Summary of MN ready-to-use layers

Advantages of MN plates and sheets for TLC

Continuous high quality

- Guaranteed by stringent production control including stan- dardized lot tests, surface checks for roughness or cracks as well as hardness and adherence checks

Comprehensive range of phases for TLC / HPTLC

- There is no universal TLC plate which meets all possible types of analyses
- Our versatile range of TLC ready-to-use layers covers many different types of applications

Immediately ready for chromatographic separation

- Coatings or impregnations are not necessary

Homogeneous, smooth, well adhering layers

- An important criterion especially for reproducible quantitative evaluation

Adsorbents for MN plates and sheets for TLC
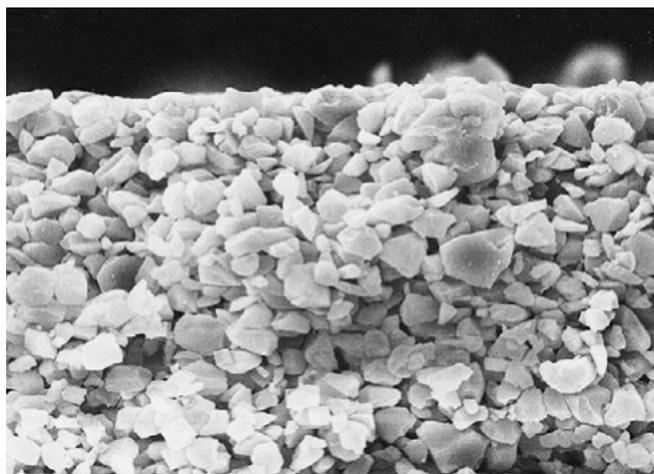
Classical adsorbents

- For ~ 80 % of all TLC separations silica 60 (mean pore diam- eter 60 Å = 6 nm) is used
- Other classical adsorbents are aluminum oxide, cellulose, kieselguhr, ion exchangers and polyamide

Special phases

- Modified silica, like C_{18} (octadecyl-) cyano-, amino-, diol-, RP-2
- Special layers for specific separations, like PAH- or enantio- mer separation

Particle size distribution and thickness of layer

- Are chosen to fit the given type of application (e.g., HPTLC, standard or preparative separations)
- Most MN ready-to-use layers are available with or without fluorescent indicator

Electron microscope photograph of a cross section through a glass plate with silica layer (magnification x 500)

Electron microscope photograph of a cross section through an aluminum sheet with silica layer (magnification x 500)

Supports for ready-to-use layers for TLC

	Glass plates G	POLYGRAM® P	ALUGRAM® A / ALUGRAM® Xtra Ax
Physical properties of support materials			
Material	glass	polyester	aluminum
Thickness (approx.)	1.3 mm	0.2 mm	0.15 mm
Weight, packaging and storage requirements	high	low	low
Torsional strength	ideal	low	relatively high
Temperature stability	high	max. 185 °C	high
Susceptible to breakage	yes	no	no
Can be cut with scissors	no	yes	yes
Chemical resistance of support materials			
Against solvents	high	high	high
Against mineral acids and conc. ammonia	high	high	low
Stability of the binder system of NP plates in water			
Suitability for aqueous detection reagents	depending on phase	very suitable	ALUGRAM®: limited suitability; ALUGRAM® Xtra: very suitable

Summary

Phase	Support*				Layer	Page
Standard silica particle size 5–17 µm						
ADAMANT	G				silica 60, improved binder system, optimized particle size distribution	274
SIL G	G	P	A	Ax	silica 60, standard grade	276
DURASIL	G				silica 60, special binder system	277
SILGUR	G			Ax	silica 60 with kieselguhr concentrating zone	279
Unmodified silica for HPTLC particle size 2–10 µm						
Nano-SILGUR	G			Ax	nano silica 60 with kieselguhr concentrating zone	279
Nano-ADAMANT	G				nano silica 60, improved binder system, optimized particle size distribution	281
Nano-SIL	G		A	Ax	nano silica 60, standard grade	281
Nano-DURASIL	G				nano silica 60, special binder system	282
Modified silica for HPTLC particle size 2–10 µm						
Nano-SIL C18-50 / Nano-SIL C18-100	G				nano silica with partial or complete C_{18} modification	283
RP-18 W/UV$_{254}$	G		A		nano silica with partial octadecyl modification, wettable with water	284
RP-2/UV$_{254}$	G		A		silanized silica = dimethyl-modified nano silica 60	284
Nano-SIL CN	G		A		cyano-modified nano silica	285
Nano-SIL NH$_2$	G		A		amino-modified nano silica	286
Nano-SIL DIOL	G				diol-modified nano silica	287
Aluminum oxide						
Alox-25 / Alox N	G	P	A		aluminum oxide	288
Cellulose, unmodified and modified						
CEL 300	G	P	A		native fibrous cellulose MN 300	289
CEL 400	G	P			microcrystalline cellulose MN 400 (AVICEL®)	289
CEL 300 PEI		P			polyethyleneimine-impregnated cellulose ion exchanger	290
CEL 300 AC		P			acetylated cellulose MN 300	290
POLYAMID-6						
POLYAMID-6		P			perlon = ε-polycaprolactame	290
Layers for special separations						
CHIRALPLATE	G				RP silica with Cu^{2+} ions and chiral reagent, for enantiomer separation of amino acids	291
SIL N-HR		P			high purity silica 60, special binder system, higher gypsum content	291
SIL G-25 HR	G				high purity silica 60 with gypsum, recommended for aflatoxin analysis	292
SIL G-25 Tenside	G				silica G with ammonium sulfate for separation of surfactants	292
Nano-SIL PAH	G				nano silica with special impregnation for PAH analysis	292
IONEX-25 SA-Na		P			mixed layer of strongly acidic cation exchanger and silica	293
IONEX-25 SB-AC		P			mixed layer of strongly basic anion exchanger and silica	293
Alox / CEL-AC-Mix	G				mixed layer of aluminum oxide and acetylated cellulose	293
SILCEL-Mix	G				mixed layer of cellulose and silica	293

* **G** = Glass plates   **P** = POLYGRAM® polyester sheets   **A** = ALUGRAM® aluminum sheets   **Ax** = ALUGRAM® Xtra aluminum sheets