

CORROSION RESISTANCE

against high corrosive process media

| Media | | | Wetted parts | | | | | | | Seal | | | | | |
|--|-----------------|----------------|--|---------------|-------------------|-------------|----------|-------------------------|-------------------|------|------------------|--------------------|-----------|-------------|-------------|
| Corrosive media | % Concentration | Temperature °C | 99.9% Al ₂ O ₃ ceramic** | 316L / 1.4435 | Hastelloy (C-276) | Monel (400) | Tantalum | Titanium (poss. +2% Pd) | Nickel TSP-option | PTFE | Kalrez / Chemraz | EPDM (synr.rubber) | Viton FPM | Neoprene CR | Perbuan NBR |
| | | | Ketones | | | | | | | | | | | | |
| Acetone CH ₃ -CO-CH ₃ | 100 | RT | A | A | A | A | A | A | A | A | A | A | C | C | C |
| (Dimethylceton) | 100 | S | A | A | A | A | A | A | A | A | A | A | C | C | C |
| Ammonia gas | conc. | Rt | A | A | A | C | A | A | C | A | A | A | C | A | A |
| Ammonia liquid NH ₃ | conc. | 100 | A | A | A | C | A | A | C | A | A | B | C | B | C |
| Ammonia Solution NH ₃ | 10 | Rt | A | A | A | C | A | A | C | A | A | C | B | A | B |
| unorg. lyes | 10 | s | A | C | A | C | C | A | C | A | A | C | B | A | B |
| | 20 | s | A | C | A | C | C | A | C | A | A | C | B | A | B |
| | 25 | s | A | C | A | C | C | A | C | A | A | C | B | A | B |
| | conc. | Rt | A | A | A | C | A | A | C | A | A | C | B | A | B |
| | conc. | 100 | A | C | A | C | A | A | C | A | A | C | B | A | B |
| | org.acid | | | | | | | | | | | | | | |
| Acetic acid CH ₃ -COOH | 10 | Rt | A | A | A | A | A | A | C | A | A | C | C | A | C |
| | 10 | s | A | A | A | A | A | A | C | A | A | C | C | A | C |
| | 50 | Rt | A | A | A | A | A | A | C | A | A | C | C | A | C |
| | 50 | s | A | A | A | A | A | A | C | A | C | C | C | A | C |
| | conc. | Rt | A | A | A | A | A | A | C | A | C | C | C | A | C |
| | conc. | s | A | C | A | A | A | A | C | A | C | C | C | A | C |
| Chlorine gas wet Cl ₂ | 100 | Rt | A | C | A | C | A | B | A | A | N | N | A | C | C |
| Chlorine Cl ₂ | 100 | Rt | A | A | A | C | A | C | A | A | C | C | A | C | C |
| | | 70 | A | C | A | A | A | C | A | A | C | C | A | C | C |
| Chloracetic acid CH ₂ Cl-COOH | 50 | 20 | A | C | A | A | A | A | A | A | C | C | C | C | C |
| | 70 | s | A | C | A | B | A | A | B | A | C | C | C | C | C |
| | 100 | Rt | A | C | A | B | A | A | B | A | C | C | C | C | C |
| | 100 | s | A | C | A | B | A | A | B | A | C | C | C | C | C |
| Chlorosulfonic acid SO ₂ (OH)Cl | 100 | Rt | A | A | A | B | A | C | B | A | C | A | C | C | C |
| | | | A | C | A | C | A | C | C | A | C | C | C | C | C |
| Formic acid H-COOH | 10 | Rt | A | A | A | A | A | A | A | A | C | A | B | B | C |
| | 10 | 65 | A | A | B | B | A | A | B | A | C | B | B | B | C |
| | 10 | s | A | A | C | C | A | A | C | A | C | B | B | B | C |
| | 20-40 | 65 | A | A | B | C | A | A | C | A | C | B | B | B | C |
| | 50 | 65 | A | A | A | A | A | A | A | A | C | C | B | B | C |
| | 50 | s | A | A | C | C | A | C | C | A | C | C | B | B | C |
| | 80 | Rt | A | A | A | A | A | A | A | A | C | A | B | B | C |
| | 80 | 65 | A | C | B | C | A | B | C | A | C | C | B | B | C |
| | 80 | 20 | A | C | C | C | A | C | C | A | C | A | B | B | C |
| | conc. | Rt | A | A | A | A | A | A | A | A | C | A | B | B | C |
| | conc. | s | A | C | C | C | A | C | C | A | C | C | B | B | C |
| Hydrofluoric acid HF | 1 | Rt | A | C | A | A | C | C | A | A | A | C | A | B | C |
| | 40 | Rt | A | C | A | A | C | C | A | A | A | C | A | B | C |
| | 40 | 50 | C* | C | A | A | C | C | B | A | A | C | A | C | C |
| | 50 | Rt | A | C | A | A | C | C | A | A | A | C | A | B | C |
| Hydrogen fluoride HF gas | 100 | Rt | C* | C | A | A | C | C | A | A | A | C | A | C | C |

According to Philips (1/88) to ASV Stübbe and to Du Pont (Kalrez:

* recommended option: Sapphire membrane (A = fully resistant)

** for 96% ceramic see Philips table

A fully resistant

B sufficient resistant

C not resistant

N no data available

Rt : room temperature

s : boiling

conc. : concentrated

sat. : saturated

This list constitutes a non-binding recommendation from which no warranty claims whatsoever can be derived !

TRANSCOM TECHNIK, spol. s r.o. - exclusive representative for Slovakia

| Media | | | Wetted parts | | | | | | | Seal | | | | | |
|---|-----------------|----------------|--|---------------|-------------------|-------------|----------|-------------------------|-------------------|------|------------------|--------------------|-----------|-------------|-------------|
| Corrosive media | % Concentration | Temperature °C | 99.9% Al ₂ O ₃ ceramic** | 316L / 1.4435 | Hastelloy (C-276) | Monel (400) | Tantalum | Titanium (poss. +2% Pd) | Nickel TSP-option | PTFE | Kalrez / Chemraz | EPDM (synt.rubber) | Viton FPM | Neoprene CR | Perbuan NBR |
| | | | Sodium hydroxide (Caustic soda) NaOH unorg.lyes | | | 10 Rt | A | A | A | A | A | A | A | A | A |
| | | | 10 s | A | A | A | A | A | A | A | A | C | C | A | B |
| | | | 20 Rt | A | A | A | A | A | A | A | A | A | C | A | B |
| | | | 20 s | A | A | A | A | B | A | A | A | C | C | A | B |
| | | | 50 Rt | A | A | A | A | B | A | A | A | C | C | A | B |
| | | | 50 s | A | A | A | A | B | B | A | A | C | C | A | B |
| | | | sat. s | A | A | B | B | C | B | A | A | C | C | A | B |
| Oleum H ₂ SO ₄ + SO ₃ (vitriolic acid) unorg.acid | | | conc. Rt | A | B | A | A | A | C | A | A | N | C | A | C |
| | | | conc. 50 | A | B | B | B | C | C | B | A | N | C | A | C |
| Phosphoric acid H ₃ PO ₄ unorg.acid | | | 10 Rt | A | A | A | A | A | A | A | A | A | A | A | B |
| | | | 10 s | A | C | A | C | A | C | C | A | A | A | A | C |
| | | | 45 Rt | A | A | A | A | A | B | A | A | A | A | A | B |
| | | | 45 s | A | C | A | C | A | C | C | A | A | C | A | C |
| | | | conc. Rt | A | C | A | B | A | B | B | A | A | A | A | B |
| | | | conc. 100 | A | C | C | C | A | C | C | A | A | C | A | C |
| Nitric acid HNO ₃ unorg.acid | | | 25 Rt | A | A | A | C | A | A | C | A | A | A | B | C |
| | | | 25 s | A | A | C | C | A | B | C | A | C | C | B | C |
| | | | 50 Rt | A | A | A | C | A | A | C | A | A | C | B | C |
| | | | 50 s | A | A | C | C | A | B | C | A | C | C | B | C |
| | | | 70 100 | A | C | C | C | A | A | C | A | C | C | B | C |
| Hydrochloric acid HCl unorg.acid | | | 10 Rt | A | C | A | C | A | A | B | A | A | A | A | B |
| | | | 10 50 | A | C | C | C | A | A | C | A | A | C | A | B |
| | | | 10 s | A | C | C | C | A | C | C | A | A | C | B | C |
| | | | 20 Rt | A | C | A | C | A | A | B | A | A | A | A | B |
| | | | 20 s | A | C | C | C | A | C | C | A | A | C | B | C |
| | | | 37 Rt | A | C | C | C | A | C | C | A | A | A | A | B |
| | | | 37 100 | A | C | C | C | A | C | C | A | A | C | B | C |
| Hydrochloric acid+nitric acid HCl : HNO ₃ (3:1) Aqua Regia) unorg.acid | | | conc. Rt | A | C | B | C | A | A | C | A | B | B | B | C |
| Sulfuric acid H ₂ SO ₄ unorg.acid | | | 10 Rt | A | A | A | A | A | A | A | A | A | A | A | C |
| | | | 10 s | A | C | B | A | A | B | C | A | B | C | A | |
| | | | 50 Rt | A | B | A | A | A | B | A | A | A | A | C | |
| | | | 50 s | A | C | C | C | A | C | C | A | B | C | A | |
| | | | 96 Rt | A | A | A | C | A | C | C | A | C | C | A | |
| | | | 96 100 | A | C | C | C | C | C | C | A | C | C | A | |
| Sulfuric acid+nitric acid H ₂ SO ₄ : HNO ₃ | | | 10 90 35 | A | N | A | C | A | A | C | A | N | N | B | |
| | | | 50 50 35 | A | N | A | C | A | A | C | A | N | N | B | |
| | | | 90 10 35 | A | N | A | C | A | B | C | A | N | N | A | |
| Zinc chloride ZnCl ₂ | | | 10 Rt | A | A | A | A | A | A | A | A | B | A | A | |
| | | | 10 s | A | A | A | A | A | A | B | A | B | A | | |
| | | | 60 Rt | A | A | A | A | A | A | B | A | B | A | | |
| | | | 60 s | A | A | B | B | A | B | B | A | B | A | | |
| | | | sat. s | A | C | B | B | A | C | B | A | B | A | | |

According to Philips (1/88) to ASV Stübbe and to Du Pont (Kalrez)
 * recommended option: Sapphire membrane (A = fully resistant)
 ** for 96% ceramic see Philips table

| | |
|---|----------------------|
| A | fully resistant |
| B | sufficient resistant |
| C | not resistant |
| N | no data available |

Rt : room temperature
s : boiling
conc. : concentrated
sat. : saturated

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