

MBD-10-SC

MIXED BED

**SEMICONDUCTOR GRADE
HIGH CAPACITY MIXED BED
POLYSTYRENIC GEL
H / OH FORM**

ResinTech MBD-10-SC is a mixture of a dark-colored hydrogen form cation resin and a hydroxide form type 1 strong base anion resin. The resin ratio is 1:1 on an equivalent basis. The SC grade means it has been functionally tested to produce > 18 megohm resistivity and under 50 ppb of TOC. MBD-10-SC is intended for use in all mixed bed deionization applications that require high resistivity and high throughput capacity.

APPLICATIONS

- Cartridge Applications
- Portable Exchange Deionization (PEDI)
- High Temperature Applications
- In Place Regeneration

TYPICAL PROPERTIES & PHYSICAL CHARACTERISTICS

Polymer Matrix	Styrenic Gel
Ionic Form	Hydrogen & Hydroxide
Functional Group	Sulfonic Acid / Trimethylamine
Physical Form	Spherical Beads
Particle Size	16 to 50 US Mesh (297 - 1190 µm)
% < 50 mesh (300µm)	< 1%
Reversible Swelling	H/OH to Na/Cl -15% to -17%
Temp Limit	140°F (60°C)
Capacity (meq/mL)	0.6
Moisture Retention	53% to 65%
Shipping Weight	42 - 44 lbs/ft³ (673 - 705 g/L)
Color	Black & Amber
Regenerability	Yes

PACKAGING OPTIONS

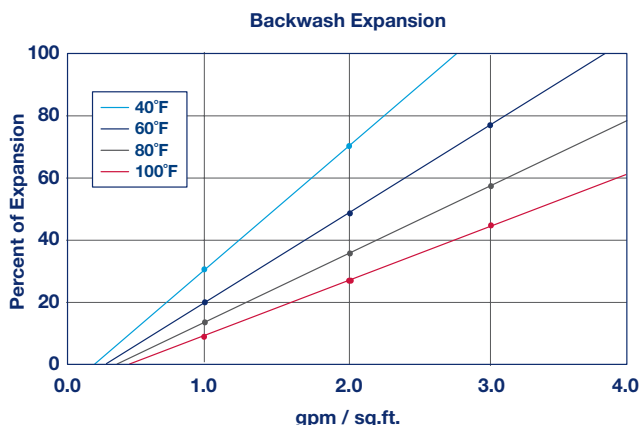
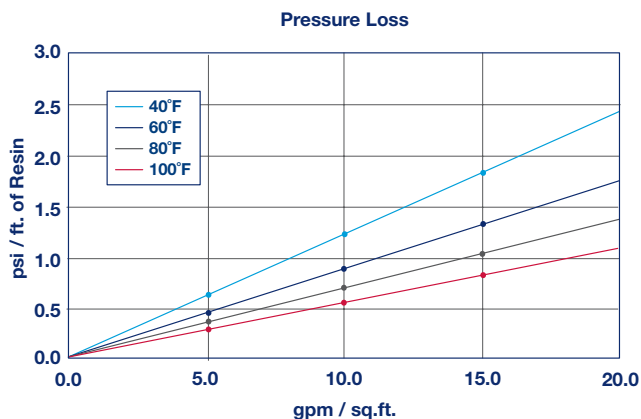
- 500 ml samples
- 1 ft³ bags
- 1 ft³ boxes
- 1 ft³ drums
- 7 ft³ drums
- 42 ft³ supersacks



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SUGGESTED OPERATING CONDITIONS

Maximum continuous temperature	140°F
Maximum intermittent temperature	180°F
Minimum bed depth	24 inches
Backwash expansion	50 to 100 percent
Maximum pressure loss	25 psi
Operating pH range	2 to 12 SU
Service flow rate	
Working	1 to 5 gpm per cu. ft.
Polishing	3 to 15 gpm per 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

THROUGHPUT CAPACITY (Gal/cu. ft.)

TDS (ppm as CaO ₃) Conductivity (uS/cm)	No CO ₂ or SiO ₂	5 ppm CO ₂ or SiO ₂	10 ppm CO ₂ or SiO ₂
2/5	111,834	31,953	18,639
5/12.5	44,734	22,367	14,911
10/25	22,367	14,911	11,183
20/50	11,183	8,947	7,456
50/125	4,473	4,067	3,728
100/250	2,237	2,130	2,033
200/500	1,118	1,091	1,065
500/1250	447	443	439
1,000/2500	224	223	221

Mixed Bed throughput capacity is to a 1 uS/cm endpoint. TDS is based on NaCl. Capacity is based on virgin resin.

CATRIDGE USE

ResinTech MBD-10-SC premixed mixed bed is ideal for single use cartridge applications where the longest possible throughput capacity is desired.

IN PLACE REGENERATION

ResinTech MBD-10-SC is ideal for in place regenerated mixed beds, especially if they are set up for the 60/40 anion to cation ratio that is optimum for most mixed bed polishers.

PORTABLE EXCHANGE DEIONIZATION (PEDI)

ResinTech MBD-10-SC can be used in PEDI applications to remove bulk TDS from raw waters or to remove trace levels of TDS following reverse osmosis or other desalination processes. The mixed resin can be separated into its components for regeneration, and reused hundreds or thousands of times. The cation component is dark in color and provides optimized color difference from the anion. This color difference can verify resin separation during backwash.