

or when a thick-film column will be coupled to a very high sensitivity detector (such as an electron capture detector or mass spectrometer), overnight conditioning might be necessary to achieve a stable baseline. Note, however, that operating capillary columns at their maximum temperatures over a long period of time will shorten the lifetime of the column.

In most situations, we recommend that a new column be installed first thing in the morning, purged and leak checked as described above, and conditioned as follows:

1. Set your GC oven temperature to 40°C, and set a temperature ramp rate of 10°C/minute.
2. Program the oven either to 20°C above the final temperature called for in the analysis or to the column's maximum ISOTHERMAL temperature – whichever is lower.
3. While the oven temperature begins its ramp, heat the injection port to the appropriate temperature.
4. After the oven temperature reaches the set point, hold this temperature for the time listed in Table 2.
5. With carrier gas still flowing, cool the oven, install a fitting and ferrule onto the detector end of the column as outlined above, connect the column to the detector, and repeat steps 1-4.

Your column should now be conditioned. As mentioned above, if you are using a high sensitivity detector, such as a mass spectrometer or an electron capture detector, the column might need additional conditioning to ensure a stable baseline. Consult the instrument manual for information.

Because column connections are a common source of leaks, if you plan to do dual-column analysis, you should install, condition, and test each column individually. Only after the performance of both columns has been proven to be acceptable should they be connected in common to a guard column, using a SeCure Y, or similar connector.

Proper column conditioning is essential for optimal column performance. Once you establish a conditioning procedure that works well for you, record this information in your laboratory notebook or equipment logbook for future reference. If you encounter problems during column installation or conditioning, or at any other point in your analysis, remember that the Restek Technical Service chemists are only a phone call or e-mail message away.

Table 2 Conditioning times for capillary GC columns

For these columns:

MXT®-1, MXT®-1HT, MXT®-1SimDist, MXT®-500

Rtx®-1, Rtx®-1MS, Rtx®-1PONA, Rtx®-5, Rtx®-5MS, Rtx®-5SiIMS, Rtx®-5Amine, Rtx®-XLB, Rtx®-440, Rtx®-PCB, Rtx®-2887, Rtx®-G27, Rtx®-TNT, Rtx®-TNT2

Rxi -1ms, Rxi -5ms

Stx -500

XTI®-5

Column Length (meters)	Film Thickness (µm)	Approx. Time	
		(min.)	(hr.)
≤15	0.1 - 0.25	15	0.25
	0.5 - 1.0	30	0.5
	1.0 - 1.5	60	1
	1.5 - 3.0	90	1.5
30	0.1 - 0.25	30	0.5
	0.5 - 1.0	45	0.75
	1.0 - 1.5	60	1
	1.5 - 3.0	90	1.5
≥60	0.1 - 0.25	60	1
	0.5 - 1.0	90	1.5
	1.0 - 1.5	120	2
	1.5 - 3.0	150	2.5