

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



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