

Thermal Resistance (Bleeding) of Ultra ALLOY® Metal Capillary Columns

Compared with fused silica (FS) columns, Ultra ALLOY® metal capillary columns have unique inner surface structure and compositions (see Tech. Note UAT-002E), and therefore are featured by excellent thermal resistance and inertness, because of high temperature baking process after coating of stationary phase. All of Ultra ALLOY® metal capillary columns are shipped upon careful inspection after conditioning at 400°C for overnight. The high thermal resistance of materials and our proprietary manufacturing process make it possible to deliver columns with extremely low bleeding as shown below. (FS capillary columns are vulnerable to column damage above 320°C due to thermal degradation of polyimide outer wall coating.) The low bleeding is advantageous not only at high temperatures, but also at relatively low temperature applications, because it ensures high sensitivity analysis and long lifetime.

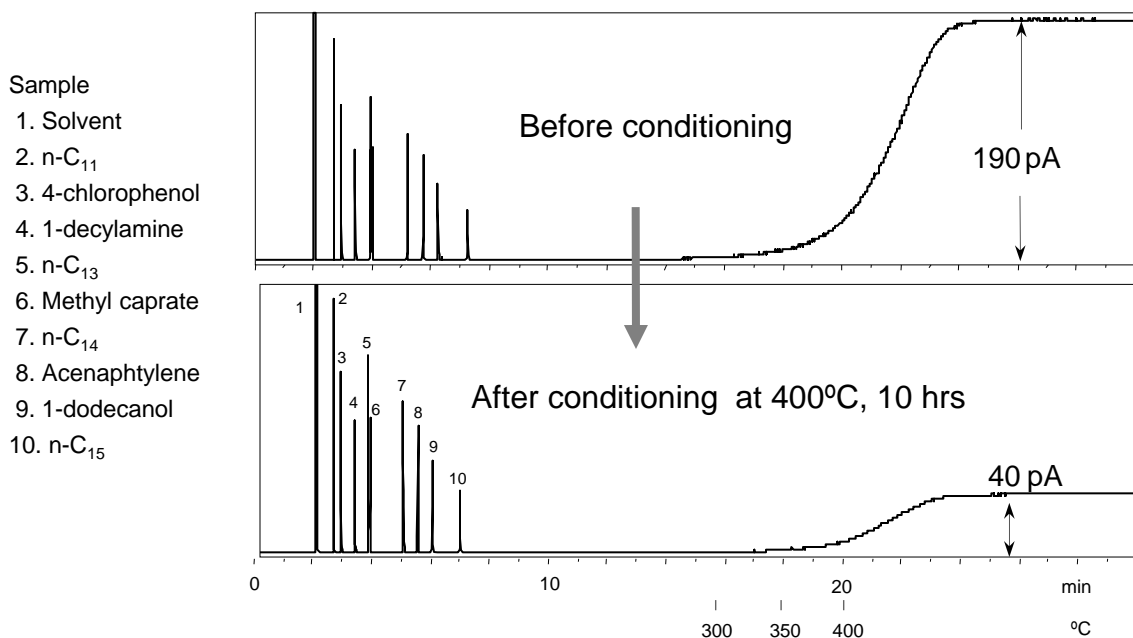


Fig. 1. Low bleeding after conditioning at high temperature for Ultra ALLOY®-1

Column : Ultra ALLOY-1 (dimethylpolysiloxan), 30 m, id 0.25 mm, Film thickness 0.15 µm
 GC oven temp.: 145 (8 min) ~ 20 °C/min ~ 400°C, Carrier gas : He 150 kPa
 Injection port : Split 1/50 at 300°C, Split vent : 60ml/min, Detector : FID at 400°C

Keywords : Thermal resistance, Low Bleed

Products used : Multi-functional pyrolyzer, UA-1

Applications : General analysis, High temperature analysis

Related technical notes :

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