



DOWEX Ion Exchange Resins

Suggested Operating Temperatures for DOWEX Ion Exchange Resins

Operation of ion exchange resins at elevated temperatures can cause degradation of the functional sites and loss of ion exchange capacity. For DOWEX* resins, the following guidelines have been established to minimize the chances of premature degradation.

It should be noted that the recommended maximum temperatures are based on typical degradation profiles (see Figure 1 for type I strong base anion profile). These profiles are dependent on many system variables such as the level of dissolved oxygen and the presence of catalytic metals on the resin. As a result, they should be considered guidelines rather than absolute limits.

For strong acid cation resins, the following guidelines are suggested:

Resin Type	Na-form maximum	H-form maximum
8% gel	125°C (260°F)	120°C (250°F)
10% gel	135°C (275°F)	130°C (265°F)
Macroporous	150°C (300°F)	150°C (300°F)

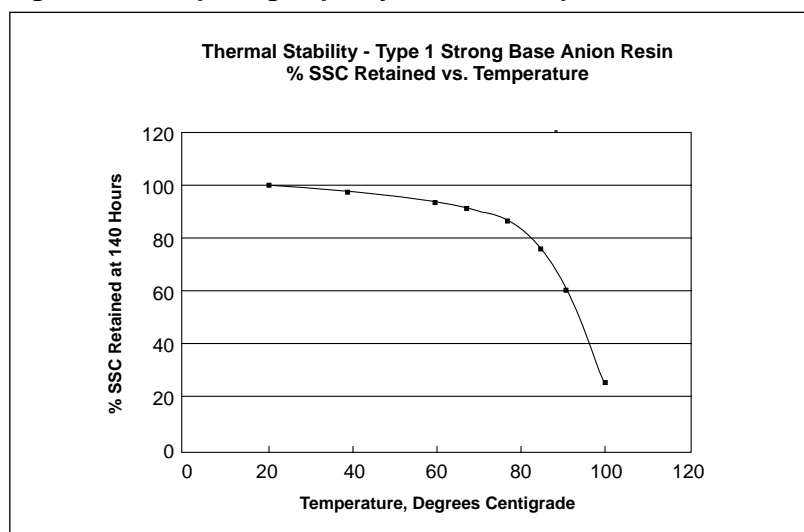
For strong base anion resins, the following guidelines are suggested:

Resin Type	Cl-form maximum	OH-form maximum
Type I	100°C (212°F)	60°C (140°F)
Type II	70°C (160°F)	35°C (95°F)
Acrylic	50°C (120°F)	35°C (95°F)

For weak functionality resins, the following guidelines are suggested:

Resin Type	maximum
Weak base anion	100°C (212°F)
Weak acid cation	120°C (250°F)

Figure 1. Salt Splitting Capacity Loss vs. Temperature



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DOWEX

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Warning: Oxidizing agents such as nitric acid attack organic ion exchange resins under certain conditions. This could lead to anything from slight resin degradation to a violent exothermic reaction (explosion). Before using strong oxidizing agents, consult sources knowledgeable in handling such materials.

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