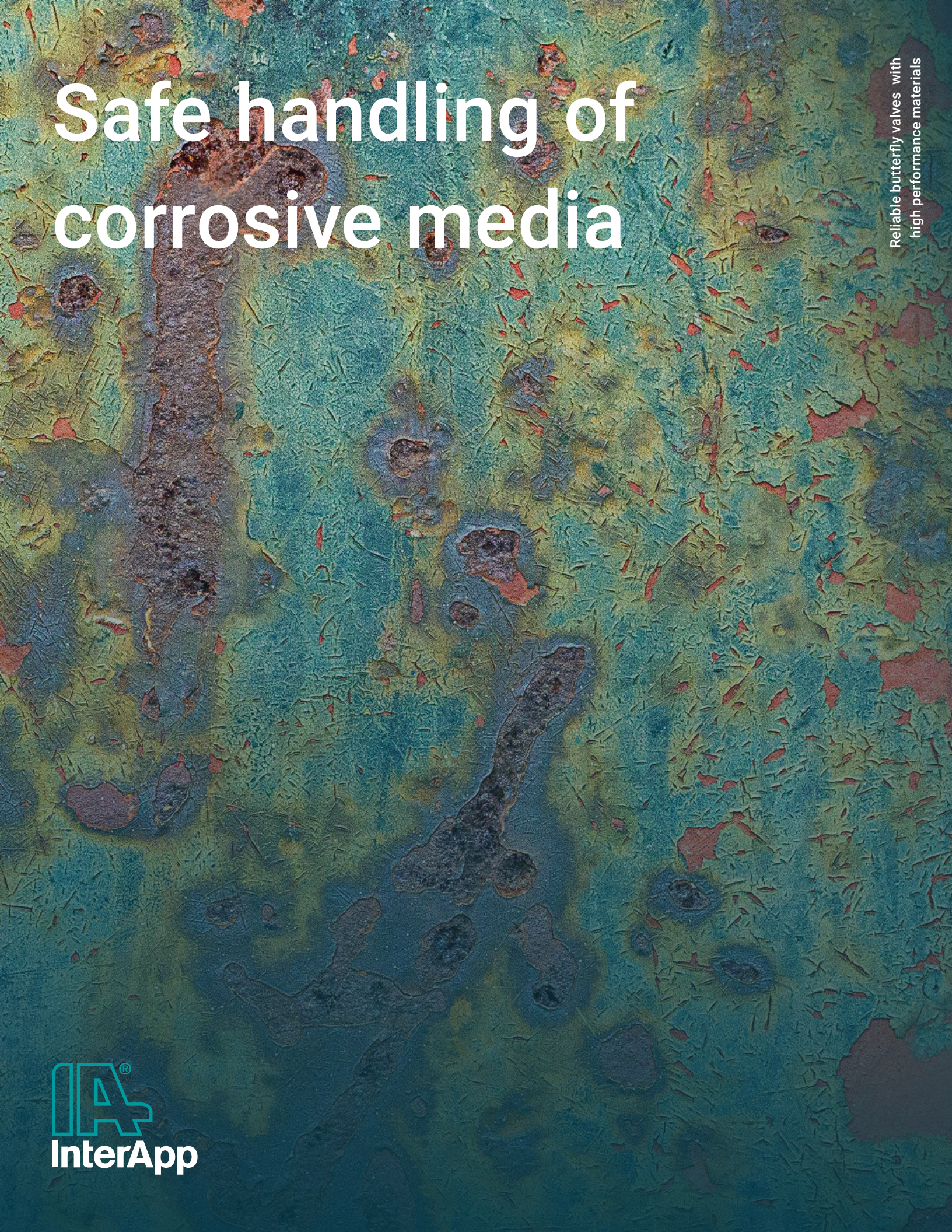
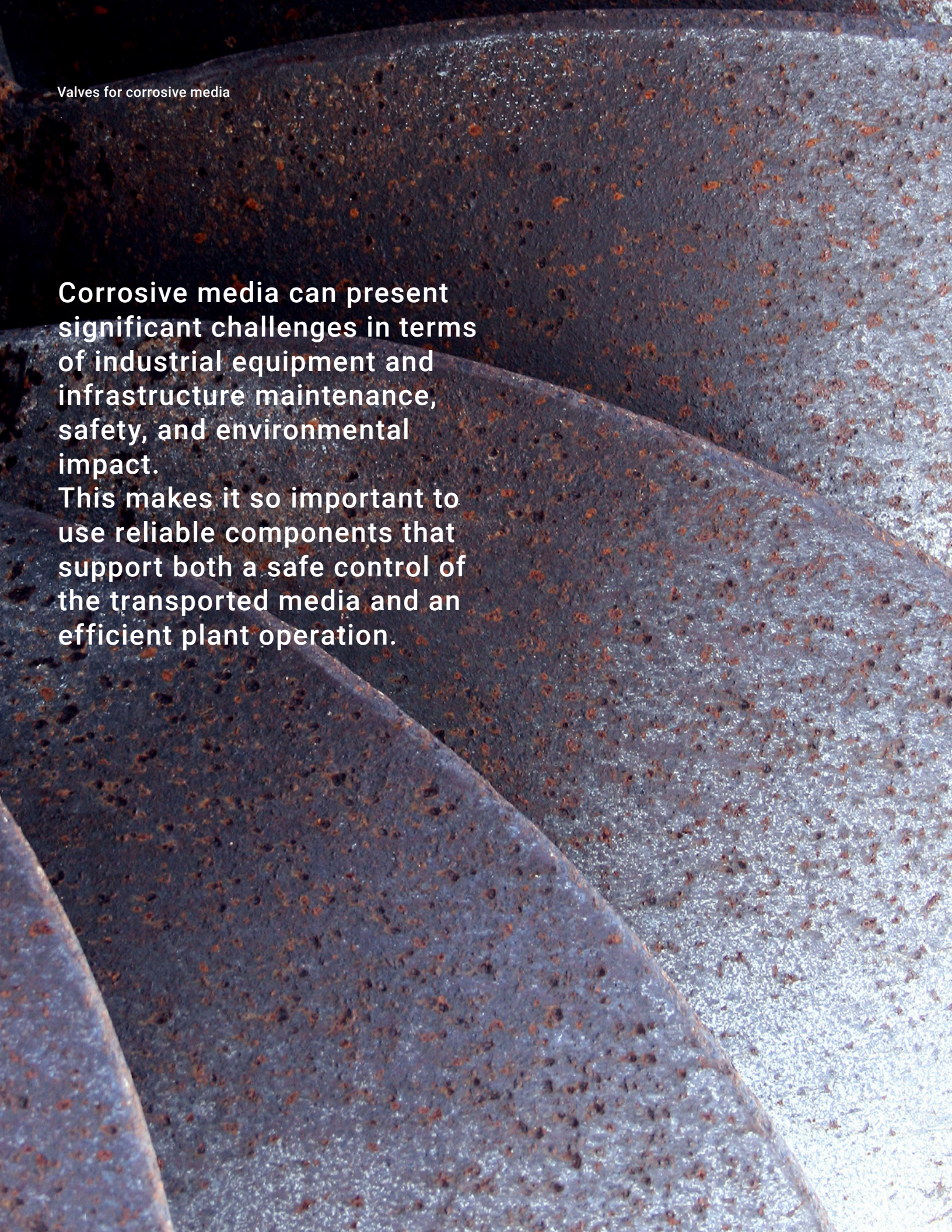
Safe handling of corrosive media

Reliable butterfly valves with high performance materials



InterApp



Corrosive media can present significant challenges in terms of industrial equipment and infrastructure maintenance, safety, and environmental impact.
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

Corrosive media are corrosive liquids and gases that cause surface corrosion. Typical media are acides, bases, dehydration agents, strong oxidizers, organic halides, and alkylating agents, which can cause damage to metal surfaces, plastics, and other materials.

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

Bianca®
PTFE-lined butterfly valve

Desponia®
Elastomer-lined butterfly valve

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

1. Media
2. Concentration [% or ppm]
3. Pressure [barG / psi]
4. Temperature [°C / °F]
5. Possible vacuum application [mbarA / psi]
6. In case of abrasion, please consult the abrasive media document
7. Approvals (FDA, EU10/2011, EC1935:2004, ATEX, ...)

Whether in chemical process, mining, oil and gas, pulp and paper, life science, food and beverage, water treatment or marine industries, our experienced technicians are there to help you find the right solution.

Quick selection

Find a suitable disc and liner combination for your corrosive media based on its concentration and temperature.
Maximum operating temperature is shown next to each material.
If your desired concentration or temperature is not in the table, you can choose a material with higher value.

Disc selection

Concentration [%]

Media	1	5	10	20	25	30	40	50	80	100
Acetic acid								4CH (248°F)	4CH (140°F)	4C0, 4G0 (158°F) | 7T0 (212°F) 3BT, 4GT, 4WT, 7H0 (320°F)
Chlorine (absolute dry gas)										3HE (68°F) | 4CH, 7H0 (140°F) 4C0, 4G0 (176°F) 3BT, 4GT, 4WT (284°F)
Chlorine (wet gas/liquid)										3BT, 4GT, 4WT (194°F)
Citric acid										4CH(140°F) 3BT, 4GT, 4WT, 4C0, 4CP, 4G0,7H0 (212°F)
Ferric chloride			7H0 (68°F)				4CH (176°F)	7T0 (230°F)		4CH (68°F) | 7T0 (194°F) 3BT, 4GT, 4WT (212°F)
Hydrochloric acid	4C0, 4G0 (68°F) 7T0 (176°F) 7H0 (212°F)	4CH (176°F) 2AH (104°F)	4CH (68°F)	7H0 (68°F)	3OD (140°F)		3BT, 4GT, 4WT (266°F)			
Lactic acid						4CH (140°F)			4CH (68°F)	4B0, 4C0, 4G0 (212°F)
Phosphoric acid						7T0 (68°F) 4CH (140°F)				4C0, 4G0 (68°F) 3BT, 4GT, 4WT (266°F)
Sodium hydroxide		2AR, 2AE, 3HE (122°F)		3OD (140°F) 4GP, 4C0, 4G0, 4CH (212°F)		4CH (122°F)		7T0 (68°F)		3BT, 4GT, 4WT (302°F)
Sodium hypochlorite				7H0 (140°F) 7T0 (176°F)	4CH (104°F) 3BT, 4GT, 4WT (158°F)					
Sulphuric acid		4C0, 4G0 (104°F)	4C0, 4G0 (68°F)	4CH (176°F)				4CH (104°F)		4CH(68°F) | 4C0, 4G0 (86°F) 7H0 (212°F) 3BT, 4GT, 4WT (266°F)

Liner selection

Concentration [%]

Media	5	10	20	25	30	40	50	80	100
Acetic acid					E , EC (77°F)				EC (104°F) | TS, TSA (248°F) TVVA, TSV (320°F)
Chlorine (absolute dry gas)									FX (176°F) | TV, TVV (248°F)
Chlorine (wet gas/liquid)									TV (86°F) | TVV (194°F)
Citric acid									E (203°F) | EC, TS, TSV (212°F)
Ferric chloride						E (203°F)			E (77°F) | EC, TS, TSV (212°F)
Hydrochloric acid	E, EC (104°F)	FX, V (230°F)	E, EC (68°F)	FX, V (212°F)	TE, TEV (140°F) TS, TV, TSV, TVV (176°F)				
Lactic acid		E, EC (194°F)							E, EC (104°F) | V (212°F)
Phosphoric acid		E, EC (194°F)						E, EC (140°F)	E, EC (77°F) TS, TSV (266°F)
Sodium hydroxide							E, EC (158°F)		TE, TS, TV, TSV, TVV, TEV (284°F)
Sodium hypochlorite				E, EC (77°F) V, TS (158°F)					
Sulphuric acid		E, EC (176°F)					FX, V (230°F)	V (176°F)	TE, TEV (176°F) | FX, V (158°F) TS, TV, TSV, TVV (266°F)

Disc and liner materials for corrosive media

Disc materials

Disc	Butterfly valve	Code	Description	Corrosion resistance	Max. operating temperature
Titanium	Bianca	7T0	For corrosive and abrasive applications e.g. in the production of chlorine, for highly concentrated brine	++++	392 °F
PFA	Bianca	3BT/4GT /4WT	At least 3 mm overmoulding thickness For extremely corrosive, but also abrasive applications where only fluoropolymers can be used	++++	392 °F
Hastelloy	Bianca / Desponia®	7H0	For highly corrosive applications in the chemical industry	+++	392 °F
Ultralene Coating™	Desponia®	3OD	Minimum 3 mm coating thickness Very high abrasion resistance For corrosive sludge, flue gas desulphurisation and desalination processes at highest chloride concentration	+++	176 °F
Stainless steel Halar® coated	Desponia®	4CH	Minimum 600µm thickness Very good resistance to mineral acids, oxidants, bases, and organic solvents, typically for desalination applications Not for abrasive applications	+++	302 °F
Stainless steel	Bianca / Desponia®	4B0/4C0 /4G0	For chemical, food and water applications	++	392 °F
Stainless steel polished	Bianca / Desponia®	4CP/4GP	For food and pharmaceutical industries	++	392 °F
Rilsan® coated 250µm	Desponia®	2AR	Medium corrosion resistance, for slightly corrosive media	++	194 °F
Ductile iron Halar® coated	Desponia®	2AH	Minimum 600µm thickness Good resistance to hydrochloric acid in low temperature, Not for abrasive applications	++	122 °F
Polyurethan coated 80µm	Desponia®	2AE/3HE	Low corrosion resistance, for lowest corrosive media	+	248 °F

Liner materials

Liner	Butterfly valve	Code	Description	Corrosion resistance	Max. operating temperature
Ultraflon®	Bianca	TSV/TVV/ TEV	For mostly corrosive and abrasive applications at higher temperatures in combination with a PFA-overmoulded disc	++++	392 °F
Ultraflon® antistatic	Bianca	TVVA	For mostly corrosive and explosive applications at higher temperatures in combination with a PFA-overmoulded disc	++++	392 °F
PTFE	Bianca	TE/TS/TV/ TSA	For mostly corrosive applications in combination with a PFA-overmoulded disc	++++	284 °F
Flucast® FX	Desponia®	FX	For acids and concentrated bases even at high temperatures, 2 times higher abrasion resistance than conventional FPM	+++	392 °F
FPM	Desponia®	V	Highest corrosion resistant rubber to acids, alkalis, aliphatic, aromatic and chlorated hydrocarbons, oils, and ozone	+++	410 °F
EPDM HT	Desponia®	EC	Good resistance to ozone, oxidation, ketones and alcohols, diluted acids, and bases. For general industrial applications at higher temperatures	+	266 °F
EPDM	Desponia®	E	Good resistance to ozone, oxidation, ketones and alcohols, diluted acids, and bases. For general industrial applications	+	203 °F

+ fair | ++ good | +++ very good | ++++ excellent

Globally local. As a global production and distribution company, we offer the advantage of a comprehensive portfolio of products and solutions. Thanks to our local presence we are also the ideal consultant as we are familiar with your needs in every project phase and support you with efficient planning services.

InterApp North America
Michelle Sinclair
Managing Director North America

440 Cobia Dr. Ste. 1204
Katy, Texas 77494, USA
Office: +1 713 860 1319 ext. 509
Mobile: +1 281 768 1422

Michelle.Sinclair@InterApp.net
interapp.net