



# GENERAL RECOMMENDATIONS

## FOR USE OF CHEMICALS IN FRP COOLING TOWERS

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### TYPICAL WATER TREATMENT CHEMICALS FOR COOLING TOWERS

- Biocide (12.5% bleach, 0.1 to 0.5 ppm with free residual chlorine of 0.5 ppm, dosed twice daily for 60 minutes in the summer and once daily for 60 minutes in the winter)
- Algaecide (Bulab 6002 dosed 1.5 gallons 3 times/week in the summer)
- pH control (93% sulfuric acid dosed continuously)
- Anti-scalant:
  - Bulab 7045, 1-2 ppm HEDP dosed continuously
  - Hexa Meta Phosphate, 8-12 ppm continuously
- At no time should the pultruded components be exposed to the above chemicals in their concentrated form.

### CHEMICAL INJECTION SITE

All chemicals should be injected into the circulating water suction pipe after exiting the cooling tower prior to entering the condenser, so that thorough mixing is achieved before the water is returned to the cooling tower. All the chemicals should be well mixed and diluted before being introduced to the cooling tower.

### RECOMMENDED RESIN FOR PULTRUDED SHAPES

As a general guideline, for the above mentioned water treatment chemicals and conditions, pultruded material made of BRP FR Polyester resin series is acceptable.

### pH AND MAX. TEMP TOLERANCES FOR POLYESTER AND VINYLESTER RESIN SERIES

| Resin      | Maximum pH | Minimum pH | Maximum Temperature |
|------------|------------|------------|---------------------|
| Polyester  | 9          | 3          | 150°F               |
| Vinylester | 14         | 1          | 200°F*              |

*Refer to the Bedford Design Guide for property retention % at certain continuous temperatures*

\* At near neutral pH salt water, the max use temperature for VE is 200°F. In lower salt concentrations at neutral pH, the max use temp drops to 180°F; additionally this is the max use temperature for pH 11-14 and most pH 1-3 (dependent on acid) environments.

**NOTE:** The above values are approximate values for general understanding ONLY. BRP doesn't provide any range of recommended pH values, as the exact chemical composition of the environment (in combination with operating temperature) governs the choice of resin series.

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