RESINTECH WACG

WEAK ACID GEL CARBOXYLIC CATION EXCHANGE RESIN
Na or H FORM

RESINTECH WACG is a premium grade, high capacity, weak acid gel type cation resin supplied in the sodium or hydrogen form as moist, tough, uniform, spherical beads. Ion exchange activity is based on its carboxylic functional group. *RESINTECH WACG* is intended for use in dealkalization, deionization, and chemical processing applications.

FEATURES & BENEFITS

- **HIGH CAPACITY**
  Over 80 kilograins total capacity per cubic foot assures maximum operating efficiency and capacity compared with other carboxylic type resins.

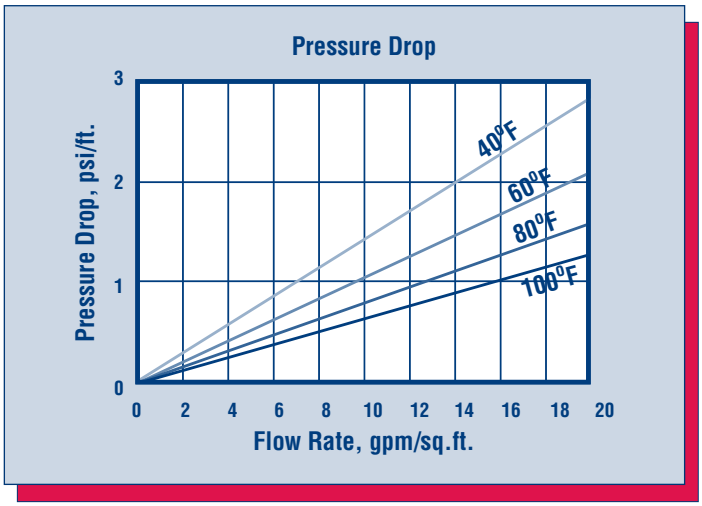
- **CARBOXYLIC FUNCTIONAL GROUPS**
  Gives extremely high regeneration efficiencies and high operating capacities.

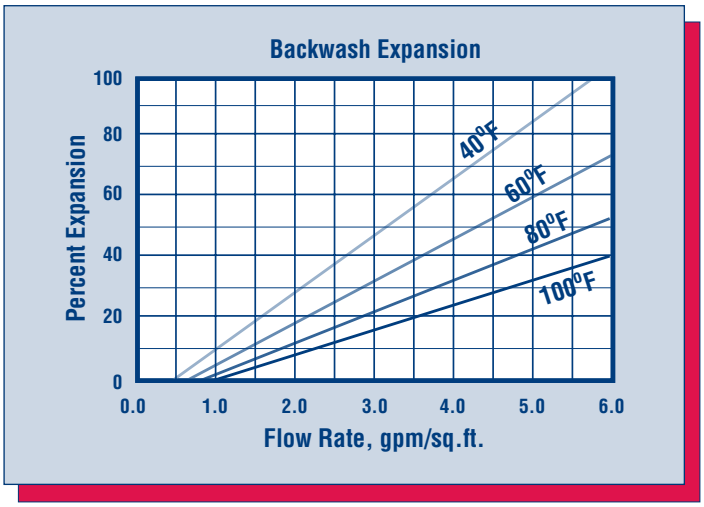
- **AVAILABLE AS NSF/ANSI-61 CERTIFIED**
  WQA Gold Seal Certified when ordered as WACG-HP

- **HIGHLY UNIFORM PARTICLE SIZE**
  16 to plus 50 mesh range; gives a LOWER PRESSURE DROP while maintaining SUPERIOR KINETICS.

- **SUPERIOR PHYSICAL STABILITY**
  90% plus sphericity together with a uniform gel structure and a very uniform particle size provide greater resistance to bead breakage.

HYDRAULIC PROPERTIES





PRESSURE DROP

The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate at various water temperatures.

BACKWASH

After each cycle the resin bed should be backwashed at a rate that expands the bed 50 to 75 percent. This will remove any foreign matter and reclassify the bed. The graph above shows the expansion characteristics of *RESINTECH WACG* in the hydrogen form.

Distributed By:

APPLIED MEMBRANES INC.®

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RESINTECH® WACG

TYPICAL PROPERTIES

Polymer Structure	Acrylic/Divinylbenzene
Functional Group	$R^-(COOH)^-$
Ionic Form, as shipped	Sodium or Hydrogen
Physical Form	Tough, Spherical Beads
Screen Size Distribution	16 to 50
+16 mesh (U.S. Std.)	< 10 percent
- 50 mesh (U.S. Std.)	< 1 percent
pH Range	0 to 14
Sphericity	90+ percent
Water Retention	53 to 58 percent
Solubility	Insoluble
Approximate Shipping Weight	
Sodium Form	44
Hydrogen Form	47
Swelling H^+ to Na^+	Approx. 100 percent
Total Capacity	
Sodium Form	2.0 meq/mL
Hydrogen Form	>4.0 meq/mL

SUGGESTED OPERATING CONDITIONS

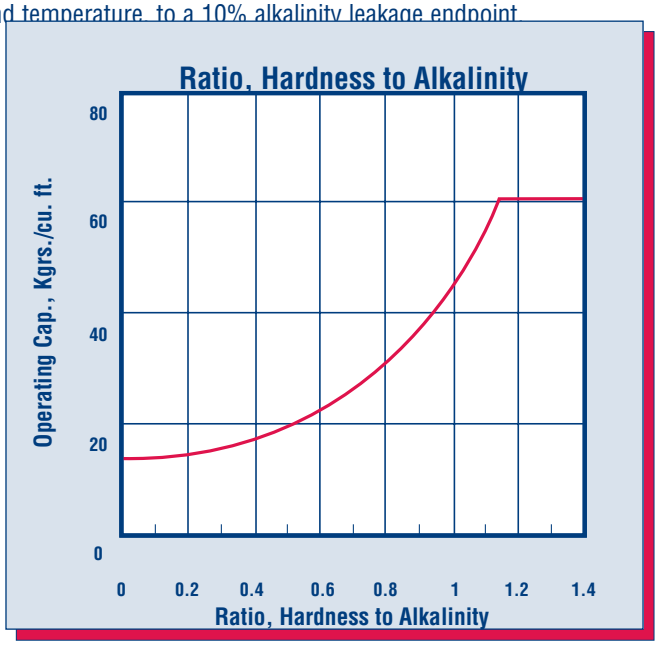
Maximum Temperature	250° F
Minimum Bed Depth	30 inches
Backwash Rate	50-75 Percent Bed Expansion
Regenerant Concentration*	
HCl	1 to 4 percent
H_2SO_4	0.8 to 8 percent
Regenerant Flow Rate	0.3 to 0.75 gpm/cu. ft.
Regenerant Contact Time	At least 30 Minutes
Regenerant Level	Depends on Alkalinity
Displacement Rinse Rate	Same as Regenerant Flow Rate
Displacement Rinse Volume	10 to 15 Gallons/cu. ft.
Fast Rinse Rate	Same as Service Flow Rate
Fast Rinse Volume	35 to 60 gal/cu. ft.
Service Flow Rate	2 to 5 gpm/cu. ft.

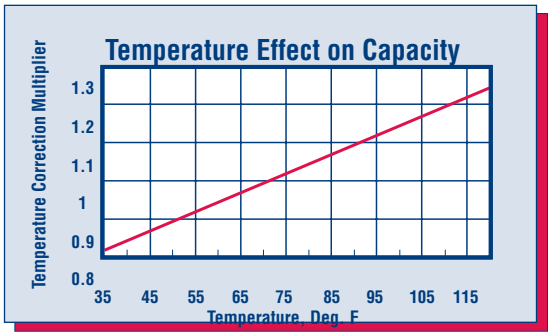
APPLICATIONS

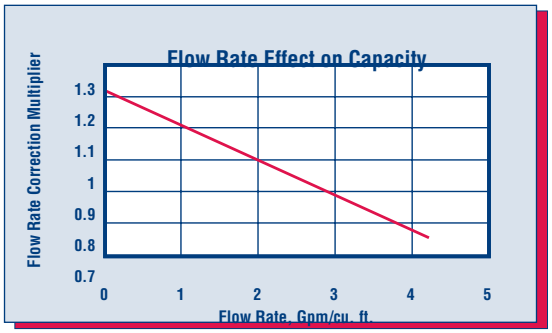
DEMINERALIZATION -
RESINTECH WACG can be used to remove cations associated with alkalinity in multiple bed demineralizers.

SOFTENING -
RESINTECH WACG can be operated as a softener, in the sodium cycle. This requires a two stage regeneration using a strong acid first stage to remove multivalent ions from the bed followed by a neutralization rinse with an alkali.

DEALKALIZATION -
Bicarbonate alkalinity associated with multivalent cations such as hardness can be effectively removed using *RESINTECH WACG* in the hydrogen form. When operated in this manner both hardness and alkalinity are removed. The reaction is limited by the amount of alkalinity and the ratio of hardness (multivalent cations) to alkalinity. The three graphs below show the base operating capacity according to the ratio of hardness to alkalinity and the effects of exhaustion flow rate and temperature, to a 10% alkalinity leakage endpoint.







This product has been tested and certified by the Water Quality Association according to NSF/ANS-61 for materials safety only.

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