

Corrosion Resistant Solutions for the Chemical Processing Industry

- Straight fiberglass or dual laminate custom piping systems, tanks, vessels, duct, scrubbers or other miscellaneous process equipment
 - Pipe to 72"
 - Tanks to 15 1/2 feet
- Manufacturing of complete systems or shop fabrication of shippable subassemblies for onsite field installation
- Field service crews available to span the globe to install our FRP or Dual Laminate systems and/or make on-site modifications or repairs to existing equipment
- Resin systems include premium grades of vinyl ester, epoxy, furan and polyester
- Thermoset liner materials include PVC, CPVC, UltraPure PVC-L, ECTFE/Halar, Polypropylene, PVDF/Kynar, FEP, PFA, PTFE Teflon
- Solid thermoplastic and fluoropolymer vessel internals available such as packing supports, distributor trays, packing hold downs, wall wipers, spargers, dip tubes, nozzle inserts, mixing educators, liquid distributors, internal piping and more
- Bonded and unbonded thermoplastic liners for ASME code and non-code carbon steel tanks, vessels and large diameter piping
- FRP lining of code and non-code carbon steel tanks, vessels and piping
- Custom prefabricated FRP sumps, trenches, manholes, and more
- Repair and rebalancing of cooling tower fan blades

Abbreviated Corrosion Resistance Chart

Chemical	% Conc.	Liner Material							Resin System		
		PVDF	ECTFE	FEP	PFA	PP	PVC	CPVC	VE	Epoxy	Furan
Acetic Acid	50%	122	140	302	302	212	73	180	180	214	100
Ferric Chloride		275		302	302	302	140	180	210	NR	225
Chlorine Dioxide Wet	100% Gas	NR	NR	302	302	122	NR	NR	200		
Chlorine Dry Gas	97%	167	NR	302	302	167	NR	NR	250		
Chlorine Water	Sat'd	212	NR	302	302	122	140		210		
Chlorine Anhydrous		167	NR	302	302	167					
Hydrochloric Acid	5%	257	176	302	302	212	73	180	230	180	200
Hydrochloric Acid	30%	212	176	302	302	167	73	73		120	200
Hydrochloric Acid	36%	212	176	302	302	167	73	73	180		200
Hydrofluoric Acid	Up to 40%	212	140	257	257	167	73	NR			
Hydrofluoric Acid	70%	167	68	302	302	167	NR	NR			
Hydrogen Peroxide	30%	122	104	302	302	167	73	73	150		75
Hydrogen Peroxide	90%	77	NR	212	212	77	NR	NR			
Nitric Acid	5%	212	68	302	302	212	73	73	180	150	
Nitric Acid	40%	167	NR	302	302	122	73	73	80		
Nitric Acid	85%	77	NR	302	302	77	NR	NR			
Phosphoric Acid	50%	257	140	302	302	257	140	180			100
Phosphoric Acid	85%	257	212	302	302	257	140	73	210		
Phosphoric Acid	100%	242		242	242	242			210		
Sodium Chloride	Aqueous	257	176	302	302	257	140	180	200		250
Sodium Hydroxide	5%	NR		302	302	212	140	180	150	150	150
Sodium Hydroxide	15%	NR		302	302	212	140	180	150	150	150
Sodium Hydroxide	50%	NR		302	302	212	73	180	210	150	200
Sodium Hydroxide	70%	NR		302	302	122	73	NR			
Sodium Hydroxide	80%	NR		302	302	122					
Sodium Hypochlorite	5%	NR	212	302	302	167			150	72	
Sodium Hypochlorite	13%	NR	212	302	302	167				150	
Sodium Hypochlorite	50%	NR	212	302	302	167					
Sulfuric Acid	Up to 40%	257	140	302	302	212	140	180	210	150	100
Sulfuric Acid	70%	257	NR	212	302	212	140	180	180		
Sulfuric Acid	98%	212	NR	302	302	122	NR	NR	NR		

Notes

- Blank spot in table indicates no data was available at the time temperature ratings were published
- NR-Not recommended. However drains, vents and other duct piping could be considered when exposure is intermittent or is limited to fumes. Service life at lesser pressures may be acceptable. Please consult Enduro Composites for additional data.
- Hydrochloric Acid temperatures are based on 470 Premium Grade Vinyl Ester Resin*
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