

# Concentrating zone plates (TLC, HPTLC, PLC)

Quick and easy sample application even of large volumes of diluted samples

Concentrating zone plates allow easy application of large volumes of diluted samples offering:

- Highly facilitated sample loading
- Better resolution due to uniformly sharp bands
- Includes a purification, sample preparation step

Merck Millipore's concentrating zone plates are based on different adsorption properties of two silica sorbents: a large-pore concentrating sorbent where the samples are applied, and a selective separation layer for the separation. Independent of shape, size or position of the spots, the sample always concentrates within minutes as a narrow band at the interface of the two adsorbents where the separation starts (see figure on page 118).

In addition, the concentrating zone can serve as a clean-up step for complex matrices, e.g. oils, cosmetics. Analytical TLC and HPTLC concentration zone plates provide concentrating areas of 2.5 cm while the concentrating zone of preparative plates (PLC) is 4 cm in width.

The special **HPTLC RP-18 modified silica concentrating zone plate** is optimized for the high-resolution separation of polycyclic aromatic hydrocarbons (PAH) according to DIN 38409-H13. Polycyclic aromatic hydrocarbons (PAH) are derived from organic material by pyrolysis or incomplete combustion. The main sources are the exhaust fumes of private and industrial furnaces, car exhaust and tobacco smoke. Since some PAH are carcinogenic, their determination is of great importance and maximum limits have been set, for example, for drinking water.

## Ordering information – TLC concentrating zone plates

Product	Ordering No.	Format [cm]	Backing	Contents of one package
Silica gel 60 concentrating zone 2.5 x 20 cm	1.11845.0001	20 x 20	glass	25 plates
Silica gel 60 concentrating zone 2.5 x 10 cm	1.11844.0001	10 x 20	glass	50 plates
Silica gel 60 concentrating zone 2.5 x 20 cm *	1.05582.0001	20 x 20	aluminium	25 sheets
Silica gel 60 F <sub>254</sub> concentrating zone 2.5 x 20 cm	1.11798.0001	20 x 20	glass	25 plates
Silica gel 60 F <sub>254</sub> concentrating zone 2.5 x 10 cm	1.11846.0001	10 x 20	glass	50 plates
Silica gel 60 F <sub>254</sub> concentrating zone 2.5 x 20 cm *	1.05583.0001	20 x 20	aluminium	25 sheets

Layer thickness: 250 µm / \* 200 µm | F<sub>254</sub>: Green fluorescent indicator

► **Classical silica TLC plates (TLC)** For versatile and reliable routine analysis of a broad range of substances  
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► **High performance silica plates (HPTLC)** For fast analysis of complex samples for manual or instrumental use  
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► **Preparative layer plates (PLC)** For enrichment of target analytes in mg quantities and sample clean-up  
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