

KORY'S GC TECK-TIPS

How to install a Guard Column

A Z-Guard can provide many advantages whether it is used as a retention gap for volatile compounds or as a guard column to catch higher molecular weight contaminants and extend column lifetime. The key to getting the best performance from any attached guard column lies in the installation. A proper installation will ensure that there is no added dead space or chance for leaks.

Some general instructions on how to install a Z-Guard are as follows:

- Properly cut both column (guard column and analytical column) ends squarely (see below for illustration).
- Inspect the cut to verify a good cut. This is important. A poor cut is more likely to leak (see below for illustration).
- (optional) Dip both column ends in Methanol or Acetone solvent. Alternatively, wipe gently with lint free cloth permeated with solvent. This may help swell the polyimide to aid in sealing.
- (optional) To help secure the column, a bead of polyimide resin can be placed either at the opening of the fitting after the column has been installed or ~0.5 cm from the tip of the column before the column end is placed into the fitting. The easiest method of resin application is to dip a tooth pick into the resin and gently apply a ring of resin to the column.
- One end at a time, firmly press the end of each column into the opening in the Press-Tight® fitting. A complete and uniform ring should be visible where the polyimide of the column is in contact with the glass from the fitting. If not, remove the column, re-cut the column, and re-install.
- If resin was used to help secure the column ends, a curing step is required. The column (with carrier gas) is slowly heated (2-5 °C/min) from room temperature to 180 °C. Let the polyimide cure for 5-10 minutes at this temperature.

Illustration – Column Cutting

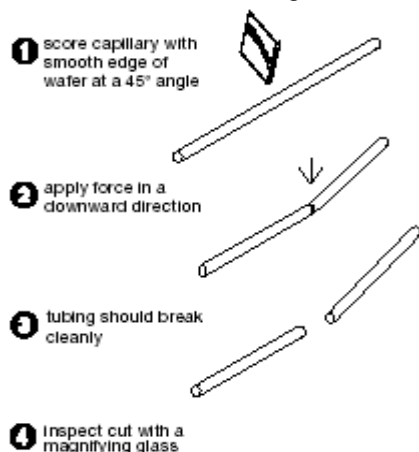
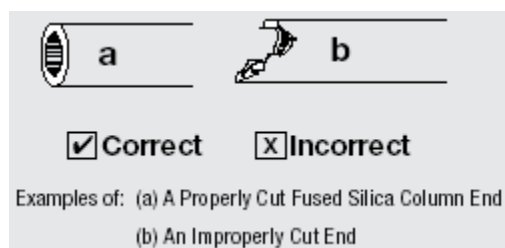


Illustration - Magnified Column Ends



Key words: Guard column, Z-Guard, column installation

Author: Kory Kelly