



### Applications

Hose recommended for suctions and transport in food and pharmaceutical industries. Generally acceptable for pneumatic transport of non-flammable bulk materials and suction of all types of abrasive particles. Also recommended for the chemical industry. It is recommended especially when the inner product is abrasive. It has smooth inner and outer appearance.

### Properties

- Completely non-toxic.
- Black and smooth appearance of the inner layer, white and smooth appearance of the outer layer.
- The inner layer of the hose presents a resistivity lower than  $10^7 \Omega$ .
- 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).
- Operational temperature range from  $-20^\circ\text{C}$  ( $-4^\circ\text{F}$ ) to  $+90^\circ\text{C}$  ( $194^\circ\text{F}$ ), it may reach up to  $+120^\circ\text{C}$  ( $248^\circ\text{F}$ ) during short periods of time.
- The standard manufacturing length is 4 meters long (13.12 ft.), but in specific diameters a length of 6 meters (19.69 ft) can be manufactured.
- It can be cleaned with steam or SIP process at  $120^\circ\text{C}$ .
- Loss of volume of  $40\text{-}50\text{mm}^3$ .

### Limitations

Respect the bending radius and work pressure established values.

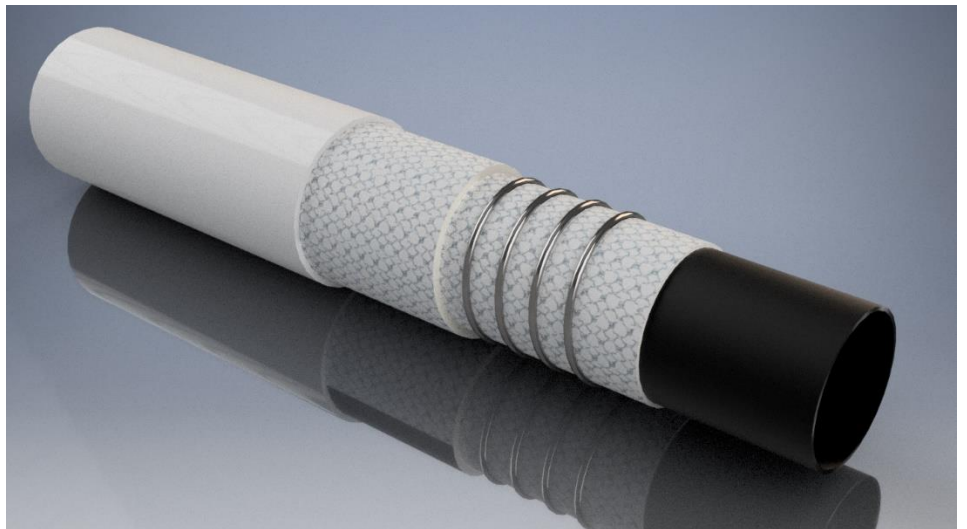
### Regulations

Abrasil produced in compliance with:

- US FDA Standard 21 CFR 177.260
- ResAp 2004 (5), according to Reg 1935/2004/EEC, and Reg10/2011/EEC

This hose is in accordance with EU Directive 2002/95/ECC for Restriction of the use of hazardous substances (RoHS)

### Technical Specifications



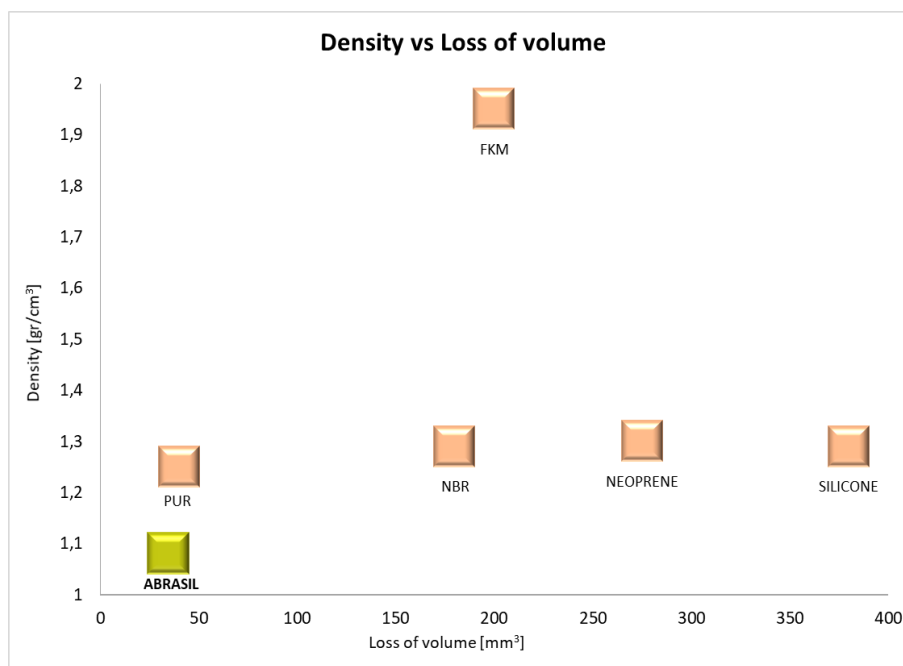
Inner Diameter		Wall thickness		Working Pressure ISO 1402		Bursting Pressure ISO 1402		Bending Radius ISO 1746	
mm	inch	+1/-0.5 mm	+0.04/-0.02 inch	Bar at 20°C	Psi at 68°F	Bar at 20°C	Psi at 68°F	mm	inch
6	¼	5.0	0.20	14.5	210.3	43.5	630.9	28.6	1.13
8	5/16	5.0	0.20	14.1	204.8	42.4	614.3	31.4	1.24
10	3/8	5.0	0.20	13.7	199.3	41.2	598.0	34.4	1.35
13	½	5.0	0.20	13.2	191.3	39.6	574.0	39.1	1.54
16	5/8	5.0	0.20	12.7	183.5	38.0	550.6	44.3	1.74
19	¾	5.0	0.20	12.1	175.9	36.4	527.7	49.7	1.96
22	7/8	5.0	0.20	11.6	168.5	34.8	505.4	55.6	2.19
25	1	5.0	0.20	11.1	161.2	33.3	483.7	61.8	2.43
32	1 ¼	5.0	0.20	10.0	145.1	30.0	435.2	77.7	3.06
38	1 ½	5.0	0.20	9.1	132.0	27.3	396.0	92.9	3.66
51	2	5.0	0.20	7.3	106.3	22.0	318.9	130.8	5.15
63	2 ½	5.0	0.20	5.9	85.7	17.7	257.2	171.8	6.76
76	3	5.5	0.22	4.6	66.8	13.8	200.4	222.8	8.77
102	4	5.5	0.22	2.7	39.6	8.2	118.7	345.2	13.59

### Construction

This reference is manufactured with two polyester fabric reinforcement and a metal wire spring, everything encased inside the hose.

### Additional information

The table below represents



### Technical information for explosive atmospheres

#### Obligations

- This reference is outside the scope of the ATEX Directive 94/9/EC due to the fact it's a product having not their own source of ignition.
- End-to-end electrical bonding to assure continuity is necessary; metal helix of the hose must be connected electrically to both end fittings.
- Properly connect of the hose to earth (is necessary earth the hose metal fittings or directly the wire of both ends of the hose).
- This hose cannot be used for transport of explosive materials.

#### Electrical properties

	Reference standards	Classification of hose grades
Electrical features information	ISO 8031:2009 / EN12115 (if is complete with end fittings) $R < 100\Omega$	Continuous electrically bonded
	ISO 8031:2009 & IEC/TS 60079-32-1:2013 <b>Antistatic only on inner lining</b> (incorporating antistatic layer, $1k\Omega \leq R \leq 100M\Omega$ )	$\Omega$ -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 <sup>1</sup> " for medium and low conductive liquids ( $< 10.000$ pS/m).

	Reference standards	Classification of hose grades
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)  <b>It is necessary a specific analysis of the risk according to the point "Use precautions"</b>

### Use precautions

<sup>1</sup> "Generally acceptable". Antistatic  $\Omega$ -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  $\mu$ A of current (point 7.7.3.5 of IEC/TS 60079-32-1:2013).

**⚠** Where rates of charge generation can exceed 10  $\mu$ A, Antistatic  $\Omega$ -L grade hoses, may not be able to dissipate charges safely. In this case, a Grade  $\Omega$ -L or  $\Omega$ -CL Conductive hose should be used.

- This hose cannot be used with pneumatic transport of bulk materials. For such pneumatic transport the leakage resistance from any place of the inner wall of the hose has to be less than 100 M $\Omega$  (point 9.3.3 of IEC/TS 60079-32-1:2013).

- The end-to-end resistance of the hose should be checked regularly to ensure that this bonding remains intact. It's 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.

- The hose should be inspected over the entire length for signs of hardening, abrasion, cuts, kinking, crushing, cracks, scratches, breaks or tears. It's recommendable to perform this check before each use. These faults required the affected hose to be replaced.