Miles Scientific

TECHNICAL DATA SHEET #401

Glass-backed TLC Silica Plates – 4 Types

CAT# P46011 (HL) or P47011 (HLF)
Analtech Brand Silica Gel HL/HLF TLC Plates 250µm 20x20cm

Silica Pore:	60Å
Silica Particle Size:	8-10 µm average
Binder:	Proprietary polymer (organic)
Hardness:	200-400 (easy to write on with pencil)

Acceptable Solvents: All typical chromatography solvents (80% water max)
Visualization Techniques: Compatible with most visualization reagents except sulfuric acid charring. Reagent may be dipped or sprayed. Some incompatibility with certain acidic reagents.

General Description: Best layer choice unless contra-indicated by noted incompatibilities of visualization reagents or mobile phase composition. Hard layer organic binder system is the most rugged, providing easy handling of layer during sample application, mobile phase development, visualization and data interpretation. Rugged layer surface provides consistent results independent of operator technique. Quick development times and uniform visualization properties provide lot-to-lot consistency and reduce seasonal variability in chromatography.

CAT# P11011 (GHL) or P21011 (GHLF)
Analtech Brand Silica Gel GHL/GHLF TLC Plates 250µm 20x20cm

Silica Pore:	60Å
Silica Particle Size:	8-10 µm average
Binder:	Calcium sulfate a.k.a. gypsum (inorganic) with proprietary hardening agent (inorganic)
Hardness:	80-160 (can write on gently with pencil)

Acceptable Solvents: All typical chromatography solvents (even 100% water)
Visualization Techniques: Compatible with essentially all visualization reagents, even sulfuric acid charring. Reagent may be dipped or sprayed.

General Description: Moderate hardness layer combines rugged surface characteristics with freedom to use essentially any mobile phase component or visualization reagent. Binder is compatible from nonpolar hexane all the way through the eluotropic series to 100% aqueous systems. Being inorganic, the binder allows use of aggressive visualization systems such as sulfuric acid charring and dipping procedures.

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CAT# P01011 (G) or P02011 (GF)
Analtech Brand Silica Gel G/GF TLC Plates 250µm 20x20cm

Silica Pore: 60Å
Silica Particle Size: 8-10 µm average
Binder: Calcium sulfate a.k.a. gypsum (inorganic)
Hardness: 20-40

Acceptable Solvents: All typical chromatography solvents (20% water max)
Visualization Techniques: Compatible with essentially all visualization reagents, even sulfuric acid charring. Spraying reagent is suggested; layer is incompatible with aqueous dipping technique.

General Description: Considered to be the original "Classic" TLC plate. Gypsum (calcium sulfate) binder produces softer layer for easy scraping and removal of spots or bands for further analysis. This is the best choice when preparative work is needed using thicker coatings to isolate larger quantity of material. Because the binder is inorganic, it is compatible with aggressive visualization techniques such as sulfuric acid charring. Limited water tolerance due to slight solubility of calcium sulfate in water precludes dipping procedure but is applicable with spray techniques.

CAT# P10011 (H) or P20011 (HF)
Analtech Brand Silica Gel H/HF TLC Plates 250µm 20x20cm

Silica Pore: 60Å
Silica Particle Size: 19 µm average
Binder: none
Hardness: 1-8

Acceptable Solvents: All typical chromatography solvents (20% water max)
Visualization Techniques: Compatible with essentially all visualization reagents, even sulfuric acid charring. *Spray reagent only*. Dipping not recommended.

General Description: Very soft surface as no binder is used to adhere the layer to the glass backing. Requires extra caution during use to prevent damage to the layer, which would affect chromatography. However, it is sometimes required when the separation being run is sensitive to any materials other than silica gel in the chromatographic process. Compatible with most mobile phases except water in excess of about 20%. Dip visualization procedures not recommended, but plates do tolerate gentle spray techniques.

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