# Care and use of ChraSil® HPLC Columns

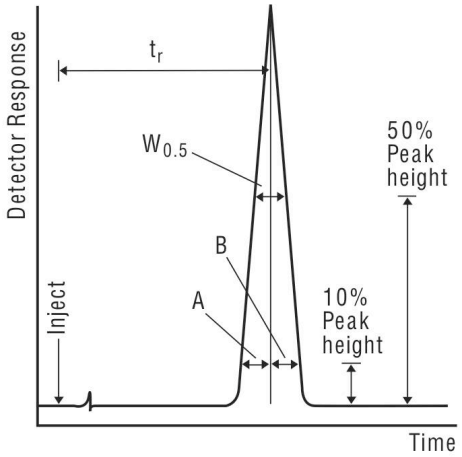
Please read this information carefully before using the column. All Chrasil columns are individually manufactured and tested to meet strict specification criteria. The following measures will maintain their performance and lifetime.

## COLUMN INSTALLATION

**System dead volume**: Reduce dead volume in the system to a minimum by using small internal diameter connection tubing, for analytical columns 0.010". Keep these tubing lengths between injector, column and detector as short as possible.

**Column connection**: For optimum performance, it is important that the tubing used to connect the column to the injector or detector is swaged into position such that it abuts the internal shoulder of the fitting.

**Equilibration**: The storage solvent in a new column is the mobile phase used to evaluate the column unless otherwise specified on the chromatogram. Initially care should be taken not to pass any material through the column that may precipitate in the storage solvent. Ensure that the column is fully equilibrated to the mobile phase prior to starting an analysis. A normal phase silica column usually requires more conditioning than a reverse phase column.




Plates: $N = 5.54 (t_r/W_{0.5})^2$

The asymmetry factor: $As_{0.1} = B/A$

**Performance testing**: It is recommended that the performance of columns is tested on arrival and at periodic intervals during use. The performance parameters measured are defined above.

## SAFETY

**Maximum operation pressure: 400 bar**

**Maximum temperature: 60ºC**

## OPERATIONAL GUIDELINES

**HPLC solvents**: Use only HPLC grade solvents and freshly prepared aqueous buffer solutions to minimize bacterial growth. A slip-on pump inlet filter will remove extraneous particles.

**Mobile phase pH**: The recommended mobile phase pH for Chrasil columns packed with C4, C8, C18 and $NH_2$ phases, is between 1.5 and 9.5. This will ensure maximum column life.

**Pressure**: Exposure of a column to rapid changes in back pressure or to pressures greater than 400 bar (≈ 6,000 psi) may reduce column life.

**Storage**: Wash out all water and buffers from bonded silica columns and store in organic solvent. Unbonded silica columns may be stored in hexane or similar organic solvent. Keep in a cool area and replace end-caps to prevent the packing bed drying out.

**Mechanical damage**: Protect the column from mechanical shock. Dropping or banging a column can impair its performance.

**Fittings – torque**: Excessive tightening of the column end fittings will result in damage to the column tubing or fittings. Removal of an end fitting to replace a frit or top-up the packing material should be regarded as a last resort to prolong column life.

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