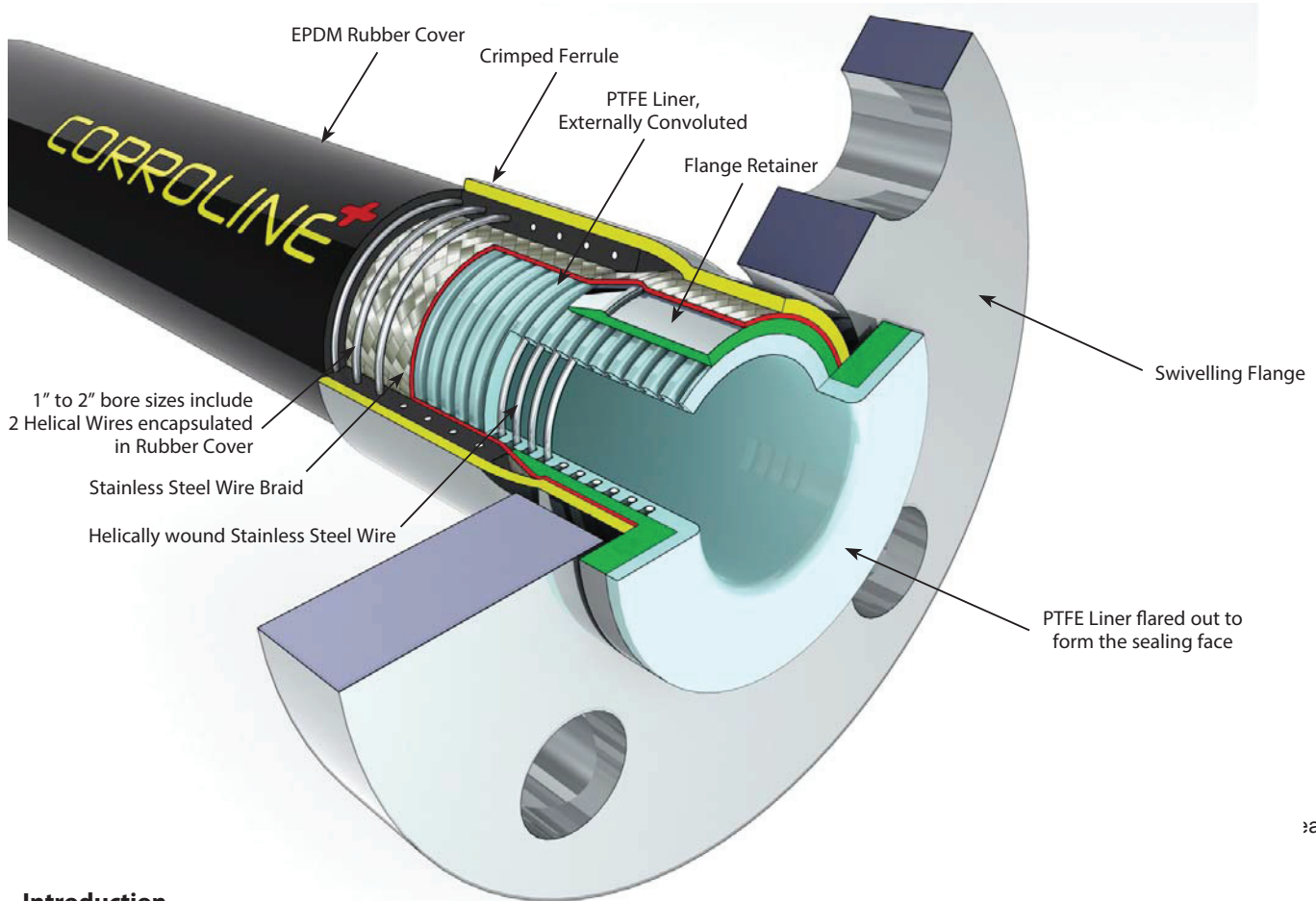


Corroline⁺ Hose Description

CORROLINE⁺ GP HOSE, FITTED WITH AN INTEGRAL PTFE LINED FLANGE FITTING



Introduction

Corroline⁺ hose was designed and developed to provide customers with a universal chemical hose product which combined all the requirements they had requested for chemical plant applications, particularly the need for improved flexibility and kink resistance.

Corroline⁺ hose not only supersedes but also improves upon the wide variety of alternative Chemical Hose products currently available.

Construction

Corroline⁺ is built around a unique PTFE hose liner design, which has a slightly rippled smooth bore inside, but convoluted outside to generate excellent flexibility combined with "hoop strength". Grade GP hose has a natural (clear) PTFE liner tube and Grade AS hose has an antistatic (Black) PTFE liner tube.

A stainless helical wire is wound in to the external convolutions, which adds to the kink resistance, crush resistance and the resistance of the hose to both pressure and vacuum.

This reinforced PTFE Liner construction is strong enough to withstand full vacuum and kinking without the need for either internal convolutions or the need to bond the liner to an outer cover, making it an ideal hose liner design, and a significant improvement upon standard products currently available.

The PTFE liner is then further reinforced with a 304 SS wire braid. A smooth finish black antistatic EPDM rubber cover is extruded over the braid, which includes two helical reinforcement wires encapsulated in the rubber cover which render the hose kinkproof. The rubber cover has a mirror smooth surface finish to aid cleaning, and the antistatic rubber is specially compounded to make the hose 'fireproof'.

Corroline⁺ Hose - The best Flexible Hose for Chemical Plant Applications.

Corroline⁺ Specifications & Properties

Specifications for Corroline⁺ Hose Grades

Nominal Hose Size		Actual Bore Size		Outside Diameter		Maximum Working Pressure		Minimum Bend Radius		**Maximum Continuous Lengths		Weight per Unit Length	
in	mm	in	mm	in	mm	psi	bar	in	mm	ft	mtrs	Kg/Mtr	lb/ft
1/2 *	12.7	0.51	13.0	0.85	21.5	1000	69	1 3/8	35	100	30	0.40	0.27
3/4 *	19.1	0.76	19.4	1.12	28.5	1000	69	2	50	100	30	0.70	0.47
1	25.4	1.01	25.7	1.45	37.0	600	41	2 3/4	70	100	30	1.10	0.74
1 1/4	31.8	1.26	32.0	1.75	44.6	550	38	3 5/16	100	100	30	1.60	1.07
1 1/2	38.1	1.51	38.5	2.03	51.7	500	34	4 3/4	120	100	30	1.92	1.29
2	50.8	2.00	51.0	2.55	65.0	400	28	5 15/16	150	100	30	2.80	1.88

* The 1/2" and 3/4" size hoses do not include the 2 helical wires embedded in the rubber

** Longer lengths may be available, to special order

- **Pressure and Temperature Limitations**

Maximum Working Pressures - as listed above apply from -40°C (-40°F) up to the maximum operating temperature of 140°C (284°F).

Burst Pressures - The hose burst pressures are equal to or more than the maximum working pressures × 4.

- **Vacuum Limitations**

Usable at full vacuum up to 140°C/284°F.

- **Flexibility**

Much less force to bend than any other smooth bore PTFE lined hose product.

- **Kinkproof**

Much more resistant to kinking than any other smooth bore PTFE lined hose product, and much more kink resistant than the previous Corroline product.

- **Fire resistance**

Corroline⁺ hose is Fireproof to BS5173 Section 103.13 Parts 6.2 and 6.3, and Corroline⁺ hose assemblies can be upgraded to Fireproof by applying DBK 300 at each end (see pg 11). All assemblies comply with the flammability requirement as set out in BS.EN.12115.

- **'Rolling U' Flex Life Test**

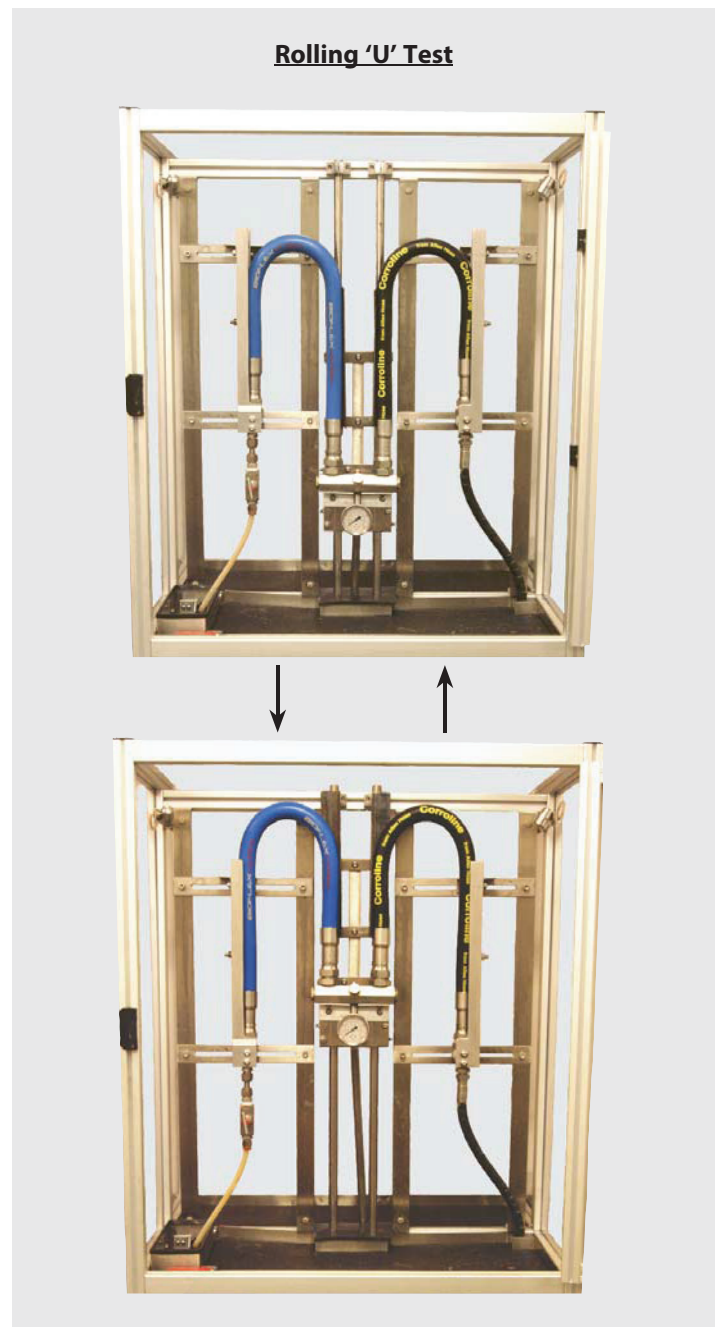
More than 100 × the flex life to failure compared with all other types of smooth bore PTFE, FEP and PFA lined rubber covered hose products.

- **Flow rates**

More than 2 times the flow rates for convoluted bore hose designs. Consult Aflex Hose for specific flow rate information.

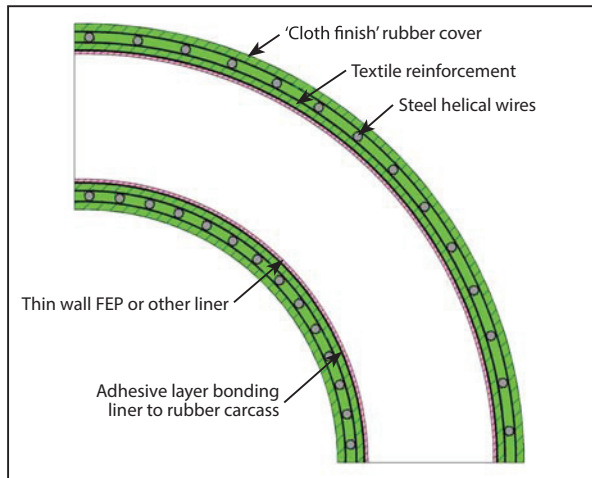
- **Gas permeability**

Reduced gas permeability compared with other PTFE lined hose designs, due to the heavy compression applied to the PTFE during processing, which reduces porosity.

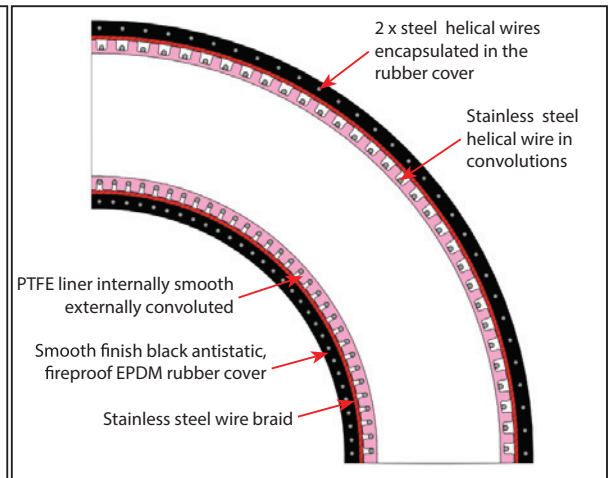


Comparison with Competitors Hose

Competitors PTFE, FEP, PFA or another Plastic or Fluoroplastic thin wall hose liner bonded inside a Rubber Hose.



Corroline+ PTFE lined hose, Stainless Steel wire helix and braid, outer rubber cover.



Bore Profile	Smoothbore, but internal profile collapses into large uneven ripples when flexed	✗	Smoothbore internal profile slightly rippled, ripples increase evenly when flexed	✓
Liner Material	FEP or another Fluoroplastic liner, - Good but not as good as PTFE XLPE or UHMWPE - Fair chemical resistance	✗ X	PTFE Liner -Best for chemical resistance and temperature resistance	✓
Process Fluid Contamination Risk	High Risk - adhesive layer can leach in to contaminate the process fluid through pinholes in the thin wall liner, caused by static discharge, flex induced porosity, hose kinking etc.	X	No Risk - no adhesive layer - no non-FDA approved materials present in the hose construction	✓
Flexibility	Fair to Poor - Very stiff, with a large minimum bend radius	X	Good - More flexible, reduced minimum bend radius	✓
Flex Life (Rolling 'U' Test)	Poor, typically from 1000 to 7000 cycles to failure	X	Excellent 100,000+ cycles without failure	✓
Kink Resistance	Good	✗	Excellent	✓
Cut Through or Puncture Resistance	Fair (Textile braid protection)	✗	Good (Stainless Steel Wire Braid Protection)	✓
Antistatic Liner Quality to FDA Requirements (<2.5% High Purity Black)	Often more than 2.5% Black (non-FDA), often unevenly dispersed, leading to carbon agglomerates which contaminate Process Fluid	X	Always less than 2.5% Black, very evenly dispersed and guaranteed agglomerate-free. 'Leachable and Extractable' testing yields zero carbon	✓
Fire Resistance	Not tested or approved to be Fireproof	X	Tested and approved 'Fireproof' to BS5173 Section 103.13	✓