



advanced technology

Details on pages 106-107.

did you know?

Rt®-Alumina BOND columns show unique retention characteristics for hydrocarbons.



tech tip

Traces of water in the carrier gas and in the sample will affect the retention and the selectivity of alumina. If exposed to water, the retention times will shorten. The column can be regenerated by conditioning for 15-30 min. at 200 °C under normal carrier gas flow. Periodic conditioning ensures excellent run-to-run retention time reproducibility.

The maximum programmable temperature for an Rt®-Alumina BOND column is 200 °C. Higher temperatures cause irreversible changes to the porous layer adsorption properties.

Rt®-Alumina BOND Columns

1. Highly selective for C1-C5 hydrocarbons; separates all unsaturated hydrocarbon isomers above ambient temperatures.
2. Reactivity of aluminum oxide stationary phase is minimized so that column response for polar unsaturates, such as dienes, is optimized. Column sensitivity or response ensures a linear and quantitative chromatographic analysis for these compounds.
3. Strong bonding prevents particle generation. The column can be used in valve switching operations, without release of particles that can harm the injection and detection systems.
4. The Rt®-Alumina BOND column is stable up to 200 °C. If water is adsorbed on the column, it can be regenerated by conditioning at 200 °C. Full efficiency and selectivity will be restored.
5. High capacity and loadability give exceptionally symmetric peaks; ideal for volatile hydrocarbon separations at percent levels, as well as impurity analyses at ppm concentrations.

Guaranteed Reproducibility

Each Rt®-Alumina BOND column is tested with a hydrocarbon test mix to ensure proper phase thickness and selectivity. 1,3-Butadiene is used to calculate k (capacity factor), which is a measure of phase thickness. Selectivity is measured using retention indices for propadiene and methyl acetylene. The resolution of *trans*-2-butene and 1-butene is also verified. To measure coating efficiency, plates per meter are checked using 1,3-butadiene. Extensive testing assures reproducible retention times and predictable flow behavior column-to-column.

Rt®-Alumina BOND/Na₂SO₄ Columns (fused silica PLOT)

(Na₂SO₄ deactivation)

- Acetylene/propadiene elute after butanes (impurities in acetylene/propadiene).
- Best separation for butene isomers (impurities in butene streams).
- Methyl acetylene elutes after 1,3-butadiene.
- Cyclopropane (impurity in propylene) elutes well before propylene.

ID	df	temp. limits	30-Meter	50-Meter
0.25mm	4µm	to 200°C	19775	
0.32mm	5.00µm	to 200°C	19757	19758
0.53mm	10µm	to 200°C	19755	19756

Rt®-Alumina BOND/KCl Columns (fused silica PLOT)

(KCl deactivation)

- Acetylene elutes before C4 hydrocarbons (impurities in butane/isobutane).
- Methyl acetylene (impurity in 1,3-butadiene) elutes before 1,3-butadiene.

ID	df	temp. limits	30-Meter	50-Meter
0.25mm	4µm	to 200°C	19776	
0.32mm	5.00µm	to 200°C	19761	19762
0.53mm	10µm	to 200°C	19759	19760



for more info

For more information on Rt®-Alumina BOND/CFC columns, see page 74.

Rt®-Alumina BOND/CFC Columns (fused silica PLOT)

- Improved inertness for halogenated compounds such as CFCs.
- Highly selective alumina based column, separates most CFCs.
- High retention and capacity for CFCs.

ID	df	temp. limits	30-Meter
0.53mm	10µm	to 200°C	19763



MXT®-Alumina BOND/Na₂SO₄ Columns (Siltek®-treated stainless steel PLOT)

Advantages of metal MXT® PLOT columns include:

- Can be made in small coil diameters—perfect for tight spaces.
- Will not spontaneously break, making them ideal for rugged environments.
- Designed for robust performance in process GCs and field instruments.

ID	df (µm)	temp. limits	3.5" coil	7" diameter 11-pin cage
			30-Meter	30-Meter
0.53mm	10µm	to 200°C	79714-273	79714

