

Pfund Cryptometer

BGD 298

Product Description

BGD 298 Pfund Cryptometer offers a simple and accurate method to test wet film hiding power or determine thickness needed for complete opacity. It can give estimate of coverage in square meters per liter and very be suitable for use with coatings containing pigments.

BGD 298 Pfund Cryptometer consists of a glass plate, half black half white as the base. Each half of this base has a scale engraved from 0-50mm along one edge starting from the division in the center. Two glass top plates are included with each instrument and these have two metal supports at one end so that these transparent top plates rest at an angle when placed upon the black and white area of the base plate.



The top plates differ in the length of their tiny supports so that different angles are formed between the top plates and the base plate. A wedge angle constant (K) is given to each top plate. These range from the smallest angle $K=0.002$ to $K=0.0035$, $K=0.004$, $K=0.007$ and the largest $K=0.008$, the popular constants being $K=0.004$ and $K=0.008$.

Technical Specification

How to Use your Cryptometer?

The appropriate top plate for the paint to be tested is selected, usually $K=.008$ for light coloured paints and $K=.004$ for dark coloured paints. (Alternatively, $K=0.002$ for higher opacity coatings and $K=0.007$ for less opaque coatings). A blob of paint, typically 3-5 ml is placed in the center of the base plate close to the black/white division. For light colours, the top plate (e.g. $K=.008$) is placed over the paint with the supports on the white area of the tile. The top plate is pressed down firmly so that the paint is spread without air bubbles to form a shallow wedge between the plates. This wedge will move with the top plate, the position of which is adjusted until the moment that the black/white division disappears. The scale reading is then noted from the black scale where the edge of the top plate makes contact with the base plate. When testing a dark coloured paint the top plate (e.g. $K=.004$) is used and the scale reading taken on the white area.

The thickness of paint in millimeters over the black and white division is obtained by multiplying the scale reading times the wedge constant K of the top plate used. This figure records the minimum film thickness necessary to obscure the black and white. The coverage or spreading power for this thickness can be obtained directly from the conversion tables below for each of the top plates.

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Coverage in square meters per liter:

K = .002

	0	1	2	3	4	5	6	7	8	9
0	—	—	—	—	—	—	—	—	—	—
10	49.9	45.3	41.6	38.4	35.6	33.3	31.9	29.3	27.7	26.3
20	25.0	23.8	22.7	21.7	20.8	19.9	19.2	18.4	17.8	17.2
30	16.7	16.1	15.6	15.1	14.7	14.2	13.8	13.5	13.1	12.8
40	12.5	12.2	11.9	11.6	11.4	11.1	10.9	10.6	10.4	10.2

K = .0035

	0	1	2	3	4	5	6	7	8	9
0	—	—	—	—	—	57.1	47.4	40.8	35.6	31.6
10	28.6	25.9	23.8	21.9	20.4	19.0	17.8	16.7	15.8	15.0
20	14.3	13.6	12.9	12.4	11.9	11.4	11.0	10.6	10.2	9.9
30	9.5	9.2	8.9	8.7	8.4	8.1	7.9	7.7	7.5	7.3
40	7.1	6.9	6.8	6.6	6.5					

K=.004

	0	1	2	3	4	5	6	7	8	9
0	—	—	—	—	—	50.0	41.6	35.6	31.6	27.7
10	25	22.7	20.6	19.2	17.8	16.6	15.6	14.7	13.9	13.1
20	12.5	11.9	11.3	10.9	10.4	10.0	9.6	9.25	8.9	8.6
30	8.33	8.05	7.8	7.55	7.3	7.1	6.92	6.74	6.66	6.4
40	6.24	6.08	5.94	5.8	5.66	5.55	5.42	5.3	5.2	5.1

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K = .007

	0	1	2	3	4	5	6	7	8	9
0	—	—	—	—	—	28.6	23.7	20.4	17.8	15.8
10	14.3	13.0	11.9	11.0	10.2	9.5	8.9	8.4	7.9	7.5
20	7.1	6.8	6.4	6.2	6.0	5.7	5.5	5.3	5.2	4.9
30	4.8	4.6	4.4	4.3	4.2	4.1	3.9	3.8	3.8	3.7
40	3.6	3.5	3.4	3.3	3.2	3.2	3.1	3.0	3.0	2.9

K = .008

	0	1	2	3	4	5	6	7	8	9
0	—	—	—	—	—	25.0	20.6	17.8	15.6	13.9
10	12.5	11.3	10.4	9.6	8.9	8.33	7.8	7.3	6.92	6.66
20	6.24	5.94	5.66	5.42	5.2	5.0	4.8	4.63	4.47	4.3
30	4.16	4.02	3.9	3.77	3.65	3.55	3.45	3.36	3.28	3.2
40	3.12	3.04	2.96	2.9	2.84	2.78	2.71	2.65	2.59	2.55

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Main Technical Parameters

- Reflectance of white part: 80 ± 2
- Reflectance of black part: ≤ 2
- Weight: 1.0 Kg
- Dimensions: 100mm×170mm×20mm. (L×W×H)
- Ordering Information:
 - BGD 298 - Pfund Cryptometer (includes two glass plates: (K=0.004 & K=0.008)
 - BGD 298/20K: Glass Plate (K=0.002)
 - BGD 298/35K: Glass Plate (K=0.0035)
 - BGD 298/40K: Glass Plate (K=0.004)
 - BGD 298/70K: Glass Plate (K=0.007)
 - BGD 298/80K: Glass Plate (K=0.008)

Accessoires

- BGD 298-20K - Glass Plate K = 0.002 for Pfund Cryptometer
- BGD 298-35K - Glass Plate K = 0.0035 for Pfund Cryptometer
- BGD 298-40K - Glass Plate K = 0.004 for Pfund Cryptometer
- BGD 298-70K - Glass Plate K = 0.007 for Pfund Cryptometer
- BGD 298-80K - BGD 298/80 Glass Plate K = 0.008 for Pfund Cryptometer

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