RESINTECH INC.
INNOVATIONS IN ION EXCHANGE

ASM-125

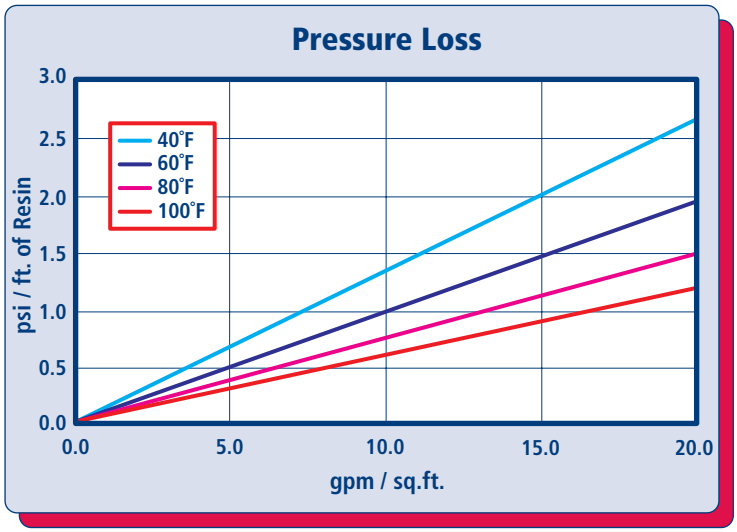
HYBRID ANION EXCHANGE RESIN SILICA & ANTIMONY SELECTIVE CI FORM

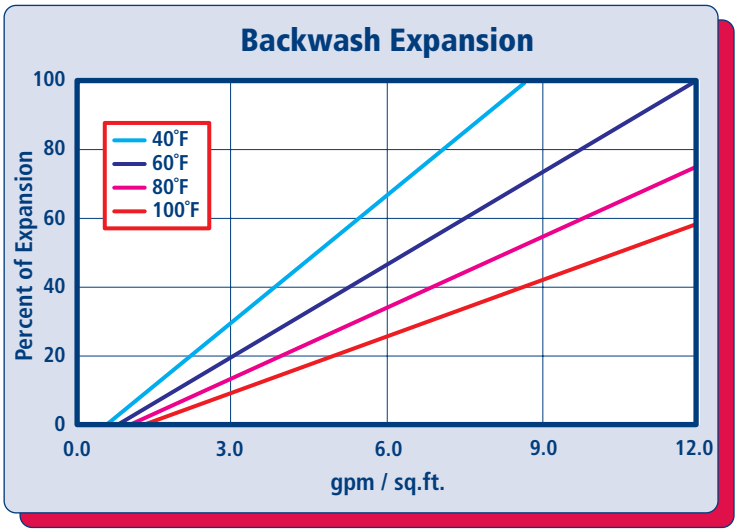
RESINTECH ASM-125 is a chloride form gel hybrid anion resin selective for silica and antimony. *ASM-125* contains hydrated iron oxide crystals monoatomically dispersed throughout the polymer. It absorbs antimony, silica, and other contaminants by a combination of ion exchange and adsorption. *RESINTECH ASM-125* is intended for use removing trace levels of antimony and can also be used to remove silica from process waters. *ASM-125* is supplied in the chloride form.

FEATURES & BENEFITS

- **HIGH AFFINITY FOR ANTIMONY AND SILICA OVER OTHER ANIONS**
  Formulated for selective removal of antimony and silica
- **EFFECTIVE IN LAYERED RESIN SYSTEMS**
  Can be used as a layer in radwaste and other ion exchange systems designed for multicontaminant removal
- **SUPERIOR PHYSICAL STABILITY**
  93% plus sphericity and high crush strengths together with carefully controlled particle distribution provides long life and low pressure drop
- **UNITED STATES PATENT**
  Method of making and using modified anion exchange materials with metal inside the materials. US Pat. No. 7,504,036
- **CONTROLLED PARTICLE SIZE**
  16 to 50 mesh size provides a low pressure drop and superior kinetics

HYDRAULIC PROPERTIES





PRESSURE LOSS

The graph above shows the expected pressure loss of *ResinTech ASM-125* per foot of bed depth as a function of flow rate at various temperatures.

BACKWASH

The graph above shows the expansion characteristics of *ResinTech ASM-125* as a function of flow rate at various temperatures.

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RESINTECH® ASM-125

PHYSICAL PROPERTIES

Polymer Structure	Styrene/DVB
Polymer Type	Gel
Functional Group	Hybrid
Physical Form	Spherical beads
Ionic Form as shipped	Chloride
Water Retention	
Chloride form	35 to 45 percent
Shipping Weight	49 lbs./cu.ft.
Screen Size Distribution (U.S. mesh)	16 to 50
Maximum Fines Content (<50 mesh)	1 percent
Minimum Sphericity	93 percent
Uniformity Coefficient	1.6 approx.
Resin Color	Black

Note: Physical properties can be certified on a per lot basis, available upon request

SUGGESTED OPERATING CONDITIONS

Maximum continuous temperature	
Chloride form	170˚F
Minimum bed depth	6 to 12 inches
Maximum pressure loss	25 psi
Operating pH range	4 to 10 SU
Service flow rate	1 to 10 gpm/cu.ft.

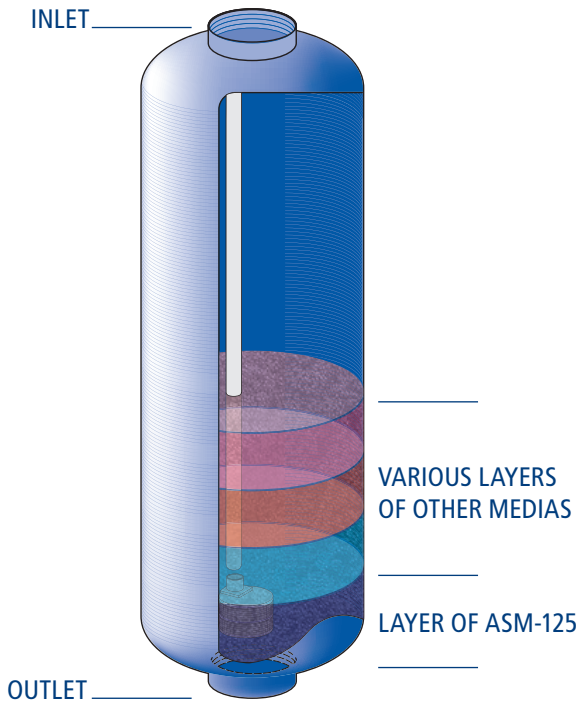
Note: These guidelines describe average low risk operating conditions. They are not intended to be absolute minimums or maximums.
For operation outside these guidelines, contact ResinTech Technical Support

APPLICATIONS

ANTIMONY REMOVAL

Trace levels of antimony are adsorbed by the iron hybrid material inside *ResinTech ASM-125*, which in all other respects remains a strong base anion resin. The resin is typically used as the bottom layer of a multilayer exchange tank. Antimony reduction is typically around 90%. In recycle applications where the source of antimony has been removed, remaining antimony can be reduced below the limit of detection.

TYPICAL USE IS LAYERED UNDERNEATH OTHER MEDIAS



SILICA REMOVAL

Chloride form *ResinTech ASM-125* can be used at moderate pH to remove silica from neutral water without reducing TDS. At a flow rate of 0.5 BV/min, treating water with a pH of 7.5, a removal efficiency of fifty percent is possible for several hundred bed volumes of throughput. Silica removal continues at reduced efficiency for many thousands of additional bed volumes. Even though silica removal is not complete, the lowering of silica helps maintain purity in spent fuel pools and other radwaste systems.

REMOVAL OF OTHER TRACE CONTAMINANTS

ResinTech ASM-125 is also able to remove other traces of activated metal oxides such as nickel, tin, and tellurium.