatibility of the fluid with the inner PFA

Regulations

The inner layer of PFA is in compliance of:

- Reg 1935/2004/EEC, and Reg 10/2011/EEC
- US FDA Standard 21 CFR 177.1550
- USP Class VI <88> in vivo tests
- USP Class VI <87> in vitro tests
- ISO 10993-5, 10 y 11

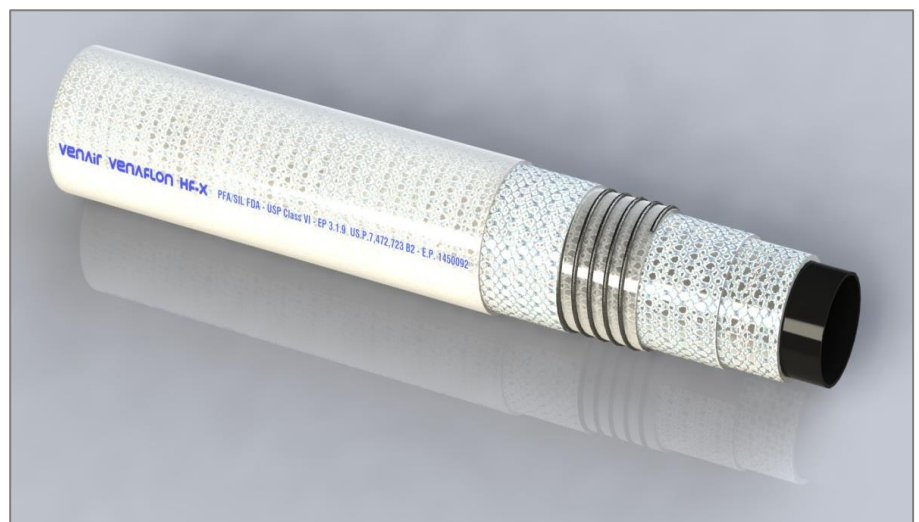
The outer silicone layer is in compliance of:

- US FDA Standard 21 CFR 177.2600
- USP Class VI <88> in vivo tests
- USP Class VI <87> in vitro tests
- ISO 10993-5, 10 y 11
- European Pharmacopoeia 3.1.9

Properties

- Odorless, tasteless and completely non-toxic.
- High flexibility
- The inner PFA layer of this hose presents a resistivity lower than $10^6 \Omega$.
- Black and smooth appearance of the inner layer of PFA, translucent and smooth appearance of the outer silicone layer.
- Can be equipped with 316L stainless steel fittings on each end with a roughness value of less than $0,8 \mu\text{m}$ (or $0,5 \mu\text{m}$ on request).
- Upon request it can be equipped with Clamp fittings with a conductive inner cover of PFA.
- Operational temperature range from -30°C (-22 F) to $+150^\circ\text{C}$ (302 F).
- The hose is manufactured in a maximum length of 20m (65.62 ft).
- The vacuum resistance is 0.9 bar (13.05 psi).

Technical Specifications



Inner Diameter		Wall Thickness		Working Pressure ISO 1402		Bending Radius ISO 10619-1	
<i>mm</i>	<i>Inch</i>	<i>+0.8/-0.8 mm</i>	<i>±0.03 inch</i>	<i>Bar at 20°C</i>	<i>Psi at 68°F</i>	<i>mm</i>	<i>inch</i>
6.0	0.24	6.0	0.24	10	145.04	40	1.57
13.0	½	6.0	0.24	10	145.04	120	4.72
19.0	¾	6.0	0.24	10	145.04	120	4.72
25.0	1	6.0	0.24	10	145.04	150	5.91
32.0	1 ¼	6.0	0.24	10	145.05	200	7.87
38.0	1 ½	7.0	0.28	10	145.05	250	9.84
51.0	2	8.0	0.31	10	145.05	300	11.81
63.5	2 ½	8.0	0.31	5	72.52	380	14.96
76	3	8.0	0.31	5	72.52	460	18.11

Construction

This reference is manufactured with a conductive ($R < 10^6 \Omega$) black inner layer of PFA (Perfluoroalkoxy), polyester reinforcements and a stainless steels spring wire encased.

Technical information for explosive atmospheres

	Reference standards	Classification of hose grades
ATEX standard	Directive 2014/34/EU	Metal-hose assembly or non-conductive hose assemblies with or without metal fittings are not considered a product under the scope of the Directive 2014/34/EU because they have no autonomous function and are not essential to safe functioning of ATEX equipment or protective system. The CE and ATEX logos are not applicable.
	EN12115:2021	SD hose assemblies for suction and delivery duty
Electrical features information	EN 12115:2021 Test: ISO 8031:2020 (Clause 4) (if is complete with end fittings) $R < 100\Omega$ per length	Continuous electrically bonded
	ISO 8031:2020 & IEC/TS 60079-32-1:2013 Antistatic only on inner lining (incorporating antistatic layer, $1k\Omega \leq R \leq 100M\Omega$)	Ω -L
Explosive Atmosphere inside the hose	ATEX ZONES	Zone 0-20 (Class I & II D1) Zone 1-21 (Class I & II D1) Zone 2-22 (Class & II D2) According to IEC/TS 60079-32-1:2013 the hose can classify as "Acceptable" for flammable high conductive liquids (>10.000 pS/m), and as "Generally acceptable" ¹ for medium and low conductive liquids (<10.000 pS/m)
Explosive Atmosphere outside the hose	ATEX ZONES	Zone 0-20 (Class I & II D1) Zone 1-21 (Class I & II D1) Zone 2-22 (Class & II D2) It is necessary a specific analysis of the risk according to the point "Use precautions"

¹ "Generally acceptable". **Antistatic Ω -L** grade hoses are acceptable in most circumstances but should be avoided immediately downstream of high charging devices such as high throughput fine filters that may generate more than 10 μ A of current (point 7.7.3.5 of IEC/TS 60079-32-1:2013).

⚠ Where rates of charge generation can exceed 10 μ A, Antistatic Ω -L grade hoses, may not be able to dissipate charges safely. In this case, a **Grade Ω -L or Ω -CL Conductive** hose should be used (for example Venaflon® Full-X).

Use precautions

- This hose cannot be used for transport of explosive materials.

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- Properly connect of the hose to earth (is necessary earth the hose metal fittings or directly the wire of both ends of the hose).
- The end-to-end resistance of the hose should be checked regularly to ensure that this bonding remains intact. It is recommendable to perform this check before each use.
- It is not allowed a prolonged friction in the surface of the hose.
- The hose must be clean of flammable products outside on the surface of the hose.
- The hose should be inspected over the entire length for signs of hardening, abrasion, cuts, kinking, crushing, cracks, scratches, breaks or tears. It is recommendable to perform this check before each use. These faults required the affected hose to be replaced.