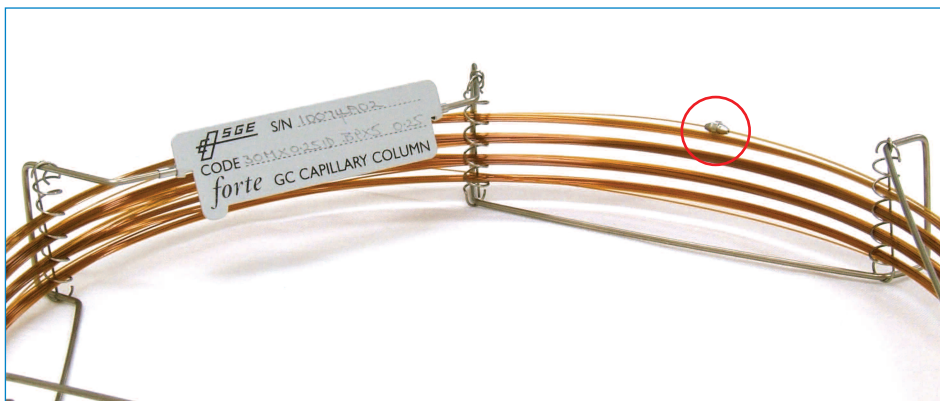


INTRODUCING SILGUARD

A Revolutionary New Integrated Guard Column System

A new standard for SGE's *forte* range of GC Capillary Columns



SilGuard - what is it?

SilGuard is a unique integrated guard column system, developed using SGE's renowned SilTite™ ferrule technology. SilGuard provides significant benefits compared to other integrated guard columns or the use of conventional unions:

- No ambiguity about the length of the guard column, as the junction of the analytical and guard column is clearly marked by the SilGuard union
- Negligible thermal mass of the union allows fast temperature programming
- Zero dead volume design ensures no impact on peak shapes
- The guard column is factory fitted to ensure a permanent leak-free connection

Why have I received it?

- (i) You have specifically ordered an SGE *forte* column with SilGuard or
- (ii) You have ordered a *forte* BPX5 column.

SGE are now providing the most popular dimensions* of *forte* BPX5 columns with a standard 0.32mm ID x 5m guard column at no extra cost.

(* all columns of length >10m, and ID = 0.22, 0.25, 0.32mm)

What if I do not need/want the guard column on my *forte* BPX5?

Simply “score and snap” just on the analytical side of the SilGuard union and remove the guard column. Note: your column test report shows the performance of the analytical column only.

Which end is the guard column?

The guard column end is marked with a small flag, which should be removed before use.

Will it change my chromatography?

The retention times of your compounds are the only feature of your chromatography that may change, and the times will usually be slightly longer due to the extra length of capillary tubing. Shown below (Figure A) is a typical chromatogram on a *forte* BPX5 with and without the SilGuard guard column attached. Note that there are no discernable changes in peak shape or sensitivity.

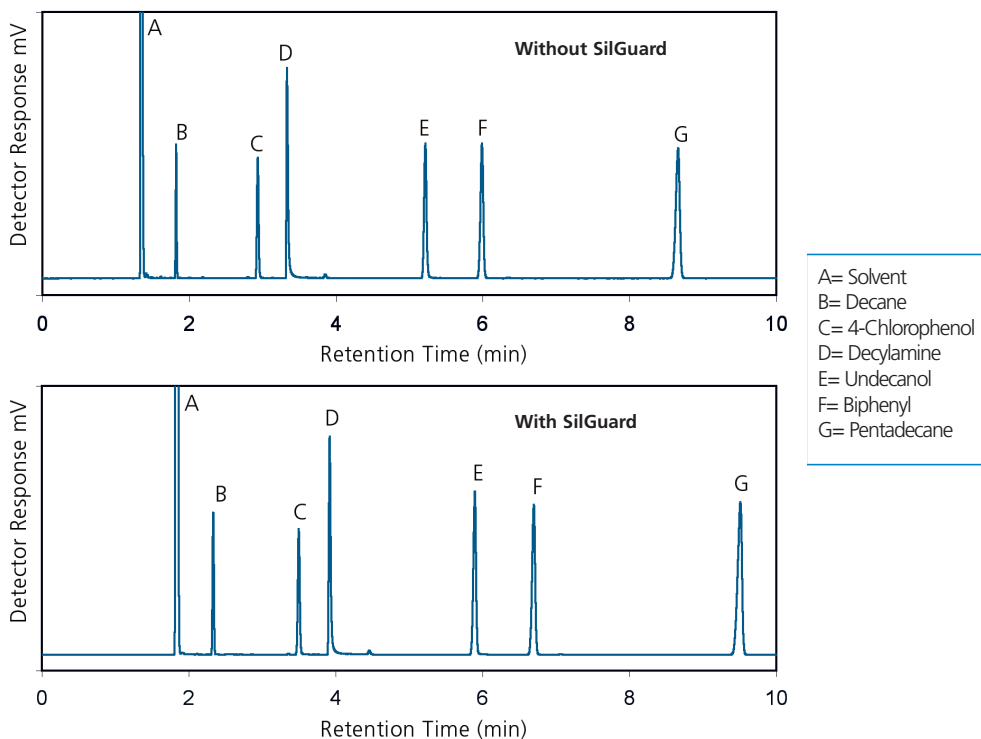


Figure A. Top: The isothermal analysis of a test mixture on a *forte* BPX5 column (30m x 0.25mm x 0.25 μ m film).
Bottom: The same analysis with a SilGuard guard column fitted.

What are the benefits of SilGuard?

The most common benefits of any guard column are

- Greater endurance of the column: the guard column protects the analytical column phase from contamination and damage from non-volatile components
- Allows the analytical column to be used with injectors running at a higher temperature than the analytical column's normal operating limits

The key benefits of SilGuard over other guard column systems are listed on the front page of this booklet. In addition to these, the SilGuard design makes it the only integrated guard column system that allows the guard and analytical column to have a different ID. This facilitates a wide range of applications, well beyond the "usual" uses as a standard guard column. Some of these applications are listed below.

Pre-Column

- Achieve a particular solvent effect or other injection effect, for example, to reconcentrate analytes at the front of the analytical column
- On-column injection: a wide bore pre-column is used to position the syringe needle in the column head
- Large volume injections: a wide bore pre-column prevents flooding of the phase in the analytical column

Post-Column

- Acts as a restrictor on the analytical column at the vacuum interface on a mass spectrometer. This improves column performance (especially for short columns) by preventing the last few meters of the analytical column from running under a vacuum rather than under a positive pressure
- Phase free transfer line can be held at a continuous high temperature without damaging the phase or increasing chemical noise due to phase bleed

How do I order SilGuard on another Column Phase and/or order a different ID guard?

Most SGE *forte* columns can be ordered with a SilGuard guard column, for a small additional charge (contact your local SGE office or authorized Distributor for details).

- All guards are 5m in length, with a choice of ID's : 0.1, 0.15, 0.22, 0.25, 0.32, 0.53 mm)
- Add SGXX to the end of the column part number e.g. 054634**SG32** for a 0.32mm ID guard on an 054634 column

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