CHEMICAL RESISTANCE CHART FOR WATER TREATMENT

This chart suggests suitable materials of float and electrode for some typical water treatment's liquids. This information should be used as a general guide, and the final choice should be determined from actual application conditions.

A: No effect — Good B: Moderate effect — Need product modification C: Severe effect — Not recommended
*1: PVC float with Hypalon cable *2: ABS float with PVC cable

Condition		Model	Float with rigid stem				Float with cable		Electrode			Remarks
			Model FR				Model FC	Model FT,FQ	Model FE			
Name of liquid	°C	bar	316SS	PVC	PP	PTFE	*1	*2	316SS	Hastelloy B/C	Titanium	
Water & Soft water	50	open	A	A	A	A	A	A	A	A	A	Model FE can not use in distilled water.
		2	A	A	A	A	B	B	B	B	B	
	90	open	A	C	A	A	C	C	B	B	B	
		2	A	C	C	A	C	C	B	B	B	
Pure water	50	open	A	A	A	A	A	A	C	C	C	316SS float causes pitting corrosion in Ultra-pure water.
		2	A	A	A	A	B	B	C	C	C	
	90	open	A	C	A	A	C	C	C	C	C	
		2	A	C	C	A	C	C	C	C	C	
	150	10	A	C	C	C	C	C	C	C	C	
Chlorine water	50	open	C	A	C	A	A	C	C	A	A	
		2	C	A	C	A	A	C	C	B	B	
	90	open	C	C	C	A	C	C	C	A	A	
		2	C	C	C	A	C	C	C	B	B	
Acid-free Sewage pH7 without slurry without oil	50	open	A	A	A	A	A	A	A	A	A	Max. Pressure (bar) for: PVC float ; 2 316SS float ; 10 Model FC ; 2 Model FG&FQ; 2 FE/PVC Mtg ; 2 FE/SS Mtg ; 10
		2	A	A	A	A	B	B	B	B	B	
	90	open	A	C	A	A	C	C	B	B	B	
		2	A	C	C	A	C	C	B	B	B	
Acid-free Sewage pH7 with slurry without oil	50	open	B	B	B	B	B	A	A	A	A	
		2	B	B	B	B	B	B	B	B	B	
	90	open	B	C	B	B	C	C	B	B	B	
		2	B	C	C	B	C	C	B	B	B	
Acid-free Sewage pH7 without slurry with oil	50	open	A	B	B	B	B	B	C	C	C	If sewage contains a lot of oil, cable of FG & FQ may stiffen. Capacitance, Model K, is available.
		2	A	B	B	B	B	B	C	C	C	
	90	open	A	C	B	B	C	C	C	C	C	
		2	A	C	C	B	C	C	C	C	C	
Acid-free Sewage pH7 with slurry with oil	50	open	B	B	B	B	B	B	C	C	C	
		2	B	B	B	B	B	B	C	C	C	
	90	open	B	C	B	B	C	C	C	C	C	
		2	B	C	C	B	C	C	C	C	C	
Sewage with Sodium Hypochlorite (NaCℓO)	50	open	C	A	A	A	A	C	C	A	C	PVC, PTFE and Hastelloy C are unaffected.
		2	C	A	A	A	A	C	C	B	C	
	90	open	C	C	A	A	C	C	C	B	C	
		2	C	C	C	A	C	C	C	B	C	
Sewage with Caustic soda (NaOH)	50	open	A	A	A	A	A	C	A			
		2	A	A	A	A	A	C	B			
	90	open	A	C	A	A	C	C	B			
		2	A	C	C	A	C	C	B			
Sewage with weakly acid & alkaline (pH5-6 or 8-9)	50	open	C	A	A	A	A	A	C	A		Both FC and FG & FQ can use.
		2	C	A	A	A	A	A	C	B		
	90	open	C	C	A	A	C	C	C	B		
		2	C	C	C	A	C	C	C	B		
Sewage with strong acid & alkaline (pH1-4 or 10-14)	50	open	C	A	A	A	A	C	C	A		FG & FQ can not use. Use FC.
		2	C	A	A	A	A	C	C	B		
	90	open	C	C	A	A	C	C	C	B		
		2	C	C	C	A	C	C	C	B		

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Condition			Model	Float with rigid stem				Float with cable		Electrode			Remarks
				Model FR				Model FC	Model FT,FQ	Model FE			
Name of liquid		°C	bar	316SS	PVC	PP	PTFE	*1	*2	316SS	Hastelloy B/C	Titanium	
Sludge water pH7 with suspended solids		50	open	C	C	C	C	B	A	C	C	C	Capacitance, Model K, or Pneumatic, Model FP, are available.
			2	C	C	C	C	B	B	C	C	C	
		90	open	C	C	C	C	C	C	C	C	C	
			2	C	C	C	C	C	C	C	C	C	
Sludge water pH5-9 with suspended solids		50	open	C	C	C	C	B	C	C	C	C	
			2	C	C	C	C	B	C	C	C	C	
		90	open	C	C	C	C	C	C	C	C	C	
			2	C	C	C	C	C	C	C	C	C	
Sea water		50	open	C	A	A	A	A	C	C	A	A	
			2	C	A	A	A	A	C	C	B	B	
		90	open	C	C	A	A	C	C	C	B	C	
			2	C	C	C	A	C	C	C	B	C	
Oils: Light or Heavy		50	open	B	C	C	C	C	C	C	C	C	Note Max. viscosity for 316SS float. FE can not use because of non-conductive. FG & FQ can not use because of cable stiffen.
			2	B	C	C	C	C	C	C	C	C	
		90	open	A	C	C	C	C	C	C	C	C	
			2	A	C	C	C	C	C	C	C	C	
Oils: Vegetable		50	open	A	C	C	C	C	C	C	C	C	
			2	A	C	C	C	C	C	C	C	C	
		90	open	A	C	C	C	C	C	C	C	C	
			2	A	C	C	C	C	C	C	C	C	
Oils: Turbine		50	open	A	C	C	C	C	C	C	C	C	
			2	A	C	C	C	C	C	C	C	C	
		90	open	A	C	C	C	C	C	C	C	C	
			2	A	C	C	C	C	C	C	C	C	
Aluminum Sulfate $A\ell_2(SO_4)_3$		50	open	C	A	A	A	A	C	A	A	A	
		90	open	C	C	A	A	C	C	C	B	B	
Calcium Chloride		50	open	B	A	A	A	A	B	B	A	A	
Calcium Hydroxide $Ca(OH)_2$		50	open	B	A	A		A	B	B	A	A	
		90	open	B	C	B		C	C	B	B	B	
Chromic acid CrO_3	10%	50	open	C	A	A	A	A	C	C	B	A	
		90	open	C	C	C	A	C	C	C	B	A	
	20%	50	open	C	A	C	A	A	C	C	B	A	
		90	open	C	C	C	A	C	C	C	B	A	
	50%	50	open	C	C	C	A	C	C	C	B	A	
		90	open	C	C	C	A	C	C	C	C	B	
Ferric Chloride $FeC\ell_3$		50	open	C	A	A	A	A	C	C	B	A	
		90	open	C	C	A	A	C	C	C	C	B	
Ferric Sulfate $Fe_2(SO_4)_3$		50	open	C	A	A	A	A	C	C	B	B	
		90	open	C	C	A	A	C	C	C	C	C	
Ferrous Sulfate $FeSO_4$		50	open	C	A	A	A	A	C	C	B	A	
		90	open	C	C	A	A	C	C	C	C	B	
Hydrochloric acid $HC\ell$	15%	50	open	C	A	A	A	A	C	C	A	C	PVC or PP float is economic.
		90	open	C	C	A	A	C	C	C	B	C	
	25%	50	open	C	A	A	A	A	C	C	A	C	
		90	open	C	C	A	A	C	C	C	B	C	
	35%	50	open	C	A	A	A	A	C	C	A	C	
		90	open	C	C	A	A	C	C	C	B	C	

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Condition				Model	Float with rigid stem				Float with cable		Electrode			Remarks
					Model FR				Model FC	Model FT,FQ	Model FE			
Name of liquid		℃	bar		316SS	PVC	PP	PTFE	*1	*2	316SS	Hastelloy B/C	Titanium	
Hydrogen peroxide H_2O_2	5%	50	open		A	C	C	A	C	C	A	A	B	304SS can use up to 50℃.
	35%	50	open		A	C	C	A	C	C	A	A	B	
Nitric acid HNO_3	10%	50	open		A	A	A	A	A	C	A	B	A	Titanium is better for high temp. & concentrated application.
		90	open		B	C	A	A	C	C	B	C	B	
	25%	50	open		A	A	A	A	A	C	A	B	A	
		90	open		B	C	A	A	C	C	B	C	B	
	50%	50	open		A	A	A	A	A	C	A	B	A	
		90	open		B	C	A	A	C	C	B	C	B	
	98%	50	open		C	C	C	A	C	C	C	B	A	
		90	open		C	C	C	B	C	C	C	C	C	
Phosphoric acid H_3PO_4	25%	50	open		A	A	A	A	A	C	A	A	C	
		90	open		C	C	A	A	C	C	C	B	C	
	50%	50	open		A	A	A	A	A	C	A	A	C	
		90	open		C	C	B	A	C	C	C	B	C	
	75%	50	open		A	A	A	A	A	C	A	A	C	
		90	open		C	C	C	A	C	C	C	B	C	
Poly Aluminum Chloride PAC		50	open		A	A	A		A	C	A	A		
		90	open		C	C	A		C	C	C	C		
Sodium Hydroxide (Caustic soda) NaOH	25%	50	open		A	A	A		A	C	A			
		90	open		A	C	A		C	C	B			
	50%	50	open		A	A	A		A	C	A			
		90	open		A	C	A		C	C	B			
Sodium Hypochlorite NaCℓO	10%	50	open		C	A	A		A	C	C	A	A	
		90	open		C	C	A		C	C	C	B	B	
	20%	50	open		C	A	A		A	C	C	A	A	
		90	open		C	C	A		C	C	C	B	B	
Sulfuric acid H_2SO_4	30%	50	open		C	A	A	A	A	C	C	A	C	PTFE is better for 98% concentration.
		90	open		C	C	A	A	C	C	C	B	C	
	60%	50	open		C	A	A	A	A	C	C	A	C	
		90	open		C	C	A	A	C	C	C	B	C	
	90%	50	open		C	B	A	A	B	C	C	A	C	
		90	open		C	C	A	A	C	C	C	B	C	
	98%	50	open		C	B	C	A	B	C	C	A	C	
		90	open		C	C	C	B	C	C	C	B	C	