

# byko-charts

## Drawdown Test Charts

BYK-Gardner offers a wide range of drawdown cards and charts for virtually any application and coating material. Stringent quality control during the production process assures that they have the most consistent color and gloss in the industry. Test charts are easy to use and an inexpensive substrate to test a variety of coating properties, such as opacity, spreading rate, penetration behavior, and flow & leveling behavior. They are used for testing architectural, industrial, automotive, wood finishes or even cosmetic products (e.g. nail polish). Depending on the material properties of the product to be tested and its usage different types of drawdown cards are available.

## Selection of test charts dependent on coating technology:

Depending on the type of solvent used in paint formulations a drawdown chart needs to be more or less solvent resistant. The resin type requires different solvent types and dependent on the polarity of the solvent, the organic ingredients will be more or less activated. Therefore, BYK-Gardner offers two types of drawdown cards and charts:

### byko-charts, clearcoated:

- Clearcoat top coated drawdown charts are ideal for a wide range of coating systems: water and solvent borne technologies
- Guaranteed non-fluorescent paper in compliance with ASTM D 344
- Repeatable color and gloss - lot after lot
- Superior film adhesion characteristics
- Rugged design (15 mils [381 micron] thickness) to prevent warping and bending after the coating is applied
- Draw-down chart box is shrink-wrapped with low permeability plastic to prevent moisture absorption during shipping and storage.
- Lot numbers are printed on every chart

### byko-charts, film laminated:

- Plastic film laminated chart for excellent solvent resistance from achromatic hydrocarbons, esters, ketones and acids
- Repeatable color and gloss - lot after lot
- Smooth, structure free surface
- Superior adhesion properties and flexibility - the test chart will not warp and bend – even in high humidity environments



## Selection of test charts dependent on application:

- Opacity charts: Instrumental check of % - opacity
- Penetration charts: Evaluation of color and gloss uniformity on surfaces of varying porosity
- Visual evaluation of hiding power:
  - Display / Spreading Rate Charts
  - Checkerboard / Spreading Rate Charts
- Brushout Cards for informal brushouts
- Uncoated test charts to simulate wood or unsealed wallboard substrates
- Specialty charts for sag and leveling test

**Save!**

Additional discounts are available for large quantity byko-charts drawdown charts purchases.

**Info!**

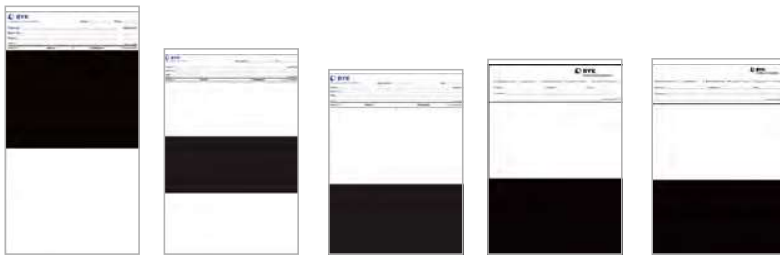
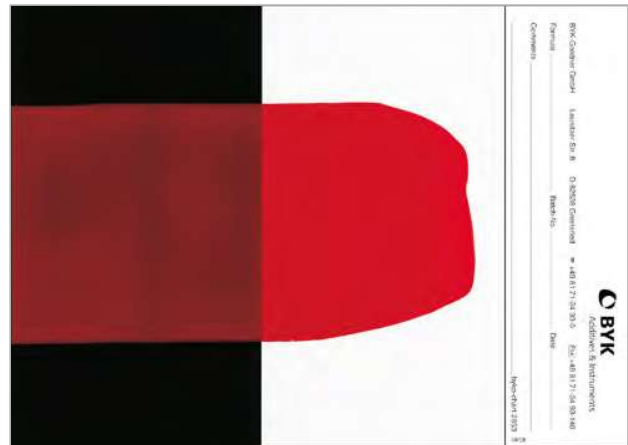
Custom made or private label charts are available upon request.

## Opacity Drawdown Charts

Comprised of a simple combination of black and white areas with ample space for reflectance measurement. Opacity drawdown charts are used to test the hiding power of coatings.

Black and white areas have the tightest tolerances in the industry, ensuring repeatable opacity measurements paint batch after paint batch.

Clearcoated charts have the lot number printed on every chart.



Cat. No.  
2810  
2813  
2860

Cat. No.  
2811

Cat. No.  
2812

Cat. No.  
2851

Cat. No.  
2852

### Standards

ASTM	D 344, D 2805, D 2243
ISO	6504-3



### Ordering Information

Cat. No.	Description
2810	byko-chart Opacity 2A
2813	byko-chart Opacity 2C
2811	byko-chart Opacity 3B
2812	byko-chart Opacity 5C
2851	byko-chart Opacity L
2852	byko-chart Opacity S
2860	byko-chart brightened 2A

### Technical Specifications

Material	Size	Qty/Box
Clearcoated	140 x 254 mm (5.5 x 10 in)	250
Clearcoated	194 x 260 mm (7.6 x 10.25 in)	250
Clearcoated	194 x 289 mm (7.6 x 11.4 in)	250
Clearcoated	194 x 260 mm (7.6 x 10.25 in)	250
Film laminated	148 x 210 mm (5.8 x 8.3 in)	250
Film laminated	105 x 147 mm (4.1 x 5.8 in)	250
Clearcoated	140 x 254 mm (5.5 x 10 in)	250

The 2860 byko-chart brightened drawdown chart has a brighter white section compared to the other opacity charts. The CIE L\* value is approximately 2 units higher and the CIE b\* value is approximately 2 units lower compared to the standard byko-charts. The black section is comparable to standard byko-charts. The paper does not have a brightening agent to achieve the whiter appearance.



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## Penetration and Opacity Charts – Penopac

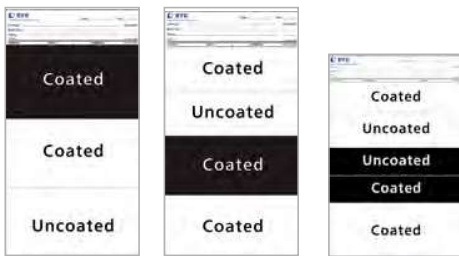
The test areas and functions of a penetration and opacity draw-down chart / drawdown card are combined with these charts. The penetration resistance is of special importance to architectural finishes. The ability to maintain a uniform appearance (color and gloss) on substrates with varying porosity can be evaluated by applying the paint over a test chart which has a coated and uncoated area. Thus, the penetration resistance is tested under severe conditions.

The penetration resistance is visually evaluated and can also be objectively evaluated by measuring color and gloss.



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Cat. No.  
2818, 2814

Cat. No.  
2815, 2816

Cat. No.  
2817



### Ordering Information

Cat. No.	Description
2814	byko-chart Penopac 1A
2818	byko-chart Penopac 1B
2815	byko-chart Penopac 18A
2817	byko-chart Penopac 19BR
2816	byko-chart Penopac 18B

### Technical Specifications

Material	Size	Qty/Box
Clearcoated / uncoated	140 x 254 mm (5,5 x 10,0 in)	250
Clearcoated / uncoated	194 x 289 mm (7,6 x 11,4 in)	250
Clearcoated / uncoated	140 x 254 mm (5,5 x 10,0 in)	250
Clearcoated / uncoated	194 x 289 mm (7,6 x 11,4 in)	250
Clearcoated / uncoated	194 x 289 mm (7,6 x 11,4 in)	250

## Opacity Measurement

Essential sales criteria for architectural paint are hiding power and yield. In other words:

- How many layers are necessary for complete coverage?
- And how many cans will be needed?

Opacity is a measure for hiding power:

$$\text{Opacity (\%)} = \frac{\text{YBLACK} \times 100 (\%)}{\text{YWHITE}}$$

100% opacity means complete hiding, no differences can be seen between the drawdown over black and white.

### Procedure

A uniform paint film is applied on a black / white contrast chart. After air drying the drawdown can be objectively evaluated using the BYK-Gardner spectro-guide. The operator is menu guided through the measurement procedure and the opacity value is displayed automatically in a second.

The same procedure can be applied for transparent films and plastics.

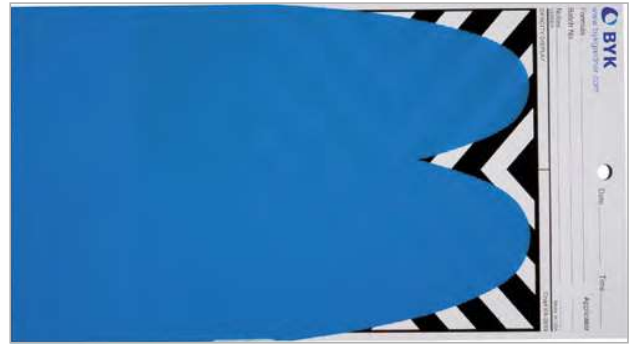


spectro-guide color spectrophotometer

## Display Charts / Checkerboard Charts – Spreading Rate Charts

Large size drawdown charts, referred to as display or spreading rate charts, were designed for visual evaluation of hiding power. The diagonal striped patterns or the checkerboard respectively have a strong visual impact and emphasize variations in film opacity.

In order to calculate the spreading rate ASTM D 344 uses Forms 8H and 10H. In this test the paint is spread uniformly on a defined test area (0.1 square meters ~ 1 square foot) and the spreading rate is calculated from the weight and density of the applied coating.



### Standards

ASTM	D 344, D 2805
ISO	6504-3



Cat. No.  
2819  
2820



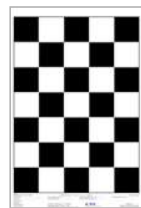
Cat. No.  
2821



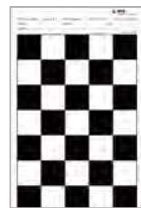
Cat. No.  
2834



Cat. No.  
2823



Cat. No.  
2824



Cat. No.  
2802



Cat. No.  
2804



Cat. No.  
2822



### Ordering Information

Cat. No.	Description
2819	byko-chart Opacity-Display 9A
2820	byko-chart Opacity-Display 9B
2821	byko-chart Opacity-Display 21B
2834	byko-chart Display 8B
2823	byko-chart SR-Display 8H
2824	byko-chart SR-Checkerboard 10H
2802	byko-chart Spreading Rate L
2804	byko-chart Spreading Rate S
2822	byko-chart Opacity-Display 12H

### Technical Specifications

Material	Size	Qty/Box
Clearcoated	140 x 254 mm (5.5 x 10 in)	250
Clearcoated	194 x 289 mm (7.6 x 11.4 in)	250
Clearcoated	194 x 289 mm (7.6 x 11.4 in)	250
Clearcoated	194 x 289 mm (7.6 x 11.4 in)	250
Clearcoated	286 x 438 mm (11.25 x 17.25 in)	125
Clearcoated	286 x 438 mm (11.25 x 17.25 in)	125
Film laminated	283 x 438mm (11.1 x 17.2 in)	250
Film laminated	148 x 210 mm (5.8 x 8.3 in)	250
Clearcoated	286 x 438 mm (11.25 x 17.25 in)	125

## Plain Black Drawdown Chart

An all black chart can check opacity of a coating used over a dark primer or substrate. A visual assessment of sparkle or pearl appearance of special effect coatings and cosmetics can be easily viewed with a black background.



### Ordering Information

Cat. No.	Description
2845	byko-chart Plain Black BK

### Technical Specifications

Material	Size	Qty/Box
Clearcoated	218 x 288 mm (8.6 x 11.25 in)	250

## Brushout Drawdown Cards

Made from heavy, rigid stock paper; used mostly for informal brushout applications. The paper stock is almost twice the thickness of regular drawdown chart paper to give greater rigidity for easier handling.



Cat. No.  
2856

Cat. No.  
2857

Cat. No.  
2858



### Ordering Information

Cat. No.	Description
2856	byko-chart Brushout 5DX
2857	byko-chart Brushout 2DX
2858	byko-chart Brushout WDX

### Technical Specifications

Material	Size	Qty/Box
Clearcoated	100 x 152 mm (3.9 x 6.0 in)	500
Clearcoated	100 x 152 mm (3.9 x 6.0 in)	500
Clearcoated	100 x 152 mm (3.9 x 6.0 in)	500

## Plain White Drawdown Charts

These drawdown charts are plain white with the coating on one side and no text or label on top (except 2835). The 2835 is an uncoated stock paper with a nominal thickness of 0.38 mm (15 mils).

Chromolux drawdown cards are for determination of whiteness. The Chromolux chart has a very smooth, high gloss surface, achieved by the paper being pressed against a hot metal plate.



Plain white

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### Ordering Information

Cat. No.	Description
2827	byko-chart plain white WB*
2828	byko-chart plain white WH
2825	byko-chart plain white WG
2826	byko-chart plain white WA*
2837	byko-chart plain white WK
2829	byko-chart, plain white, square
2835	byko-chart plain white NWK*
2891	byko-chart Chromolux L
2892	byko-chart Chromolux M
2893	byko-chart Chromolux S

### Technical Specifications

Material	Size	Qty/Box
Clearcoated	193 x 288 mm (7.63 x 11.33 in)	250
Clearcoated	286 x 438 mm (11.25 x 17.25 in)	125
Clearcoated	76 x 140 mm (3.0 x 5.5 in)	1000
Clearcoated	140 x 254 mm (5.5 x 10 in)	250
Clearcoated	218 x 288 mm (8.6 x 11.25 in)	250
Clearcoated	50.8 x 50.8 mm (2.0 x 2.0 in)	400
uncoated	193 x 288 mm (7.63 x 11.33 in)	250
Chromolux	283 x 438 mm (11.1 x 17.2 in)	250
Chromolux	210 x 297 mm (8.3 x 11.7 in)	250
Chromolux	148 x 210 mm (5.8 x 8.3 in)	200

\*Note: These drawdown charts have a 6 mm (0.25 in) hole, centered 5 mm (0.2 in) from the top edge.

## Birch Veneer Panel

Real wood laminated on paper. Birch has a neutral color with minimal grain pattern for color matching of stains.



### Ordering Information

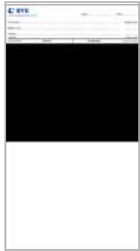
Cat. No.	Description
5096	Birch Venerer Panel, R7D

### Technical Specifications

Material	Dimensions	Qty/Box
Birch Wood	76 x 152 mm (3.0 x 6.0 in)	100

## Uncoated Drawdown Cards

Use these uncoated drawdown cards to simulate wood or unsealed wallboard.



Cat. No.  
2831  
2832



Cat. No.  
2838



Cat. No.  
2805



Cat. No.  
2855



Cat. No.  
2885

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### Ordering Information

Cat. No.	Description
2831	byko-chart, uncoated N2A
2832	byko-chart, uncoated N2C
2838	byko-chart, uncoated N9A
2805	byko-chart, uncoated L
2855	byko-chart, uncoated M
2885	byko-chart, uncoated S

### Technical Specifications

Material	Size	Qty/Box
uncoated	140 x 254 mm (5.5 x 10 in)	250
uncoated	194 x 260 mm (7.6 x 10.25 in)	250
uncoated	140 x 254 mm (5.5 x 10 in)	250
uncoated	210 x 297 mm (8.27 x 11.7 in)	250
uncoated	105 x 148 mm (4.13 x 5.83 in)	250
uncoated	75 x 185 mm (3.0 x 7.3 in)	250

## Gray Scale Chart

The chart is sealed with bars of varying shades from black to light gray on a white background. The large poster size chart allows for applying a coating with a paint roller or brush. The chart can be hung to a wall to evaluate the hiding power of the the applied coating.



### Ordering Information

Cat. No.	Description
2859	byko-chart, CU-1M

### Technical Specifications

Material	Size	Qty/Box
Clearcoated	610 x 946 mm (24 x 37.25 in)	100

## Drawdown Plate

Provides an economical and convenient means for making drawdowns of uniform film thickness.

- Easy to use and easy to clean
- Holds charts securely for drawdowns
- Helps to achieve uniform results

The drawdown plate consists entirely of glass 12.7 mm (0.5 in) in thickness. The all glass plate has rubber feet and a spring clip to hold the drawdown chart firmly in place.



### Ordering Information

Cat. No.	Description
4262	Drawdown Plate, Glass

### Technical Specifications

Glass plate Size	Dimensions	Net Weight	Application
254 x 355.6 mm (10 x 14 in)	254 x 355.6 x 12.7 mm (10 x 14 x 0.5 in)	3.2 kg (7.0 lbs)	general purpose for drawdowns on paper charts

## Sag and Leveling Test Charts

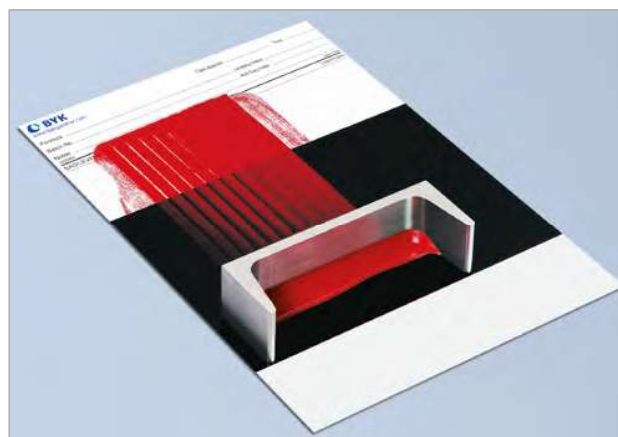
This drawdown chart is designed for use with the NYPC Leveling Test Blade and the Anti-Sag Meter. The extra large black area allows measurements to be made over the black area only, in accordance with specifications that require the operator to ignore the leading and trailing edges of the drawdown.



Cat. No. 2833

### Standards

ASTM	D 4400
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### Ordering Information

Cat. No.	Description
2833	byko-chart Sag and Leveling 7B

### Technical Specifications

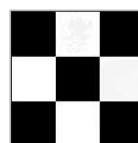
Material	Size	Qty/Box
Clearcoated	193 x 286 mm (7.6 x 11.25 in)	250

## Spray Monitors

These spray monitors are self-adhering, pressure-sensitive labels with a hiding power test pattern and a sealed, solvent-resistant surface. They are used with metal panels and other substrates where a uniform surface appearance provides no visual clues as to the thickness of the applied film. It adheres firmly whether air-dried or baked. They are useful for visually checking for film opacity during the painting process.



Cat. No.  
2840



Cat. No.  
2841



### Ordering Information

Cat. No.	Description
2840	Spray Monitors M12-BW
2841	Spray Monitors M33-BW

### Technical Specifications

Material	Dimensions	Qty/Box
Clearcoated	25 x 25 mm (1.0 x 1.0 in)	2000
Clearcoated	50 x 50 mm (2.0 x 2.0 in)	500

## Inter-leaf Paper

The Inter-leaf Paper is designed to protect a dry paint film. Place the Inter-leaf Paper between the byko-charts. The Inter-leaf Paper has a non-stick surface. They protect the paint film from being marred and prevents the paint film from adhering to the chart stacked over it. The Inter-leaf Paper should be used when storing or shipping test charts.



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### Ordering Information

Cat. No.	Description
2839	Inter-leaf Paper 1P-1B
2842	Inter-leaf Paper 1P-1A
2843	Inter-leaf Paper 1P-1C
2844	Inter-leaf Paper 1P-1K

### Technical Specifications

Material	Dimensions	Qty/Box
non-stick	194 x 286 mm (7.62 x 11.25 in)	1000
non-stick	140 x 254 mm (5.5 x 10 in)	1000
non-stick	194 x 260 mm (7.62 x 10.25 in)	1000
non-stick	219 x 286 mm (8.62 x 11.25 in)	1000

## Clear Polyester Film

The clear polyester film can be used as a substrate for coatings to evaluate color, gloss, and transparency. It is used to check for foam stabilization and de-flocculation of pigments, or placed over a black and white background for evaluation of hiding power. In addition, it is used as an overlay to protect a drawdown after drying without obscuring visibility.



Clear polyester film

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### Ordering Information

Cat. No.	Description
2870	byko-chart PE film, 100 µm
2871	byko-chart PE film, 50 µm
2872	byko-chart PE film, 76 µm
2873	byko-chart PE film, 355 µm

### Technical Specifications

Material	Dimensions	Qty/Box
Clear Polyester Film	127 x 194 mm (5.0 x 7.62 in)	250
Clear Polyester Film	127 x 194 mm (5.0 x 7.62 in)	250
Clear Polyester Film	216 x 280 mm (8.50 x 11.00 in)	250
Clear Polyester Film	127 x 194 mm (5.0 x 7.6 in)	250

## Scrub Test Panel

Used in conjunction with the BYK-Gardner Abrasion Testers. These scrub test panels are the perfect substrate for all types of abrasion tests. The plastic panels are 0.25 mm thick (10 mils).



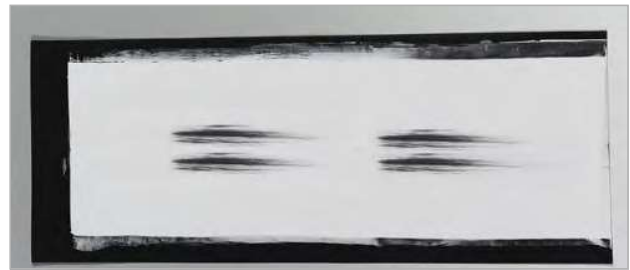
Cat. No.  
5015



Cat. No.  
5016



Abrasion Tester



### Standards

ASTM	D 2486, D 3450, D 4213
ISO	11998



### Ordering Information

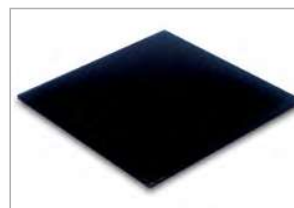
Cat. No.	Description
5015	Black Scrub Panel P121-10N
5016	White Scrub Panel P122-10N

### Technical Specifications

Material	Size	Qty/Box
Plastic	165 x 432 mm (6.5 x 17 in)	100
Plastic	165 x 432 mm (6.5 x 17 in)	100

## Black Glass Panel

Black glass is used in widely referenced high-precision ASTM method D2805, and related hiding power test methods. The coating is applied directly to the glass surface. The accuracy of this test method depends on the unique hardness and levelness characteristics of the glass substrate.



### Standards

ASTM	D 2805
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### Ordering Information

Cat. No.	Description
3720	Black Glass Panel

### Technical Specifications

Material	Dimensions	Weight/Box
Glass	203 x 203 mm (8 x 8 in)	0.9 kg (2 lbs)