

Thin Layer Chromatography (TLC)

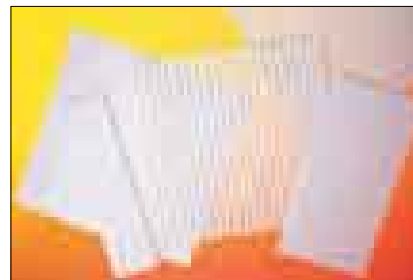
Product innovations from Whatman have made thin layer chromatography (TLC) a practical laboratory tool for both qualitative and quantitative analysis.

Features and Benefits

- Stringent quality standards ensure a consistent level of resolution, accuracy, and reproducibility
- Multiple samples and standards can be run simultaneously under identical conditions
- Wide range of chemistries and sizes to suit your application needs
- Sample preparation is simplified because plates are disposable
- Mobile phase need not be compatible with detector
- Available with fluorescent indicator for easy detection of many UV-absorbing compounds

Linear-K: Fast, Accurate Spotting

Whatman pioneered the linear preadsorbent layer for easy, rapid, and accurate sample application. The layer actually acts as a sponge to preconcentrate the sample before it interacts with the silica layer. In order to facilitate sample application and the preconcentrating power of the preadsorbent layer, Whatman made it thicker than the silica layer. This allows the analyst to apply sample in amounts never before attainable with standard TLC plates, and to apply dilute samples in less-volatile solvents without sacrificing resolution.



Examples of TLC plate formats

Whatman TLC Product Types

Partisil K6 and K5 Absorption TLC Plates	Normal phase analysis and purification of most samples; recovery of analytes by scraping sample spots; analytical and preparative thicknesses
Partisil Reversed Phase TLC Plates	Reverse phase separations and 2-dimensional reverse/normal separations
Flexible TLC Plates	Cutting plates to custom sizes; recovery of analytes by cutting sample spots; normal phase or anion exchange
Diamond Series Silica TLC Plates	Normal phase; increased hardness and reflectance for resistance to solvents and reagents and for scanning densitometry
EH6 Extra Hard TLC Plates	Normal phase; very hard, smooth surface for writing on plate; high resistance to solvents and reagents
Partisil High-Performance TLC Plates	Normal phase; small, uniform silica particles for maximum resolution and sensitivity

TLC Plates: Designations and Formats

Whatman has designed nomenclature as a simple and convenient way of distinguishing among the different types of plates. Using these letter codes it is easy to define any TLC plate, for example: PLK6DF = preparative K6 silica 60Å pore diameter featuring a channeled, fluorescent plate and the preadsorbent layer.

K – Silica Gel	The symbol for silica gel is K (for Kieselgel), followed by a qualifying number. K5: 10-12 µm silica, of pore size 150Å; K6: 10-12 µm silica, of pore size 60Å.
HP – High-Performance	High-performance silica is prefixed by the letters HP: HP-K 4.5 µm silica, pore size 60Å.
KC-2, KC-18 Reverse Phase	Reverse phase plates, with a bonded alkyl group, are represented by a K followed by the length of the alkyl chain: KC-18 10-12 µm silica, 60Å, octadecyl bonded phase
L – Preadsorbent Layer	This compresses each sample into a narrow horizontal band. Hence, it is known as Linear-K; prefix L.
D – Channeled Plates	2 mm channels of clear glass separate sample lanes, preventing crossover. D indicates division.
F – Fluorescent Indicator	Fluorescent plates glow bright green under shortwave UV light. Samples that absorb UV at 254 nm show as dark, quenched spots
M – Microscope Slide	Plate size 1 × 3", 2.5 × 7.5 cm
P – Preparative Layer	Has 500 µm or 1000 µm thickness for large sample sizes

Partisil K6 60Å and K5 150Å TLC Plates

Whatman Partisil K6 60Å and K5 150Å TLC plates provide a choice of high-purity silica gels with polarity for normal phase separations. They give superior performance compared to silica gel "G" through better resolution, higher sensitivity, and increased durability. Moderate layer hardness makes possible convenient spot recovery.

Features and Benefits

- Excellent reproducibility; negligible moisture uptake
- Chemically and optically inert organic binder
- Outstanding layer stability
- Fast separation with excellent resolution
- Quality separation of moderately to strongly polar compounds
- Aggressive reagent resistance
- Wide applicability, including carbohydrates, antibiotics, alkaloids, amino acids, and phospholipids

Key to Labeling

- K6** 60Å
- K5** 150Å
- M** Microscope slide size
- F** With fluorescent indicator
- L** With preadsorbent layer below origin
- D** Divided into channels
- P** Preparative layer 500 or 1000 µm thick (others are 250 µm)

Ordering Information – Partisil K6 and K5 Absorption TLC Plates

Product	Plate Size (cm)	Catalog Number	Linear-K Preadsorbent	Channeled	Fluorescent Indicator	Quantity/Pack
Partisil K6 60Å TLC Plates (250 µm unless noted) without Preadsorbent Zone						
MK6F	1 × 3"	4861-110	–	–	Yes	500
K6	5 × 10	4860-320	–	–	–	150
K6F	5 × 10	4861-320	–	–	Yes	150
K6	5 × 20	4860-620	–	–	–	75
K6F	5 × 20	4861-620	–	–	Yes	75
K6	10 × 20	4860-720	–	–	–	50
K6F	10 × 20	4861-720	–	–	Yes	50
K6	20 × 20	4860-820	–	–	–	25
K6F	20 × 20	4861-820	–	–	Yes	25
PK6F	20 × 20	4861-830*	–	–	Yes	22
PK6F	20 × 20	4861-840**	–	–	Yes	20
Partisil K6 60Å TLC Plates (250 µm unless noted) with Preadsorbent Zone						
LK6D	10 × 10	4865-001	Yes	9 channels	–	100
LK6	5 × 20	4865-620	Yes	–	–	75
LK6F	5 × 20	4866-620	Yes	–	Yes	75
LK6D	5 × 20	4865-621	Yes	4 channels	–	75
LK6DF	5 × 20	4866-621	Yes	4 channels	Yes	75
LK6	20 × 20	4865-820	Yes	–	–	25
LK6F	20 × 20	4866-820	Yes	–	–	25
LK6D	20 × 20	4865-821	Yes	19 channels	–	25
LK6DF	20 × 20	4866-821	Yes	19 channels	–	25
Partisil K5 150Å TLC Plates (250 µm unless noted) without Preadsorbent Zone						
K5F	5 × 10	4851-320	–	–	Yes	150
K5	5 × 20	4850-620	–	–	–	75
K5F	5 × 20	4851-620	–	–	Yes	75
K5	10 × 20	4850-720	–	–	–	50
K5F	10 × 20	4851-720	–	–	Yes	50
K5	20 × 20	4850-820	–	–	–	25
K5F	20 × 20	4851-820	–	–	–	25
PK5	20 × 20	4850-830*	–	–	–	22
PK5	20 × 20	4850-840**	–	–	–	20
PK5F	20 × 20	4851-830*	–	–	Yes	22
PK5F	20 × 20	4851-840**	–	–	Yes	20

* Preparative 500 µm layer

** Preparative 1000 µm layer

cont.