Coating Thickness

Microprocessor Coating Thickness Gauge

Ref. No	Model
EP01 B001	Mini Test 1100
EP01 B002	Mini Test 2100
EP01 B003	Mini Test 3100
EP01 B004	Mini Test 4100

Features

MiniTest	1100	2100	3100	4100
Wide selection of wear-resistant probes for multi-purpose use				
Memory Capacity				
- Number of application memories		1	10	99
- Number of batches for each application memory		1	10	98
- Total memory capacity for individual readings	1	10,000	10,000	10,000
Statistics				
- From single values : $\bar{X}$, σ, kvar, n, max, min/[C_p, C_{pk}]		*	*	*
- Block statistics : $\bar{\bar{X}}$, σ, kvar, n, max, min/[C_p, C_{pk}]		*	*	*
Calibration methods				
- Calibration through a coating (CTC)		*	*	*
- Measurement on rough surfaces. The influence of roughness can nearly be eliminated	*	*	*	*
- OFFSET function adds or substracts a constant value			*	*
- Key lock to protect calibration settings	*	*	*	*
- Limit setting			*	*
- Continuous measuring mode with high speed readings to identify minimum and maximum values	*	*	*	*
- Selectable stabilising procedure in continuous mode for quick display (7 readings/s)	*	*	*	*
- RS 232C interface for data transfer to computer	*	*	*	*
- Display of minimum value in continuous mode	*	*	*	*

Probes / Foils

FN 1.6 or 2 | FN 1.6P | F/N 1.6/90 or 2/90 | F 05 | F 10/20 | F50/N10/N20 | N02/N08Cr | N100 | CN 0.2

Wide selection of wear-resistant probes for multi-purpose use.

Probes Selection Guide

F type : Measurement of non-magnetic coating (paint, zinc etc) on ferrous metal
N type : Measurement of non-conductive coating (paint, anodizing coating etc) on non-ferrous metal
FN Type : Combination capabilities of both F and NF types

Technical Specifications of Probes

Ref. No	Model	Measuring Range	Low range resolution	Guaranteed tolerance (of reading)[1)]	Minimum radius of curvature (convex/concave)	Minimum area for measurement	Minimum substrate thickness	Dimension in mm
EP01 BP01	FN 1.6	0…1600µm	0.1µm	± (1% + 1µm)	1.5mm/10mm	Ø 5mm	F 0.5mm/ N 50µm	Ø 15x62
EP01 BP02	FN 1.6P	0…1600µm	0.1µm	± (1% + 1µm)	only on flat surfaces	Ø 30mm	F 0.5mm/ N 50µm	Ø 21x89
EP01 BP03	FN 1.6/90	0…1600µm	0.1µm	± (1% + 1µm)	flat/ 6mm	Ø 5mm	F 0.5mm/ N 50µm	Ø 8x11x159
EP01 BP04	FN 2/90	0…2000µm	0.2µm	± (1% + 1µm)	flat/ 6mm	Ø 5mm	F 0.5mm/ N 50µm	Ø 8x11x159
EP01 BP05	F 05	0…500µm	0.1µm	± (1% + 0.7µm)	0.75mm/ 5mm	Ø 3mm	0.1mm	Ø 12x49
EP01 BP06	F 1.6	0…1600µm	0.1µm	± (1% + 1µm)	1.5mm/ 10mm	Ø 5mm	0.5mm	Ø 15x62
EP01 BP07	F 3	0…3000µm	0.2µm	± (1% + 1µm)	1.5mm/ 10mm	Ø 5mm	0.5mm	Ø 15x62
EP01 BP08	F 1.6/90	0…1600µm	0.1µm	± (1% + 1µm)	flat/ 6mm	Ø 5mm	0.5mm	Ø 8x11x159
EP01 BP09	F 2/90	0…2000µm	0.2µm	± (1% + 1µm)	flat/ 6mm	Ø 5mm	0.5mm	Ø 8x11x159
EP01 BP10	F 10	0…10mm	5 µm	± (1% + 10µm)	5mm/ 16mm	Ø 20mm	1mm	Ø 25x46
EP01 BP11	F 20	0…20mm	10µm	± (1% + 10µm)	10mm/ 30mm	Ø 40mm	2mm	Ø 40x65
EP01 BP12	F 50	0…50mm	5 µm	± (3% + 50µm)	50mm/ 200mm	Ø 300mm	2mm	Ø 45x70
EP01 BP13	N 08 CR	0…80µm	0.1µm	± (1% + 1µm)	2.5mm/ 10mm	Ø 5mm	≥ 100µm Cu	Ø 16x70
EP01 BP14	N 02	0…200µm	0.1µm	± (1% + 0.5µm)	1mm/ 5mm	Ø 2mm	50µm	Ø 16x70
EP01 BP15	N 1.6	0…1600µm	0.1µm	± (1% + 1µm)	1.5mm/ 10mm	Ø 5mm	50µm	Ø 15x62
EP01 BP16	N 1.6/90	0…1600µm	0.1µm	± (1% + 1µm)	flat/ 6mm	Ø 5mm	50µm	Ø 8x11x159
EP01 BP17	N 2/90	0…2000µm	0.2µm	± (1% + 1µm)	flat/ 6mm	Ø 5mm	50µm	Ø 8x11x159
EP01 BP18	N 10	0…10mm	10 µm	± (1% + 25µm)	25mm/ 100mm	Ø 50mm	50µm	Ø 60x50
EP01 BP19	N 20	0…20mm	10 µm	± (1% + 50µm)	25mm/ 100mm	Ø 70mm	50µm	Ø 65x75
EP01 BP20	N 100	0…100mm	100µm	± (1% + 0.3mm)	100mm/ flat	Ø 200mm	50µm	Ø 126x155
EP01 BP21	CN 02[2)]	10…200µm	0.2µm	± (3% + 1µm)	only on flat surfaces	Ø 7mm	at choice	Ø 17x80

Special Probes Remarks

FN 1.6P : Measurement of powder coatings before baking
Probes with extension/90: Right angle probes for measurement of coating in tubes, pipes,etc.
N08CR : Thin chrome coating on copper
CN02 : Copper coatings on insulating substrates
HT : Probes for high temperature up to 350°C

Optional Accessories

1. Ref. No: EP01 AP02 Twin case for gauge and printer
2. Ref. No: EP01 AS01 MSAVE for data transfer to computer
3. Ref. No: EP01 AS02 Software: MSOFT 41 for processing of measuring values, statistics and histograms,
4. Ref. No: EP01 AT01 Precision support for measurements in production or on small parts.
5. Ref. No: EP01 AP01 Portable Miniprinter 4100 incl Charger.

Precision Support Stand

Twin case for gauge and printer

Calibration foil with thicknesses ranging from 10µm up to 15mm

Ref. No	Model
Size: 31x50mmm	
EP01 AF01	Foil 10µm
EP01 AF02	Foil 30µm
EP01 AF03	Foil 40µm
EP01 AF04	Foil 50µm
EP01 AF05	Foil 80µm
EP01 AF06	Foil 100µm
EP01 AF07	Foil 140µm
EP01 AF08	Foil 200µm
EP01 AF09	Foil 250µm
EP01 AF10	Foil 500µm
EP01 AF11	Foil 800µm
EP01 AF12	Foil 1000µm
EP01 AF13	Foil 1500µm
EP01 AF14	Foil 3.0mm
EP01 AF15	Foil 6.0mm
Size: 50x50mm	
EP01 AF20	Foil 800µm
EP01 AF21	Foil 2.0mm
EP01 AF22	Foil 3.0mm
EP01 AF23	Foil 8.0mm
EP01 AF24	Foil 15mm

Digital Coating Thickness Gauge

Ref. No	Model
EP01 B005	MiniTest 600B-F
EP01 B006	MiniTest 600B-N
EP01 B007	MiniTest 600B-FN
EP01 B008	MiniTest 600-F
EP01 B009	MiniTest 600-N
EP01 B010	MiniTest 600-FN

The single pole probe is connected to the gauge by a 1 metre cable, ideal for measurement on flat, curved or round surface. The newly developed probe tip is made from very hard and wear resistant material which guarantees virtually unlimited life provided it is handled correctly.

Features

- Keylock to protect calibration setting
- Display backlight
- Statistics: $\bar{x}$, σ, n (max 9999), min, max (Minitest 600)
- The dual FN probe automatically adjusts to the correct substrate metal : ferrous/ non-ferrous

Technical Specifications

Measuring range	: Type F (steel)	0…3000µm/120 mils
	Type N (NF metal)	0…2000µm/80 mils
	Type FN (dual probe)	0…2000µm/80 mils
Tolerance	: ± (2% of reading + 2 µm)	
Calibration	: Standard, one-point, two-point	
Interface	: RS 232 C (MiniTest 600)	

Digital Coating Thickness Gauge

Ref. No	Model
EP01 B011	eXacto F
EP01 B012	eXacto N
EP01 B013	eXacto FN
EP01 B014	eXacto F (ext)
EP01 B015	eXacto N (ext)
EP01 B016	eXacto FN (ext)
EP01 ASC1	MSAVE + IR Adapter for PC

Compact coating thickness gauge with self-explanatory menu operation for coating thickness measurement

Features

- User-friendly menu operation
- Integrated [eXacto] or separate probe [eXacto (ext)]
- Calibration foils and standards are stored safely in gauge housing.
- Dual version FN: automatically adjusts to the correct substrate metal : ferrous/non-ferrous
- Display with backlight
- Monitoring of tolerances through limit setting and alarm signal
- Statistical evaluation: single value and block statistics: $\bar{x}$, σ, n (90), min, max
- Interfaces:
  - eXacto with internal probe: - IR to MiniPrint 4100 IR, IR to PC, Serial port to PC
  - eXacto (ext) with external probe: - IR to MiniPrint 4100 IR, IR to PC

Technical Specifications

Measuring range:	Type F	0…3000µm/120 mils
	Type N	0…2000µm/80 mils
	Type FN	0…2000µm/80 mils
Tolerance	: ± (2µm + 3% of reading)	
Calibration	: one-point, two-point	

Coating Thickness

Digital Magnetic Coating Thickness Gauge

Coating thickness measurement of all non-magnetic coatings on steel, e.g. paint, plastics, enamel, rubber, copper, zinc, tin, etc. The measuring principle bases on the measurement of the attraction force of a permanent magnet on steel which gets weaker with an increasing thickness of the coating.

Features

- Proven measuring principle
- No calibration required – factory preset
- High resolution of measuring values
- Patent achieved

Technical Specifications

Ref. No Model	EP01 B017 MikroTest 7G	EP01 B018 MikroTest 7F	EP01 B019 MikroTest 7S5	EP01 B020 MikroTest 7S15
Measuring range	0…300µm	0...1.5mm	0.5…5.0mm	3.0…15.0mm
Tolerance	2µm ± 3%	5µm ± 3%	± 4%	± 4%
Resolution	0.5µm	1µm	5µm	20µm

Magnetic Coating Thickness Gauge

A coating thickness gauge for quick, precise and non-destructive measurement of : electroplating, nickel coatings, phosphating, paint, plastic, enamel etc. on steel. The measurement of the coating thickness is based on magnetic attraction.

Features

- No power supply or battery required
- No calibration required - factory preset
- Measurement at any angle
- Fully automatic

Technical Specifications

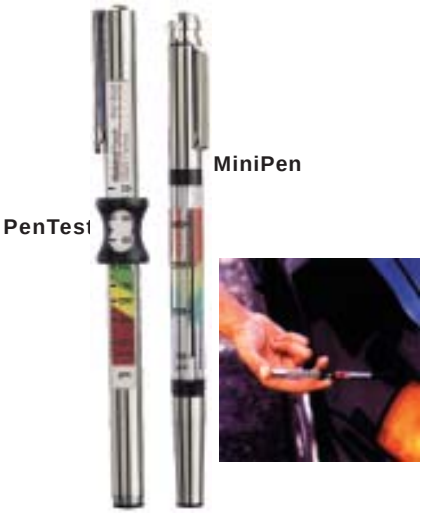
Ref. No	Model	Range	Tolerance*
EP01 B021	MikroTest 5 G	0…100µm	±1µm or 5% of reading
EP01 B022	MikroTest 5 F	0…1000µm	±5µm or 5% of reading
EP01 B023	MikroTest 6 G	0…100µm	±1µm or 5% of reading
EP01 B024	MikroTest 6 F	0…1000µm	±5µm or 5% of reading
EP01 B025	MikroTest 6 S3	0.2…3mm	±5% of reading
EP01 B026	MikroTest 6 S5	0.5…5mm	±5% of reading
EP01 B027	MikroTest 6 S10	2.5…10mm	±5% of reading
EP01 B028	MikroTest 6 NiFe 50	0…50µm	±(2µm + 8% of reading)

Remark:

* Type 5= Standard version,
  Type 6= Automatic version
* NiFe50 = Measurement of electroplated nickel on steel

Magnetic Coating Thickness Gauge

PenTest / MiniPen



Features

- Measurement of paint coatings on steel
- Low-cost
- Magnetic attraction principle
- Permanent magnet never losing its power
- Coloured zones for quick go/no-go quality assessment
- For open and recessed measuring areas

Technical Specifications

Ref. No Model	EP01 B029 PenTest	EP01 B030 MinPen
Measuring Range	25…700µm or 1…28 mils	50…500µm
Accuracy	±10% of reading	±15% of reading

Ultrasonic Coating Thickness Gauges

Ref. No : EP01 B031
Model : QuintSonic

Measurement of:
- Paint, plastics, enamel and other insulating coating on the base of wood, plastics, glass, ceramics and on metals.
- Wall thickness of plastics and metals through the coating

Measuring Procedure

When the probe is placed on the coated surface, it sends sound pulses which penetrate the coating through to the base material. Provided the coatings and the substrate possess different acoustic properties, these pulses are reflected by the different surfaces and transmitted to the transducer in the probe. The various time intervals are measured and calculated by a microprocessor to give individual and total coating thickness.

Features

- 10,000 memory capacity
- Statistic – n, x̄, σ, kvar, max, min
- Limit setting
- RS232C interface

Technical Specifications

Application	: Polymer single and multi layers etc. Wall thickness measurement metals : 0.2…8mm, plastics : 0.2…3mm
Measuring Range	: Single layer: 10…500µm, Multi layer : total coating thickness max. 500µm
Resolution	: 1µm
Measuring uncertainty <100µm	: ± (2µm +3% of reading)
Measuring uncertainty >100µm	: ± (2µm +2% of reading)

Paint Inspection Gauge (PIG)

Ref. No : TQ01 B032
Model : SUPER-PIG

Destructive precision tool for inspection and thickness measurement of single or multiple coats on virtually all substrates, including wood, plastics, metals, etc. Also observes and measures substrate and film defects. Applies a small incision in the layer of paint, and uses an integrated microscope with measuring reticle.
Range : 2-2000 micron depending on cutting blades
* Optional multi-tooth cutter blades for carrying out cross-cut test.

Technical Specifications

Cutter No:	Range(µm)	Resolution(µm)
1	20 - 2000	20
2	10 - 1000	10
4	2 - 500	5
10	2 - 200	2

Wet Film Thickness Gauge

For quick and easy thickness measurement of freshly applied wet coatings.
Material- Stainless steel.
Graduations are as follows:

In µm				In mils			
25	50	75	100	1	2	3	4
125	150	175	200	5	6	7	8
250	300	350	400	10	12	14	16
500	600	700	800	20	24	28	32

Ref. No : EP01 B033
Model : Surfa Test

Features
- Material : Stainless Steel
- Range : 25 -2000 µm

Graduation are as follows :

25	50	75	100	125	150
175	200	225	250	275	300
350	400	450	500	550	600
650	700	750	800	850	900
950	1000	1100	1200	1300	1400
1500	1600	1700	1800	1900	2000

Ref. No : TQ01 B034
Model : WG II

Features
- Material : Aluminium
- Low-cost
- Range : 25-2032 µm

Ref. No : PG01 B035
Model : Aluminium

Coating Thickness

Wheel Wet Film Thickness Gauge

Specially developed for use on wet lacquers, paint and oil coated surfaces. Made of stainless steel. The center disc features an precision ground excentric groove to pick up the coating medium, to be measured after rolling the gauge onto the surface, beginning with the deepest groove.

Range		Ref. No	Model
Type NS 6	0 - 60µm	SX01 B036	810-01
Type NS 10	0 - 100µm	SX01 B037	810-02
Type NS 30	0 - 300µm	SX01 B038	810-03
Type NS 60	0 - 600 µm	SX01 B039	810-04
Type NS 100	0 - 1000µm	SX01 B040	810-05

Coulometric Coating Thickness Gauges

Coulometric Coating Thickness Gauge is used to measure the thickness of electroplated coatings on practically all substrates, i.e., on steel, on non-ferrous metals and also on insulating materials; such as nickel on steel, zinc on steel, tin on copper, silver on copper and copper on epoxy. This measuring technique simply involves the removal of a small, almost invisible area of coating material whereas the substrate is unaffected.

Features

- Measuring practically all electroplated coatings on all substrates
- Capable to measure single and multi-layer coatings.
- Statistical evaluation: n, σ, kvar, mean, max, min
- Memory 2000 data
- RS232C interface to MiniPrint printer or computer

Technical Specifications

Ref. No Model	EP01 B041 Galvanotest 2000	EP01 B042 GalvanoTest 3000
Range	0.05 to 75 µm	0.05 to 75µm
Accuracy	±5%	±5%
Measuring Cell	Air pulsator	Circulation pump
Measuring Surface Gasket/Mask	8, 4, 1 mm^2	8, 4, 1 & 0.25mm^2
Electrolyte cup	For measurement on wires and odd shaped small pieces	

Porosity Detection

Wet Sponge Porosity Detector

Light-weight and easy-to-use, the battery powered PoroTest 1 wet sponge porosity detector is suitable for inspecting non-conductive layers on metallic substrate. Operating on 9V direct current which is completely risk-free to the operator, an electrical signal is created as soon as the electrical resistance of the water-filled pore falls below 100kOhm. With PoroTest 1 coatings down to 300 microns can be tested for porosity.

Technical Sepcifications

Sensitivity : acoustic signal if test resistance is less than appox. 10kOhm
Coating thickness range : 0…300µm

Ref. No : EP01 C001
Model : Porosity 1

Porosity Detection

High Voltage Porosity Detection - DC Holiday Detector

Ref. No : EP01 C002
Model : Porosity 7

Flaws in protective coatings such as pores, cracks and fissures, if undetected, may impair the corrosion resistance of a product. The PoroTest 7 has been specifically designed for non-destructive porosity testing of such coatings. Reliable porosity detection for all insulating coatings on metal such as :

- Coatings on oil, gas or water pipelines,
- Linings of tubes, vessels or storage tanks
- Enamel, epoxy and plastics coatings
- Protective coatings on hulls, oil tanks, vessels, pipelines including fittings

Features

- Powerful and versatile gauge with new ergonomic design making it ideal for on-site testing
- User-friendly key-pad layout with menu-driven operation,
- 15 sensitivity settings
- Pre-set test voltages specific to material thickness,
- Residual voltage indicator - safety feature
- Backlit display to indicate current test voltage, number of pores and material thickness
- High voltage probe with equipment-on and pore indicator (red LED)
- Alarm signal when exceeding pore limit setting (Limit)
- Electrical safety provisions according to VDE 0411, Part 1
- Power supply : AC operated or battery operated via integrated storage battery (C-cells)
- Optimum test voltage setting ensures safe testing without damaging the material being tested
- Precise & stable test voltage setitings achieved through electronic control, High voltage crest meter is not required.
- High voltage probe model P7: 0.5…7kV
- High voltage probe model P35: 6…35kV

Technical Sepcifications

Ref. No	EP01 C003	EP01 C004
High Voltage probe	P7	P35
Operating Range	0.5…7kV	6…35kV
Coating Thickness	0.03mm-1.7mm	1.4mm-11.3mm
Voltage	DC	
Test Voltage indications:	LC-Display, 3-digit	
Accuracy of voltage setting :	± (0.1 KV + 3% of readings)	
Alarm Signal:	90 dB, 0.1 s/Pore, Continuous tone in case of short-circuit	

Storage battery life at maximum voltage:
PoroTest 7 with probe P7 appox. 20h continuous operation,
PoroTest 7 with probe P35 appox. 10h continuous operation

Surface Profile

Portable Surface Roughness Tester

TR-100

Ref. No : TM01 D001
Model : TR-100

TR100 operates on various surfaces, flat, outer cylinder, outer cone, grooves, and recesses greater than 80 x 30mm.

Features

- Pocket-sized & economically priced!
- Simple calibration for highest accuracy
- Rechargeable Battery operation

Technical Sepcifications

Roughness parameter	: Ra (ISO), Rz (DIN)
Measuring Range	: Ra : 0.05-10.0µm/ Rz : 0.1-50µm
Cut-off lengths	: 0.25mm/ 0.8mm/2.50m
Filter	: RC analogue
Tracing length	: 6mm
Accuracy	: Conform ISO Class 3
Pick-up stylus	: Piezo-electric
Tracer tip	: Diamond, radius 10µm ± 2.5µm

Portable Surface Roughness Tester

TR-110

Features

- Pocket-sized & light weight
- Both Ra and Rz parameters in one instrument
- Three sampling length in one instrument
- Piezoelectric type pick-up
- LCD with backlight
- Li-ion rechargeable battery, workable while charging

Technical Sepcifications

Parameter (µm)	: Ra, Rz
Traverse Length (mm)	: 6
Sampling Length (mm)	: 0.25, 0.8, 2.5
Evaluation Length (mm)	: 1.25, 4.0, 5.0
Gauge range (µm)	: Ra :0.05-10.0; Rz: 0.1-50
Accuracy	: ± 15%
Stylus tip	: Diamond, Radius: 5µm ± 1µm, Angle: 90°
Skid pressure of pick-up	: ≤ 0.3N

Ref. No : TM01 D002
Model : TR-110

TR-150

Features

- Instant surface roughness results at the touch of a button
- Detachable structure applying to both integrated measurement and separated measurement
- One sampling length 0.8mm, measure more quickly
- Piezoelectric type pick-up
- Measurement can be done by remote control
- Hand held and portable-ideal for workshop

Technical Sepcifications

Parameter (µm)	: Ra, Rz
Traverse Length (mm)	: 6
Sampling Length (mm)	: 0.80
Evaluation Length (mm)	: 4.0
Gauge range (µm)	: Ra :0.05-10.0; Rz: 0.1-50
Accuracy	: ± 15%
Stylus tip	: Diamond, Radius: 5µm ± 1µm, Angle: 90°
Skid pressure of pick-up	: ≤ 0.3N

Ref. No : TM01 D003
Model : TR-150

TR-200

Features

- Very complete instrument, Easy to operate menu software
- Graphical display on large LCD, 13 different roughness parameters
- Detector stylus position indicator, Auto-off after 5 minutes with auto-store
- Display languages: English, German, French, Italian, Spanish and Dutch
- Data output RS232 to printer TA220 or PC, Excellent battery power with Li-Ion technology.

Technical Sepcifications

Roughness parameter	: Ra , Rz, Ry, Rq, Rt, Rp, Rmax, Rm, R3z, S, Sm, Sk, tp
Accessed profiles	: Primary profile (P), Roughness Profile (R), tp curve (material ratio Mr)
Standard	: Conform ISO/DIN/JIS/ANSI
Display resolution	: 0.001µm/ 0.04µ inch
Display features	: Detector stylus position indicator, Battery level indicator Direct display of parameter and profiles, Direct printing
Data output	: RS232; direct to printer TA220 or PC
Range	: Ra, Rq : 0.01-40µm Rz,Ry,Rp,Rt,R3z : 0.02 - 160µm Sm,S : 2-4000µm tp : 1-100% (%Ry)
Cut-off lengths	: 0.25mm/ 0.8mm/ 2.50mm
Digital filter	: RC, PC-RC, GAUSSIAN, D-P
Detector	: Standard model TS100, inductive, Diamond tip radius 5µm.

Ref. No : TM01 D004
Model : TR-200

Surface Profile Roughness Gauge

Simple instrument for ultrafast measuring of the point peak-to-valley height of a surface profile.

Technical Sepcifications

Range : 0-4500 micron
Resolution : 1 micron

Ref. No : TQ01 D005
Model : RNG 2000

Pitting Corrosion Gauge

Simple device for measuring pitting corrosion. A feeler gauge measures the depth of the pit while the base remains secured to the surface.

Technical Sepcifications

Range : 0 - 23 mm
Resolution : 0.01 mm

Ref. No : TQ01 D006
Model : PDG 2000

FTG 2000 Film Thickness Gauge

High precision film thickness gauge, especially developed for measuring Testex “replica tapes” used mainly to measure the surface profile

Technical Sepcifications

Range : 0 - 12.7 mm
Resolution : 1 micron

Ref. No : TQ01 D010
Model : FTG 2000

Testex Press-O-Film Replica Tape

Testex tape allows the user to measure the peak-to-valley height of the profile. It consists of foam with a non-compressible backing. The foam is rubbed on to a surface providing a permanent replica impression of the surface profile. A film thickness gauge is then used to measure the surface profile.

Technical Sepcifications

Ref. No Model	TT01 D007 Coarse	TT01 D008 X-Coarse	TT01 D009 Paint
Range	20-50µm	40-115µm	33-85µm
Number of tests	50 per roll	50 per roll	50 per roll

Keane-Tator Surface Profile Comparator

Reference discs designed to visually determine the surface profile of blast cleaned surfaces. Three versions: sand, shot and grit blast discs with five roughness grades in each disc.

Technical Sepcifications

Keane-Tator Surface Profile Comparator	Ref.No	Model
(1 Flash Magnifier +1 Disc)*	KT01 D011	372/1
Sand Blast Disc	KT01 D012	372/S
Grit/Slag Blast Disc	KT01 D013	372/G
Shot Blast Disc	KT01 D014	372/SH
Flash Magnifier Only	KT01 D015	372

* Please specify Sand, Grit/Slag or shot type upon order or else Grit/Slag disc is supplied as standard.

Surface Profile

ISO-Swedish Standard Book - ISO 8501, SIS 055900

The original visual standard. It shows the degree of cleanliness of four different levels of rusted steel cleaned by blasting, hand and power tools and flame.

There is a supplement to ISO 8501-1 standard; SS0559 00T1. It give information about the use of different blasting tools with reference to the ISO -8501-1

Ref. No.	Model No
SS01 D016	SS 05 59 00
SS01 D017	SS 05 59 00 T1

Bresle-Kit Chloride Test Kit

User-friendly test-kit for assessing the presence and level of soluble salts on blast-cleaned surfaces prior to coating. This unique method conforms to ISO8502-6 and 9 standards displays the results in milligram per square meter. The test-kit consists of a digital conductivity meter, 20 Bresle Samplers, disposable cups and all other accessories. The kit also contains the equipment to determine the contamination of the blast-media in use.

Ref. No : TQ01 D018
Model : Bresle-Kit

Hardness

Wolff-Wilborn Pencil Hardness Tester
SNV 37 113–SIS 184187–NEN 5350 MIL C 27227–ECCA

The scratch hardness tester is a simple and quick method for testing the surface hardness of coating materials on lacquers with regards to stresses inflicted by scratching them with a pencil. Pencils of various grades of hardness are moved over the painted surface at an angle of 45° to the horizontal. The force is constant 7.7 Newton. The softest hardness which damages the surface of the film will be the Wolff-Wilborn hardness of this coat. Our instrument includes 17 pencils of hardness from 6B to 9H.

Scratch Hardness Tester acc. to Wolff-Wilborn	Ref. No	Model
Type RW 1 incl. 17 leads, each 10 pcs, 6B-9H in case	SX01 E001	760-01

Buchholz Impression Hardness Tester
a) DIN 53153-ISO 2815-NF

The measurement of impression hardness gives an indication of the general mechanical surface hardness. The instrument is made of stainless steel. The impression disc presses on the base with a force of 5 Newton ±0.1N. To measure the length of the impression, a microscope with a magnification factor 20x is available. This microscope has a graduated scale (0.05mm).

Impression Hardness Tester	Ref. No	Model
Type HB1 acc.to Buchholz in a case	SX01 E002	790-01
Additional accessory: Microscope (20x) with a light source scale 0.05mm incl. in case	SX01 E003	651-01

BH 2000 Buchholz Indentation Test (ISO 2815)

The BH 2000 is a complete kit including Buchholz indenter, illuminated microscope, marker with template, level-gauge and digital dual timer.

Ref. No : TQ01 E004
Model : BH 2000

Scratch Hardness Tester acc. to Clemen ISO 1518-BS 3900

Applications

The scratch hardness tester determines the resistance of coating materials of lacquers and plastic coatings to the scratch effects on the surface. The instrument is delivered with a test needle acc. to ISO with a ball point made of tungsten (1mm Ø). A cutting edge acc. to Clemen is also available and is made of tungsten carbide. The test panels must be plain, they may have max. dimensions: 150mm long, 90mm wide and about 20mm thick. With this instrument the minimum load at which coating is penetrated by the needle, can be determined.

Advantages

The load is adjustable from 0-1500g. The testpanel is adjustable sidewards. The holder for the weight has a mechanical lever. Running backwards the needle raises.

Scratch Hardness Tester acc. to Clemen	Ref. No	Model
Type RH1 hand operated with weight 0-1500g incl. 1 needle (ball 1mm Ø) acc.to ISO 1518	SX01 E005	750-01
Cutting tool acc. to Clemen	SX01 E006	756-01

Electric Scratch Hardness Tester acc. to Clemen ISO 1518-BS 3900

This scratch hardness tester type RH3 is basically the same as type RH 1, but driven by a constant speed motor. Adjustable for loads from 0-5000g. An electronic device inables the detection of the damaged film through a volt meter and a signal light.
Weight : stepless adjustable 0-5000g

Electric Scratch Hardness Tester acc. to Clemen	Ref. No	Model
Type RH3 motorized incl. needle acc. to ISO 1518, 220V 50Hz	SX01 E007	752-01
Type RH2 driven by handwheel incl. needle acc. to ISO1518, 220V 50Hz	SX01 E008	751-01
Cutting tool acc. to Clemen	SX01 E009	756-01

Pendulum Hardness Tester "Digital" DIN 53157-ISO 1522-SNV 37122-NFT30016-BS3900/E5

Apparatus for measuring hardness of paint, varnish, plastic and similar products. This instrument measures the damping of the amplitudes of oscillations of a pendulum touching a film. The softer the surface of the specimen, the greater will be the damping effect upon the pendulum oscillations and vice-versa.

Features

- The digital counter indicates the number of oscillations and the time in seconds.
- With infra-red electronic sensors,
- Automatic releases are placed on the front panel
- The double measuring scale has the following graduations:
  - PERSOZ graduations: 12° 4° 0° 4° 12° ;
  - KONIG graduations: 6° 3° 0° 3° 6°
- The protective cover of plexiglas protects the pendulum against dust and draught during the tests and has two side covers allowing to introduce so easily the test panels.
- Operation on 12 DC with adapter 220V /12V

Hardness Tester "Digital"	Ref. No	Model
Acc. to Konig	SX01 E010	780-02
Acc. to Persoz	SX01 E011	781-02
Acc. to Konig and Persoz	SX01 E012	782-01

Film Application

Universal Film Applicatior

Made of stainless steel and designed to produce any desired film thickness. A micrometer screw provided for continuous setting from 0-1000µm so as to permit adaptation to different testing media. Setting accuracy: 1µm.

Universal Film Applicator
Type UF 20

Film Width	Ref. No	Model
60mm	SX01 F001	846-01
80mm	SX01 F002	846-02
100mm	SX01 F003	846-03
120mm	SX01 F004	846-04
150mm	SX01 F005	846-05
180mm	SX01 F006	846-06
200mm	SX01 F007	846-07

Universal Film Applicator acc. To Bird (ASTM D3022-823-FMTS141)

Made of hardened stainless steel. The two outside wedges are inclined and give accurate, adjustable film openings. Films can be made inclined by setting two wedges on a different number of the scale, for example 0-100µm.
Range: step less 0-250µm
Scale increments: 10µm

Universal Film Applicator
Type UF 40

Film Width	Ref. No	Model
50mm	SX01 F008	847-05
75mm	SX01 F009	847-07
100mm	SX01 F010	847-10
125mm	SX01 F011	847-12
150mm	SX01 F012	847-15
175mm	SX01 F013	847-17
200mm	SX01 F014	847-20
250mm	SX01 F015	847-25

Film Applicator acc. To Bird - four gaps (ASTM D3022-823-FMTS 141)

Made of hardened, stainless steel. The standard model has four gaps: 50/100/150/200µm. Gaps in different depths are available on request.

Film Applicator
Type FA 20

Film Width	Ref. No	Model
50mm	SX01 F016	832-05
75mm	SX01 F017	832-07
100mm	SX01 F018	832-10
150mm	SX01 F019	832-15
200mm	SX01 F020	832-20
250mm	SX01 F021	847-25

Paint Film Applicator (ASTM D823-53-FMTS)

Designed to produce film coatings of 6 cm width. Made of hardened, ground and polished steel. This applicator is a precision instrument. Also available with glass plates, 25x9 cm, for production of lacquer and paint films.

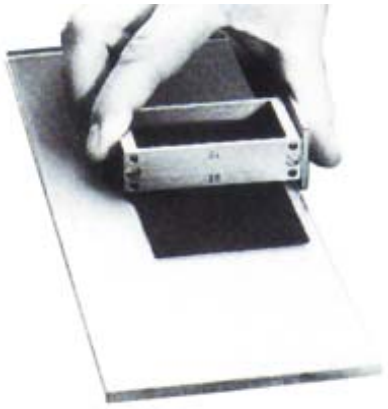
Film Applicator	Ref. No	Model
Type LH 10, 15/30/60/90µm	SX01 F022	840-01
Type LH 20, 30/60/90/120µm	SX01 F023	840-02
Type LH 30, 50/100/150/200µm	SX01 F024	840-03
Also available with film widths: 25/50/75/100/125/200 or 250mm		
Leather case Type LE 50, for Type LH	SX01 F025	849-01
Glass plate Type GP 30 (25x9cm)	SX01 F026	882-02

Quadruplex Film Applicator (ASTM-FMTS)

The Film Applicator is suitable for testing the characteristics of paint, lacquers, adhesives, ink, synthetic materials, etc. dependent to the thickness of the coating. Films on Hiding Power Charts may be tested which film thickness shows no contrast between the black and white background. If the film coating is made on a glass plate it is to lay down after the drying process with the coated side on the Hiding Power Chart. Distance between gaps: 2mm.

Quadruplex Film Applicator	Ref. No	Model
Type SV 1, incl. case	SX01 F027	833-01
With 4 edges and 4 steps from 25 to 450µm, filmwidth each 25mm		
Type SV 2	SX01 F028	834-01
With 4 edges and 10 steps from 10 to 500µm, filmwidth each 20mm		
Type SV 3	SX01 F029	834-02
With 4 edges and 6 steps from 10 to 400µm, filmwidth each 35mm, incl. case.		

Quadruplex Film Applicator (ASTM D823-53)



The standard film widths is 60 or 80mm or any other on request. Provided with four different gaps as standard or on request between 5 and 2000µm. Supplied with a lateral stop guide plate for easy handling. All made of stainless steel. Please specify the filmwidth by ordering.

Quadruplex Film Applicator	Ref. No	Model
Type VF 60, Filmwidth: 60mm		
4 gaps on request	SX01 F030	831-01
4 gaps 15/30/60/90µm	SX01 F031	831-10
4 gaps 30/60/90/120µm	SX01 F032	831-11
4 gaps 100/150/200µm	SX01 F033	831-12
Type VF 80, Filmwidth: 80mm		
4 gaps on request	SX01 F034	831-02
4 gaps 30/60/90µm	SX01 F035	831-20
4 gaps 30/60/90/120µm	SX01 F036	831-21
4 gaps 50/100/150/200µm	SX01 F037	831-22

Film Applicator acc. to Biddle

The film applicators type Duplex and Triplex are used for making coatings of two or three different paints in one operation. These film applicators are suitable for a quick control against a standard sample for example judging of hiding power, colour, gloss, etc. The blade is adjustable in height metal shims of thicknesses 0.10/0.15/0.20 and 0.25mm are supplied with the instrument. Special test cards are available for both instruments.

	Ref. No	Model
Film Applicator Duplex, in case		
For hiding power charts 75mm width	SX01 F038	833-20
Film Applicator Triplex, in case		
For hiding power charts 105mm width	SX01 F039	833-30

Spiral Type Film Applicator

The spiral type film applicators are made of stainless steel and manufactured for film width 100 and 240mm. They are very suitable for thin sheets of paper, plastic, etc. The spiral type applicators may be pulled over the test panel with both hands, or clamped in the special device of the automatic film applicator.

Spiral Type Film Applicator	Ref. No	Model
110mm width		
Wetfilm thickness: 4µm	SX01 F040	844-01
Wetfilm thickness: 6, 12, 24, 36, 50, 60, 75, 100µm	SX01 F041	844-03
Wetfilm thickness: 125, 150, 200, 300, 400, 500µm	SX01 F042	844-04
240mm width		
Wetfilm thickness: 4µm	SX01 F043	844-02
Wetfilm thickness: 6, 12, 24, 36, 50, 60, 75,100µm	SX01 F044	844-05
Wetfilm thickness: 125, 150, 200, 300, 400,500µm	SX01 F045	844-08

Leveling Test Applicator (ASTM-FMTS)

This applicator has five pairs of gaps 0.25/0.5/1/2 and 4mm high and is suitable for determine the level of wet film thickness at which a paint film will run in the period between application and drying. After the horizontal application the film stripes will spread and the distance between one pair of stripes varnishes more or less depending to the flow characteristics of the paint. Made of stainless steel. Size: 100mm width
Gap width: 1.6mm. Distance between 2 gaps: 2.5mm

Leveling Test Applicator	Model	Ref. No
Type VP 1, incl. case	835-01	SX01 F046

Sag Applicator (ASTM-FMTS)

This applicator has 10 steps with each 6mm width and with gaps: 75/100/125/150/175/200/225/250/275 and 300µm. This instrument determines the sagging properties of paints and lacquer. After the horizontal application of the test material the substrate immediately has to be set vertically. Therefore the thinnest film (75µm) has to be at the top. The paint will now flow more or less into a coherent coat. The stripes will be numbered from 1 to 10. The lowest gap will be 1 and highest 10. As a vertical flow index is to take the number of that stripe where one stripe does just not contact the next one. The lower the number, the worse is the sagging flow resistance.

Sag Applicator	Ref. No	Model
Type AP 1, incl. case	SX01 F047	837-01

Leveling/Sagging Applicator (ASTM-FMTS)

With this combined applicator it can perform leveling and sagging tests of paints, etc. in the period between application and drying. The Applicator is made of stainless steel and has 100mm width.
One edge with 5 pairs of gaps 0.25/0.5/1/2 and 4mm high and one edge with 10 steps with each 6mm width and with film thickness 75/100/125/150/175/200/225/250/275 and 300µm.

Leveling/Sagging Applicator	Ref. No	Model
Type VA 1, incl. case	SX01 F048	839-01

Automatic Film Applicator

It is well known, that film application by hand does not ensure an even film thickness. The automatic film applicator is particularly suited to cover the whole area of test-charts, test-panels, foils, glass and plastic plates with an even film thickness.
Optional it is a combined applicator for the use of spiral film applicator models.

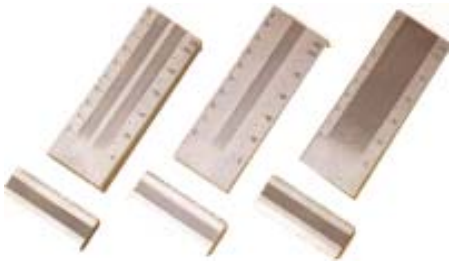
Features

- Equipped with a direct current motor
- Equipped with an 11-step switch for varying the speed: 0.5-1-2-3-4-5-6-7-8-9-10 cm/sec.
- The film application is adjustable to the length of the hiding power charts between 27-45cm.
- Diver for film applicators, adjustable to the thickness of the specimen
- Automatic end of stroke
- Optional device for ball-type drying time, 8 speeds: 5-10-20-50-100-200-500- 1000mm/h

Ref. No : SX01 F049
Model : 848

Fineness-of-Grind-Gauge

Grindometer (DIN-ISO 1524-ASTM D 1316)



Designed to test granularity of paints, lacquers, printing inks and pastes. Also suitable for measuring the efficiency of roller mills. i.e. the adjustment of the rolls.This precision instrument is made of stainless steel with one groove (127mm long, 13mm wide) and calibrated at the side in microns and North standard. Inspect the surface at an angle of 45° in face of light. Where the most granulate is you can read the value of the scale.

Grindometer		Ref. No	Model
Incl. bevelled straightedge and leather case			
Type	Range		2 groove
FM 25, 2/25	0-25µm	SX01 G001	825-02
FM 50, 2/50	0-50µm	SX01 G002	825-03
FM 100, 2/100	0-100µm	SX01 G003	825-04

Specific Gravity Cup

Picnometer (ISO 2811-DIN53217-ASTM D 1475)

Used to determine the specific weight of paints, pastes and similar products. The instrument with special cover is made of anodized aluminium or of stainless steel.

Picnometer	Ref. No	Model
Type PA made of anodized aluminium		
Volume 100ml	SX01 G004	895-01
Volume 50ml	SX01 G005	896-01
Type PR made of stainless steel		
Volume 100ml	SX01 G006	895-03
Volume 50ml	SX01 G007	896-03
Tara Weight	SX01 G008	896-05

Cross Hatch Cutter (DIN-53151-ISO2409-ASTM D 3002/3359-EN39)

For measuring the adhesion and brittleness of dried lacquer and paint coatings. The square or rhombus shaped patches forming a lattice are given a short treatment with a stiff brush, where upon the coating can be examined, for its condition of adhesion by comparing with a standard table chart.

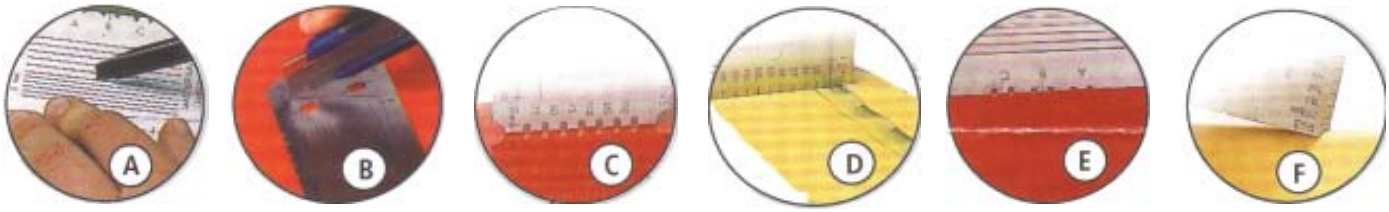
Cross Cut Adhesion Tester		Ref. No	Model
Acc. to DIN with 6 cutting edges and 2 guide rails, incl. case			
spacing of cutters	1mm	SX01 H001	900-01
spacing of cutters	2mm	SX01 H002	900-02
spacing of cutters	1.5mm	SX01 H003	900-03
spacing of cutters	3mm	SX01 H004	900-04
Acc. to ASTM with 11 cutting edges incl. case			
spacing of cutters	1mm	SX01 H005	903-01
spacing of cutters	1.5mm	SX01 H006	903-02
Spacing of cutters for film thicknesses:			
Till 60µm	1mm		
Till 120µm	2mm		
Above 120µm	3mm		

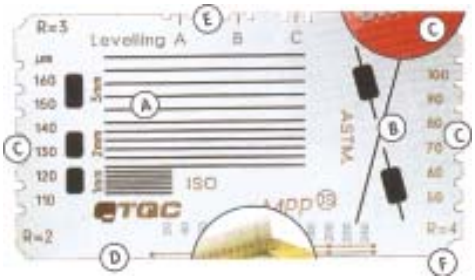
QFH Cross Hatch Cutter

This instrument provides 4 side blades. When the blade edge is not sharp enough, users can loosen the boat type nut and top thrust screw to change blade. Please specify the required spacing and number of the cutter.

Ref. No : SH01 H007
Model : QFH-1

MPP 2000 Multi Purpose Paint Tester





Ref. No: TQ01 H008
Model : MPP

A handy and low-cost device for testing various characteristics of paints before, during and after application.

A. Template with grid for 1,2 and 3mm. Pattern for cross cut adhesion testing by means of using an (always-sharp) utility knife. Meet the ISO2409 standard.
B. Template for making the ASTM X-cross for adhesion testing. Meets the ISO 3359 standard.
C. WFT-gauge for measuring the thickness of wet coatings. Range up to 160µm. Meets the ISO 2808 standard.
D. Film Applicator to apply a wet coating film with increasing thickness up to 200µm. e.g. To check the hiding-power.
E. Device to check the viscosity of paints by observing the flow characteristics of the marks drawn in a wet film. System ASTM 2801-4400.
F. Templates to check the roundness of edges on steel, aluminium or wood. Too sharp edges will lead to insufficient coverage.

CC2000 Cross Hatch Cutter

Ref. No : TQ01 H010
Model : SP 3010

Ref. No : TQ01 H009
Model : CC 2000

This set consists of a holder with optional blade, a brush, an illuminated loupe and roll of adhesive tape. Adhesive tape, set of 3 rolls (SP 3010)

A choice of multi-blade cutter tools is available:
- ISO 2409 6 teeth spacing: 1mm/2mm/3mm
- ASTM D3002 11 teeth spacing: 1mm/1.5mm
  D3359

CC 3000 LX Adjustable Cross Hatch Cutter

Adhesive test similar to model CC2000, but equipped with adjustable depth of cut. The blade holder is kept at a set distance from the surface with the aid of two wheels. The depth of cut of the blade can be accurately adjusted with the aid of the turning knob. Guaranteed reproducible test results.
Holder complete in carrying case with loupe, brush and tape. Blade not included.
* Please specify the spacing and number of cutter of the blade.

Ref. No : TQ01 H011
Model : CC 3000

Cylindrical Mandrel Tester (DIN 53152 - ASTM D1737 - ISO 1519 - NFT - BS 3900 E1)

The durability of paint coates depends largely on their flexibility; this property is responsible for the ability of the coat to withstand the internal stresses and strains developing in the course of time as well as those exerted upon the substrate. Insufficient flexibility causes fissuring and embrittlement of the coat. This flexibility tester is rough and durable and is delivered with 12 arbors. 2/3/4/5/6/8/10/12/16/20/25 and 32mm Ø.
The arbors are made of stainless steel. For test panels with 57 mm width.

Cylindrical Mandrel Tester	Ref. No	Model
Type DP 2 with 12 arbors in case	SX01 H012	911-01

BD 2000 Cylindrical Bend Test (ISO 1519)

Testing of flexibility, elasticity and adhesion of coatings.
Standard delivery : BD2000 test apparatus with one 5mm. diameter mandrel
Optional : Set of 14 mandrels, diameters 2,3,4,5,6,8,10,12,13,16,19,20,25,32mm complete with desk holder
3 rolls according to the latest ISO-Standards to ensure a smooth, accurate and even deformation without scratching the coating.

Ref. No : TQ01 H013
Model : BD 2000

Conical Mandrel Tester (ASTM D522-BS 3900-ISO 6860 -FMTS 141A)

This instrument consists of a cone of 2mm minimum and 38mm maximum Ø. By bending the specimen through about an angle of 180° with the help of a lever swivelling around the axle of the cone. The apparatus allows stretching elongation of the film from 2 to 40% for test specimen of weak metal.
Maximum dimensions of test panels 180 x 100 x 1mm .

Conical Mandrel Tester	Ref. No	Model
Type DP 3	SX01 H014	912-01

Conical Mandrel Bend Tester (ISO 6860-84 Standard)

Technical Specifications

Dimension of conical mandrel:

Big end : Φ38mm,
Small end : Φ3.2mm
Length : 203mm

Ref. No : SH01 H015
Model : ZW-1

Cupping Tester acc. to "System Erichsen" (DIN-ISO 1520-SIS 184177-BS3900-NFT30-019)

Specially designed for quick and accurate assessment of elasticy and adhesion quality of coatings as enamels on specimen like iron, copper, tin, aluminium and other materials. It is a complete unit and is driven manually.

Technical data

The maximum dimensions of the specimen are 70mm width and the thickness max. 1mm for weak iron and 1.5mm for other weak materials. The ball punch has a diameter of 20mm. The Erichsen depth can be read of in increments of 0.05mm on the scale.

Application

A test specimen, lacquered on one side, is inserted into the wide cylinder opening with the lacquered surface facing the operator. By turning the die holder the specimen is clamped in position with light pressure; and further turning enable observation on coating quality in resisting cracks.

Importance of Erichsen depth value

The primarily is in establishing the suitability of a coating material for practical purposes. If the Erichsen depth. i.e. the elasticity of the coating material is low, and will not be sufficient for practical use.

Cupping Tester	Ref. No	Model
Type TP 1 "System Erichsen" Incl. magnifying glass and 12 Volt halogen lamp	SX01 H016	770-01

CP 2000 Cupping Test (ISO 1520)

Ref. No : TQ01 H017
Model : CP 2000

1) Digital display indicates a clear and accurate result in 0.01mm increments. By pushing a button the scale can be adjusted to imperial measurements.

2) A sliding magnifier with a bright light-source generates clear visibility on the coating being tested.

TCB Cupping Tester (ISO 1520-73)

Technical Specifications

Diameter of punch : Φ20mm
Maximum dent thickness: 10mm
Precision of dent : 0.05mm
Counter : digital display , in 0.01mm increments
Dimension of test panel : 70 x 70mm, ä =0.30-1.25mm

Ref. No : SH01 H018
Model : TCB

IP 2000 ImpactTest (ISO6272/ASTM D 2794)

Assessing the resistance of paint, powder, varnish or related products to cracking and peeling from a substrate when it is subjected to deformation caused by a falling weight, dropped under standard conditions. Coated test-panels are rapidly deformed by means of a falling weight from variable heights.

Ref. No	Model
TQ01 H019	IP 2000 ISO
TQ01 H020	IP2000 ASTM
TQ01 H021	IP2000 ISO/ASTM

ISO : 1Kg weight with 20mm Φ stell ball
ASTM : 2lbs weight with 0.625" Φ stell ball

"Snap Action" sample clamp holds the test panel in position and allows fast panel change.

TCB-II Impact Test (ASTM D 2794. ISO 6272)

Technical Specifications

Drop height : 0-100cm
The falling weight : 1kg x 2 pieces, 2Lbs x 2 pieces
Diameter of the striking steel ball : Φ20mm , Φ0.625 in.

Ref. No : SH01 H022
Model : TCJ-II

Dupon Impact Tester (JIS-K5400, K5640, ASTM-D2794)

Applications

Put the coated sample under the impact end, check the damage or warping after it is hit by the hammer from specified height.

Technical Specifications

Ref. No Model	RG01 H023 GT-7037-T	RG01 H024 GT-7037-T1
Applicable Materials	For paint	For Plastics
Falling Height (Optional)	50-500mm at every 50mm	50-1000mm at every 50mm
Falling Weight	300, 500, 1000g	1000, 2000g
Radius of Impact Head	1/2, 1/4, 3/16, 1/8, 1/16in	7.9 mmR (5/16"R)
Radius of Receive Block	Plain, 1/4, 3/16, 1/8, 1/16in	8.1 mmR, 15mmR