

Safe handling of abrasive media

Reliable butterfly valves with
high performance materials

Abrasive media pose a challenge to a wide range of industrial processes and, if not properly controlled, can cause both economic and ecological damage.

This makes it so important to use reliable components that support both a safe control of the transported media and an efficient plant operation.

Always the right material combination

Abrasive media are abrasive liquids, gases and solids that cause surface erosion through mechanical wear. Typical media are sludge, cement, gravel, plastic granulate, chemical powders, sugar, flour, and gases with solid particles.

To safely handle the abrasive media, InterApp offers special discs and liners with high-quality materials and state-of-the-art technical properties and forms. Thanks to a wide range of combination options, reliable butterfly valves are ideally designed to meet your needs.



The optimal material combination is influenced by various factors, including:

1. Media
2. Concentration [% or ppm]
3. Total dissolved solids [TDS]
4. Particle size [μm]
5. Solid hard/crystalline or rather soft
6. Pressure [barG]
7. Temperature [$^{\circ}\text{C}$]
8. Flow rate [m/s] (pump flow, pneumatic transport or static flow)
9. Required tightness with closed butterfly valve (according to ANSI or ISO EN)
10. Possible vacuum application [mbarA]
11. Requirement that abrasion of the butterfly valve must not stain (e.g. no black particles in milk powder, flour, etc.)
12. Approvals (FDA, EU10/2011, EC1935:2004, ATEX, ...)

Whether in mining, pulp and paper, bulk solids, water treatment, power plant construction, chemical, life science, marine or steel industries, our experienced technicians are there to help you find the right solution.



Disc and liner materials

Disc materials

Disc	Description	Abrasion resistance	Corrosion resistance	Max. operating temperature
PEKK (Polyether-ketonketon)	At least 600 µm coating thickness For abrasive and corrosive applications at higher temperatures, e.g. fly ash, filter cakes from incineration plants 2 to 3 times higher abrasion resistance than PTFE	+++	+++	160 °C
Ultralene coating™	At least 3 mm sheath thickness For sludge, cement, powder, flue gas cleaning systems and desalination processes	++++	++++	80 °C
Stainless steel polished	For abrasive applications in the food and pharmaceutical industries	+	++	200 °C
Hastelloy polished	For corrosive and abrasive applications in the food and pharmaceutical industries	++	+++	200 °C
Titanium	For corrosive and abrasive applications e.g. in the production of chlorine, for highly concentrated brine	+++	++++	200 °C
PFA	At least 3 mm overmoulding thickness For extremely corrosive, but also abrasive applications where only fluoropolymers can be used	+	++++	200 °C



Liner materials

Liner	Description	Abrasion resistance	Corrosion resistance	Max. operating temperature
Flucast® AB/P (Code FP)	For chemically inert powdery products such as cement, plaster, concrete mortar, sugar, flour, salt, etc. 2 - 3 times higher abrasion resistance than SBR	++++	0	70 °C
Flucast® AB/N (Code FN)	For oily and greasy media 30% higher abrasion resistance than comparable NBR	+++	0	90 °C
Flucast® AB/T (Code FT)	For aqueous solutions with suspension solids at higher temperatures 65% higher abrasion resistance than EPDM HT	++	++	130 °C
Flucast® FX (Code FX)	For acids and concentrated bases even at high temperatures 2 times higher abrasion resistance than conventional FPM	++	+++	200 °C
NBR white (Code NF)	For abrasive powder food products such as sugar, flour, milk powder, coffee, rice, etc. Has all the food approvals	++	+	90 °C
Ultralene (UHMWPE) (Code U)	Ultralene is the most abrasion-resistant liner material, which at the same time also has a very high corrosion resistance. Only available in nominal sizes 80, 100, 150 and 200	++++	++++	80 °C
Ultraflon™ (Code T*V)	Food or pharmaceutical industry, for conveying fine-grained powdery media. Corrosive and abrasive applications at higher temperatures, e.g. chemical liquids or slurries in combination with a PFA-overmoulded disc	+	++++	200 °C



0 not resistant | + poor | ++ fair | +++ good | ++++ excellent

Quick selection

Find a suitable material combination for your abrasive media.

Media	Butterfly valve	Disc	Liner	Code
Animal feed	Desponia®	Stainless steel polished	FN	D...4CP.FN
Ash	Desponia®	Ultralene coating™	FP	D...30D.FP
Cement	Desponia®	Ultralene coating™	AB/P	D...30D.FP
Ceramic slip	Desponia®	Ultralene coating™	FT	D...30D.FT
Chalk	Desponia®	Ultralene coating™	FP	D...30D.FP
Chemical powdery media	Bianca	PFA	Ultraflon™	B...4GT.TSV
		Stainless steel polished		B...4GP.TSV
Cleaning agents from industrial cleaning plants	Bianca	Stainless steel	Ultraflon™	B...4G0.TSV
Clinker	Desponia®	Ultralene coating™	FP	D...30D.FP
Filter cake	Desponia®	PEKK	FX	D...4CQ.FX
		Ultralene coating™	FX	D...30D.FX
	Bianca	PFA	Ultraflon™	B...4GT.TSV
Flour	Desponia®	Stainless steel polished	FP	D...4CP.FP
			NF*	D...4CP.NF
Fly ash	Desponia® plus	PEKK	FT	D...4CQ.FT
Foundry sand	Desponia®	Ultralene coating™	FP	D...30D.FP
Gravel	Desponia®	Ultralene coating™	FP	D...30D.FP
Gypsum	Desponia®	Ultralene coating™	FP	D...30D.FP
Inert chemical powdery media	Desponia®	Ultralene coating™	FP	D...30D.FP
Kaolin (paper industry)	Desponia®	Ultralene coating™	FP	D...30D.FP
Lime sludge	Desponia®	Ultralene coating™	FP	D...30D.FP
Milk of lime	Desponia®	Ultralene coating™	FP	D...30D.FP
Milk powder	Desponia®	Stainless steel polished	FP	D...4CP.FP
			NF*	D...4CP.NF
Muddy water	Desponia®	Ultralene coating™	FT	D...30D.FT
Pharmaceutical powdery media	Bianca	Stainless steel polished	Ultraflon™	B...4GJ.TSV
Plastic granulate	Desponia®	Ultralene coating™	FP	D...30D.FP
		Stainless steel polished		D...4CP.FP
Plastic powder	Desponia®	Ultralene coating™	FP	D...30D.FP
Powdered lime	Desponia®	Ultralene coating™	FP	D...30D.FP
Salt	Desponia®	Stainless steel polished	FP	D...4CP.FP
			NF*	D...4CP.NF
Salt brine (seawater desalination)	Desponia®	Ultralene coating™	FT	D...30D.FT
Silica/silicic acid	Desponia®	Ultralene coating™	FP	D...30D.FP
Sugar	Desponia®	Stainless steel polished	FP	D...4CP.FP
			NF*	D...4CP.NF
Talc (paper industry)	Desponia®	Ultralene coating™	FP	D...30D.FP

Note:

The quick selection applies to applications with higher flow rates (e.g. pneumatic conveying). For static flow, uncoated stainless steel discs can usually be used.

On all above applications where a Bianca with Ultraflon™ liner is recommended, in case the temperature is not higher than 80 °C and the size is DN 80, 100, 150 or 200, the Ultralene liner (UHMWPE) is the most recommended choice.

* NF is used when food approval is required or black abrasion particle is not desired. It has a lower abrasion resistance.

We are there for you. With our global expertise in industrial applications, we understand your requirements and offer expert advice at every stage of your project. At the same time, you can benefit from our international product standards thanks to our global know-how. Our highly skilled technical team, coupled with the quality and durability of our products, makes us a reliable partner for industrial valve solutions.