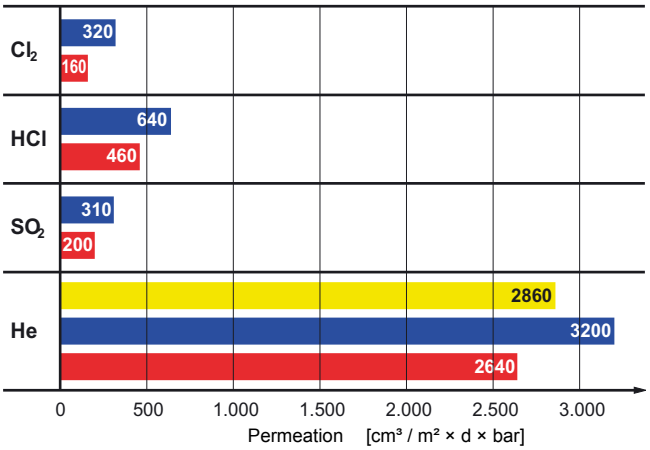
Argumentation BIANCA butterfly valve with ULTRAFLON® liner

Extremely low permeability for a longer operating life and improved safety

Highly concentrated acids and aggressive gases are able to diffuse through conventional PTFE liners and can attack or even destroy the back liners or the inside of the housing after only a short period of use. The rate of diffusion increases with rising temperature. The hardening of the back liner material can cause leaks around the shaft and result in a higher torque on the butterfly valve. Reduced operational safety is the result.
Because of its more dense polymeric microstructure, the new **ULTRAFLON®** lining, which can be fitted optionally in the **BIANCA butterfly valve**, is effective in reducing the diffusion of concentrated acids and aggressive gases and guarantees the trouble-free functioning of the valve over a longer operating life. The operator benefits from improved operational safety when handling aggressive and ultrapure media.

Permeation
Comparison of ULTRAFLON® - PTFE - PFA
(film thickness 1mm)



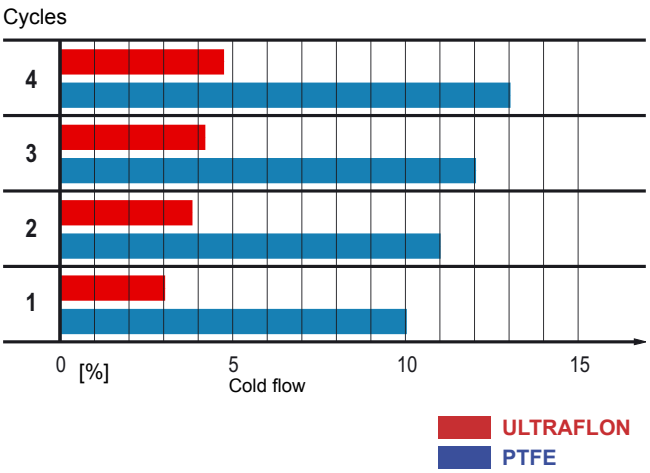
Lowest levels of cold flow guarantee permanently tight seals

When the exterior sealing surfaces of a solid PTFE liner are compressed between the sealing surfaces of the valve flange, there is a tendency for the PTFE to 'flow' in those areas where there is less mechanical loading, a phenomenon known as cold flow. The non-chambered part of the liner in the valve housing (if present) flows radially outwards from the central valve axis. To prevent leaking, the flange must therefore be retightened regularly. However, repeated retightening of the flange can cause the liner to shear. High switching rates also cause additional cold flow on the inner side of the lining towards the backliner. The sealing surface deforms becoming concave and the result are leaks in the pipework at that point allowing the entrained medium to escape.
The much denser polymeric microstructure of the new **ULTRAFLON®** liner, which is optionally available with the **BIANCA butterfly valve**, exhibits a significantly lower tendency to undergo cold flow. The problems associated with cold flow are thus effectively prevented, guaranteeing trouble-free valve function over a longer operating life. The improved stability of the **ULTRAFLON®** liner makes it the liner of choice for vacuum applications. The operator benefits from improved operational safety when handling aggressive and ultrapure media.

Deformation

under repeated load „Cold flow behavior"

Loading : 15 N/mm², 4 cycles
Duration : 100 hours each cycle
Temperature : 23°C (73°F)
Perm. deformation after 24 hours recovery



InterApp®

Fluids under control.

Argumentation BIANCA butterfly valve with ULTRAFLON® liner

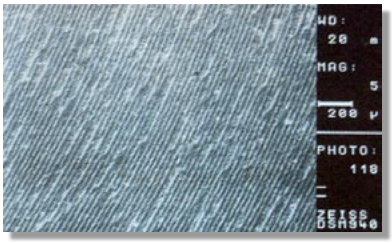
Excellent abrasion resistance and significantly reduced wear

Outstanding features of the new (optional) **ULTRAFLON®** lining are its dense polymeric microstructure, its increased Shore hardness and the fact that its surface is significantly smoother after machine processing than that of conventional PTFE linings. The much improved elongation at break and the increased tensile modulus of the new sintered lining are examples of the excellent mechanical properties that make the new material so well suited for use at high temperatures, high switching rates and, above all, in high purity applications. Like PTFE, **ULTRAFLON®** exhibits high thermal stability and chemical resistance.
With its **ULTRAFLON®** lining collar, precision machined to extremely high tolerances, the **Bianca** butterfly valve has been shown to have the lowest degree of material abrasion between the liner and the disc. Endurance tests have demonstrated that the quantity of abraded particles released into the medium is significantly reduced with **ULTRAFLON®** liners. The significantly reduced wear means a longer operating life for the valve, thus ensuring increased safety and a corresponding fall in maintenance costs.

25x enlargement of the surface of a unprepared PTFE liner

25x enlargement of the surface of a unprepared ULTRAFLON® liner

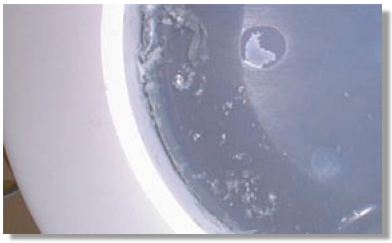
Whereas particle boundaries are still clearly visible after sintering PTFE, the **ULTRAFLON®** liner exhibits a homogeneous surface free of particle boundaries.



50x enlargement of the surface of a machined PTFE liner

50x enlargement of the surface of a machined ULTRAFLON® liner

After machining, the surface of the **ULTRAFLON®** liner is much smoother than that of a liner made of PTFE making the **ULTRAFLON®** component less susceptible to abrasive wear.



Abrasion of a standard PTFE liner

Lowest abrasion of a ULTRAFLON® liner

InterApp AG
Grundstrasse 24
CH-6343 Rotkreuz
Phone +41 (0) 41 7982233
Fax +41 (0) 41 7982234
info@ch.interapp.net

InterApp Germany
AVK Mittelmann Armaturen
Schillerstrasse 50
D-42489 Wülfrath
Phone +49 (0) 2058 901 01
Fax +49 (0) 2058 901 110
info@avkmittelmann.com

InterApp Austria
Kolpingstrasse 19
A-1230 Wien
Phone +43 (0) 1 6162371-0
Fax +43 (0) 1 6162371-99
info@at.interapp.net

InterApp Italy
Via Gramsci 29
I-20016 Pero (MI)
Phone +39 02 339371
Fax +39 02 33937200
info@it.interapp.net

InterApp Válvulas
Calderón de la Barca 12
E-28860 Paracuellos de Jarama
Phone +34 (0) 91 6584360
Fax +34 (0) 91 6581430
info@es.interapp.net

AVK Válvulas
Polígono Industrial
Francolí, parcela 27
E-46006 Tarragona
Phone +34 977 543 008
Fax +34 977 541 622
avk@avkvalvulas.com

InterApp Singapore
11, Changi North Street 1, #03-11
Singapore 498823
Phone +65 62141048
Fax +65 62140481
info@sg.interapp.net