

Guaranteed Reproducibility

Each Rt™-Alumina PLOT column is tested with a hydrocarbon test mix to ensure proper phase thickness and deactivation. Pentane is used to calculate *k* (capacity factor), which is a measure of phase thickness. The ratio of isobutane to acetylene retention is measured to ensure proper deactivation of the alumina oxide layer. The plates per meter value is calculated to evaluate column efficiency.

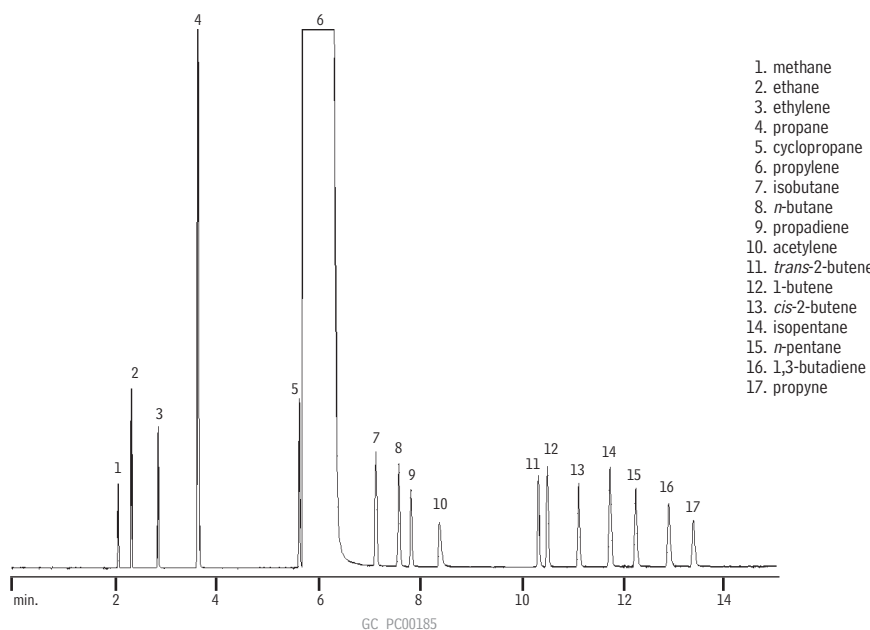
Restek's Rt™-Alumina PLOT columns offer fast and reproducible hydrocarbon stream and purity analyses. The 0.32mm ID Rt™-Alumina PLOT column provides fast and efficient analysis of C1 to C5 hydrocarbons. The higher capacity of the 0.53mm ID Rt™-Alumina PLOT column makes it ideal for purity analysis of many common petrochemicals, such as 1,3-butadiene, ethylene, and propylene (see figure).

Rt™-Alumina Columns (fused silica PLOT)(Na₂SO₄ deactivation)

ID	df (μm)	temp. limits	30-Meter	50-Meter	60-Meter
0.32mm	3	to 200°C	19702	—	19703
0.53mm	6	to 200°C	19700	19701	—



Neil Mosesman
Marketing Manager
20+ years of service!

Propylene purity on an Rt™-Alumina PLOT column.

1. methane
2. ethane
3. ethylene
4. propane
5. cyclopropane
6. propylene
7. isobutane
8. *n*-butane
9. propadiene
10. acetylene
11. *trans*-2-butene
12. 1-butene
13. *cis*-2-butene
14. isopentane
15. *n*-pentane
16. 1,3-butadiene
17. propyne

Column: Rt™-Alumina, 50m, 0.53mm ID (cat.# 19701)
 Inj.: 100μL hydrocarbon mix (gas-tight syringe)
 Oven temp.: 40°C (hold 3 min.) to 120°C
 @ 10°C/min. (hold 5 min.)
 Inj./det. temp.: 200°C
 Carrier gas: helium
 Linear velocity: 37.5cm/sec. set @ 80°C
 Split flow: 60mL/min.
 FID sensitivity: 1.28 x 10¹⁰ AFS

tech tip

Trace water in the carrier gas can affect the selectivity and retention of the Rt™-Alumina PLOT column. The column can be regenerated by baking out the water (50°C to 200°C @ 8°C/min., 50cm/sec. flow rate). Periodic conditioning ensures excellent run-to-run retention time reproducibility.

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

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