

Metal free stainless steel HPLC columns comparison to PEEK column performance - Tips & Suggestions

Our metal free treatment of stainless steel is excellent for any compound that will interact with stainless steel

PEEK is a highly inert material which has been used in HPLC applications for years. However, PEEK has some limitations:

- Mechanical strength: PEEK begins to flex at 3000 to 5000 PSI, making it unsuitable for UHPLC and other applications where high pressure is required.
- Work-ability: Machining of PEEK doesn't produce sufficiently consistent IDs, which disrupts flows and can shift retention times.
- Environmental: PEEK has temperature limitations and solvent related swelling issues which limit solvent and temperature options for the user.

Our metal free stainless steel offers a robust and inert alternative to PEEK.

Material	Temperature Stability	Solvent Performance	Corrosion Resistance	Delamination Issues	Mechanical Strength	Work-ability
Stainless Steel	450°C	No swelling	Resistant to most known HPLC solvents	Molecularly bound and will not flake off	Limited only by the base material	Precision coating does not significantly alter dimensions.
PEEK	148°C	Swells with THF, Acetone & more	Some acids, halides, chlorides and buffers	Lined tubing can experience delamination issues	Begins to flex at 3000 to 5000 PSI	Inconsistent machining can disrupt flow and shift retention times



Printed from the Chrom Resource Center

MicroSolv Technology Corporation

9158 Industrial Blvd. NE, Leland, NC 28451

tel. (732) 380-8900, fax (910) 769-9435

Email: customers@mtc-usa.com

Website: www.mtc-usa.com

Date: 07-22-2024