

LC columns

Smart tips

Increase your column lifetime

How to identify the column degradation



Best practices for increasing the LC column life

- Replace the inlet frit of the column without disturbing the column. If changing frit is impossible, reverse wash the column with a strong solvent to remove the particulates at the inlet
- Always disconnect the detector while column washing to avoid plugging the detector cell
- Always use an inline filter between the injection valve and column inlet to prevent the particulates from instrument wear of the sample injector and pump seal
- Use the guard column between the injection valve and analytical column and replace them at regular intervals
- Flush your column with a strong solvent (methanol or ACN for RP and methanol for normal) daily
- Ensure the pretreatment of samples like centrifugation, filtration, etc.
- Manufacturing defects are very difficult to identify during the initial use. However, with time, a sudden decrease in column performance characteristics suspects the poorly packed columns

- Increased column backpressure?
- Loss of theoretical plates?
- Changes in retention time?
- Loss of selectivity?
- Tailing bands?



- Prevent sudden pressure changes during a column operation. Always increase pressure incrementally
- Always follow column manufacturer recommendations for column use and storage
- Use methods with less harsh chromatographic conditions with ambient pH range, buffer conditions, and ambient temperature, as column performance significantly decreases with an increase in temperature, preferably less than 40° C.

Learn more at thermofisher.com/lccolumns