

Laboratory testing equipment

ZAA 2300
Automatic film applicator coater

constant and defined application

Application areas:

- Automatic laboratory equipment for the paint, varnish, printing ink and adhesive industry as well as the chemical industry
- For the preparation of uniform, reproducible coatings independent of the operator

Application length: 1 mm - 400 mm

Application width: 1 mm - 300 mm

Optionally, we offer Zehntner-Film applicators and our ZPV 2030.AA Zehntner-Precision-vacuumplate.



ZUA 2000
Universal applicator

application adjustable gap height

Application areas:

- Applicator for universal use, with adjustable gap height
- Preparation of uniform films of coating materials, adhesives and similar products on plane substrates for testing purposes
- Preparation of wedge-shaped layers

Setting range of gap height: 0 µm - 3'000 µm

Standard widths: 60, 80, 100, 150, 200 or 220 mm

Special widths are available on request



ZAF 2010 - 2016
4-sided applicator frames

application adjusted gap height

Application areas:

- Preparation of uniform films of coating materials, adhesives and similar products on plane substrates for testing purposes
- To be used as the ZFR 2040 but the product to be applied is filled into the frame. By this design, it is ensured that the product will not get below the guide surface and falsify the result

Versions:	Gap heights in µm	Film width in mm
ZAF 2010	30/60/90/120	60
ZAF 2012	50/100/150/200	60
ZAF 2014	on request	60
ZAF 2011	30/60/90/120	80
ZAF 2013	50/100/150/200	80
ZAF 2015	on request	80
ZAF 2016	on request	on request up to 200



ZFR 2040 4-sided applicator

application adjusted gap height

Application areas:

- Preparation of uniform films of coating materials, adhesives and similar products on plane substrates for testing purposes

Versions:	Gap heights in μm	Film width in mm
2040.6030	30/60/90/120	60
2040.6050	50/100/150/200	60
2040.60S	on request	60
2040.8030	30/60/90/120	80
2040.8050	50/100/150/200	80
2040.80S	on request	80
2040.S1S	on request	from 10 mm to 100 mm
2040.S2S	on request	from 101 mm to 200 mm



ZSA 2110 Wire-bar applicator

application adjusted wet film thicknesses

Application areas:

- Preparation of uniform films of coating materials, adhesives and similar products on flexible substrates for testing purposes
- Preparation of several layers successively or close together

Versions:	Wet film thickness in μm	Film width in mm
2110.80	20/50/75/100/125/150/175/200	80
2110.S	on request	on request



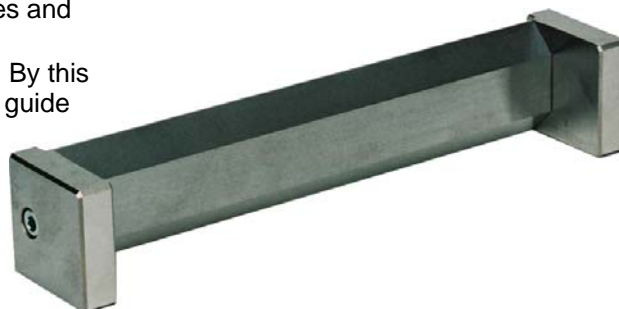
ZWA 2121 Wasag applicator

application adjusted gap height

Application areas:

- Preparation of uniform films of coating materials, adhesives and similar products on plane substrates for testing purposes
- To be used as a ZFR 2040, but with two gap heights only. By this design it is ensured that the product will not get below the guide surface and falsify the result

Versions:	Gap heights in μm	Film width in mm
2121.6030	30/60	60
2121.6050	50/100	60
2121.6090	90/120	60
2121.60150	150/200	60
2121.8030	30/60	80
2121.8050	50/100	80
2121.8090	90/120	80
2121.80150	150/200	80
2121.S1S	on request	from 10 to 100 mm
2121.S2S	on request	from 101 to 200 mm



ZLA 2130
Sagging applicator

application adjusted gap height

Application areas:

- Determination of the sagging properties of coating materials and similar products on plane substrates

Versions: gap heights in μm
2130.50 50/75/100/125/150/175/200/225/250/275 μm
2130.2050 250/275/300/325/350/375/400/425/450/475 μm
2130.450 450/475/500/525/550/575/600/625/650/675 μm
application width of these standard versions: 100 mm
2130.S1 on request, application width: 100 mm
2130.SS on request, application width: on request



ZIL 2140
Ink-Lox proofer

application of flexographic inks

Application areas:

- Application of defined layers of flexographic inks and other liquid coating materials on substrates
- For quality control and for experimental purposes
- For print proofs



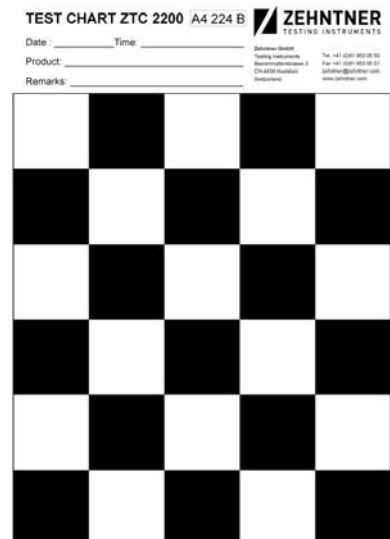
ZTC 2200
Test charts

application and hiding power

Application areas:

- Visual checking of the hiding power
- Determination of the hiding power by use of our ZRM 1021 Zehntner-Reflectometer 45/0°
- Auxiliary accessory by using of applicators

Version: pattern: test area:
ZTC 2200 black / white 518 cm^2



ZPV 2030 Precision-vacuumpates

application and silk-screen printing

Application areas:

- As an absolutely plane substrate for fixing very different materials
- As a helpful accessory when using wet film applicators
- For silk-screen printing

Versions:	Dimensions in mm	Weight in kg
2030.A4	307 x 220 x 20	3
2030.A3	440 x 320 x 28	6
2030.AA	553 x 300 x 15	6.4
2030.S	on request	

Versions 2030.A4, 2030AA and 2030.A3 are standard plates with a series of holes for holding of rigid materials such as paper charts, test panels, plastics and glass plates. The version 2030.AA is specially designed for our ZAA 2300 Zehntner-Automatic film applicator coater.

Precision-vacuumpates with suction for holding of thin and flexible materials such as plastics and fine papers device are available as a special customer version.

Optionally, we offer a vacuum pump with a pumping capacity of 3.5 m³/h to all our ZPV 2030 Precision-vacuumpates.



ZGR 2020 - 2024 Grindometers

fineness

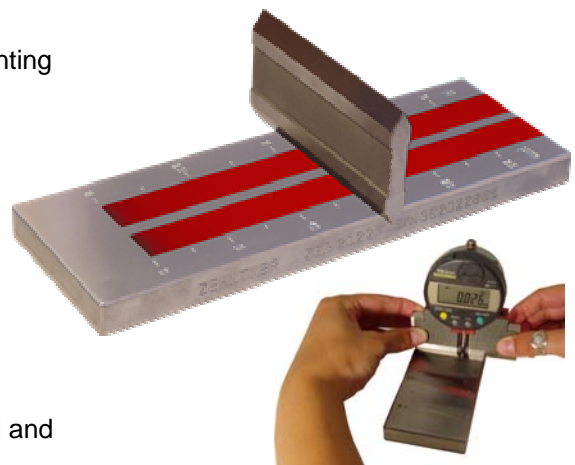
Application areas:

- Determination of the fineness of grind of coating materials, printing inks, pastes and similar products

Versions with two wedge-shaped grooves each and side scales

Versions	in µm	Hegman-units
ZGR 2020	0 to 100	8 to 0
ZGR 2021	0 to 50	8 to 4
ZGR 2022	0 to 25	8 to 6
ZGR 2023	0 to 15	8 to 6,8
ZGR 2024	on request	on request

Optional availability of ZRT 2025 Groove depth meter for a rapid and exact checking of grindometers.



ZTK 2060 - 2062 Drying gauges

drying properties

Application areas:

- Laboratory method for testing coating materials and fillers for drying, shrinking, cracking and porosity
- For determining the maximum thickness with which coating materials and fillers can be applied

Versions:	Testing range in mm
ZTK 2060	0 to 3
ZTK 2061	0 to 2
ZTK 2062	on request



ZND 2050 - 2054**Wet film thickness gauges****thickness of liquid coatings**

Application areas:

- Determination of the thickness of all types of liquid coatings (coating materials, enamels, adhesives) on smooth surfaces

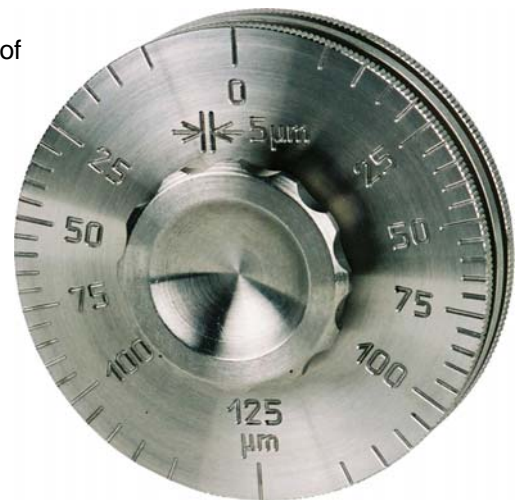
Versions:	Testing range
ZND 2050	25 µm to 2'000 µm
ZND 2051	5 µm to 150 µm
ZND 2052	100 µm to 950 µm, in steps of 25 µm
ZND 2053	2 mm to 10 mm
ZND 2054	on request

**ZWW 2100 - 2108****Wet film wheels****thickness of liquid coatings**

Application areas:

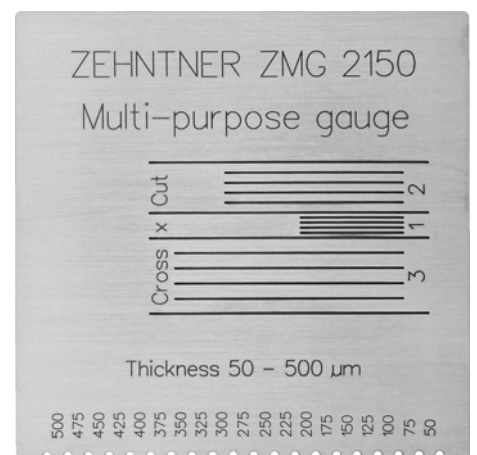
- Precision instrument for a rapid determination of the film thickness of wet coatings

Versions:	Testing range in µm	Scale division in µm
ZWW 2100	0 - 25	1
ZWW 2101	0 - 50	2
ZWW 2102	0 - 125	5
ZWW 2103	0 - 250	10
ZWW 2104	0 - 500	20
ZWW 2106	0 - 1'000	50
ZWW 2107	0 - 1'500	50
ZWW 2105	500 - 1'000	20
ZWW 2108	on request	on request

**ZMG 2150****Multi purpose gauge****thickness of liquid coatings & adhesion**

Application areas:

- Wet film comb gauge for testing the film thickness
- Cross-cut tester for the assessment of the adhesion of single or multi-coat systems



ZCC 2080 and 2087 Cross-cut testers

adhesion

Application areas:

- Assessment of the adhesion of single or multi-coat systems

Versions:

ZCC 2080

Folding ruler with 1 mm shims (2080.1) or 3 mm shims (2080.3) and NT-Cutter cross-cut testes with flexible cutter head (to guarantee reproducible cross-cuts) and multi-blade cutting tool:

ZCC 2087

in acc. with (DIN EN) ISO 2409, with 6 blades:

2087.1

1 mm spacing of blades

2087.2

2 mm spacing of blades

2087.3

3 mm spacing of blades

2087.4

1, 2 and 3 mm spacing of blades, exchangeable

in acc. with ASTM 3359:

2087.5

with 11 blades, 1 mm spacing of blades

2087.6

with 6 blades, 2 mm spacing of blades



ZSH 2090 Pencil hardness tester

Wolff-Wilborn / resistance

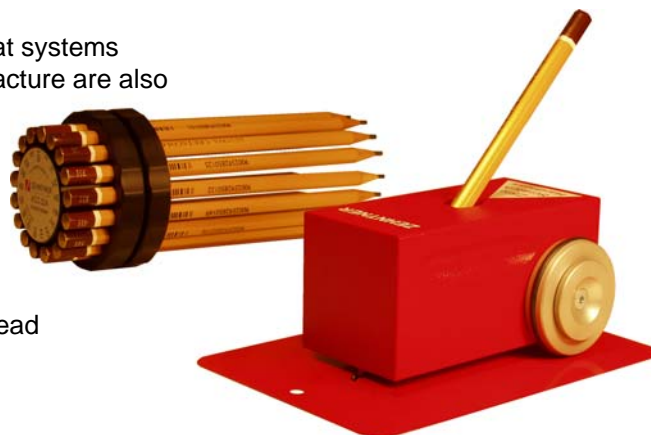
Application areas:

- Laboratory testing apparatus for experimental and quality-related purposes for several branches such as the paint, furniture and vehicle industries
- Practically applicable to all smooth single and multi-coat systems
- Due to the rapid determination, tests during the manufacture are also possible, e.g. during coil coating

Version:

ZSH 2090

With pencils in 17 degrees of hardness from 6B to 9H with pencil holder and sharpener for releasing cylindrically the lead



ZHT 2092
Pocket hardness tester

resistance

Application areas:

- Laboratory testing apparatus for experimental and quality-related purposes for several branches such as the paint, furniture and vehicle industries
- Practically applicable to all smooth single and multi-coat systems
- Due to the rapid determination, tests during the manufacture are also possible, e.g. during coil coating

Version:

ZHT 2092	with three pressure springs of varying strengths:
0 - 3 N	(0 - 300 g) division: 10 g
0 - 10 N	(0 - 1'000 g) division: 50 g
0 - 20 N	(0 - 2'000 g) division: 100 g



ZST 2095
Mar resistance tester

Oesterle / resistance

Application areas:

- Pocket tester for determination of the scratch resistance according to Oesterle on painted or plastic surfaces.
- Laboratory testing apparatus for experimental and quality-related purposes for several branches such as the paint, furniture and vehicle industries
- Practically applicable to all smooth single and multi-coat systems
- Due to the rapid determination, tests during the manufacture are also possible, e.g. during coil coating

Version:

ZST 2095	with test discs duroplast, copper and steel and with three pressure springs of varying strengths:
0 - 3 N	division: 10 g
0 - 10 N	division: 50 g
0 - 20 N	division: 100 g



ZFC 3010 - 3015

viscosity

Flow cups / Immersion flow cups

Application areas:

- The flow cups / Immersion flow cups are an important test apparatus for the rapid and simple determination of the flow time of liquids
- The test can be carried out in the laboratory and during manufacture

Versions:

ZFC 3010	Flow cup in accordance with ASTM D 1200 (Ford) with fixed jet No. 1, 2, 3, 4, or 5.
ZFC 3011	Flow cup with fixed jet No. 1, 2, 3, 4*, 5, 6, 7 or 8.
ZFC 3012	Immersion flow cup with fixed jet No. 1, 2, 3, 4*, 5, 6, 7 or 8.
ZFC 3013	Flow cup in accordance with ISO 2431 with fixed jet No. 3, 4, 5 or 6.
ZFC 3014	Immersion flow cup in accordance with DIN EN ISO 2431 with fixed jet No. 3, 4, 5 or 6.
ZFC 3015	Immersion flow cup in accordance with ASTM D 1200 (Ford) with fixed jet No. 1, 2, 3, 4 or 5.

*Jet No. 4 in accordance with DIN 53211, withdrawn in October 1996

Optional availability of a three-foot stand levelling by three adjustable feet with bubble level.



ZTJ 3020 - 3021

viscosity

Temperature control jackets

Application areas:

- Vessel applicable with all common flow cups for maintaining consistent temperature during viscosity determination
- For flow cups according to o ASTM D 1200 (Ford), DIN 53211 (standard withdrawn in October 1996) or flow cups according to (DIN EN) ISO 2431
- The test can be carried out in the laboratory and during manufacture

Versions:

ZTJ 3020	inner diameter 58.2 mm for flow cups according to ASTM D 1200 (Ford) and DIN 53211 (standard withdrawn in October 1996)
ZTJ 3021	inner diameter 56.2 mm for flow cups according to (DIN EN) ISO 2431

