



# Test Equipment for Lab and Production

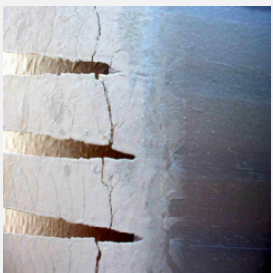
## Products for



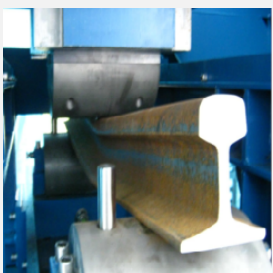
Testing of  
Pipes



Plastics/ Rubber



Paint/ Coatings



Special Solutions/  
Service Strength

Coesfeld GmbH & Co. KG  
Tronjestr. 8  
44319 Dortmund

Tel. +49 (0) 231 91 29 80 0  
Fax. +49 (0) 231 17 98 85

[mail@coesfeld.com](mailto:mail@coesfeld.com)  
[www.coesfeld.com](http://www.coesfeld.com)

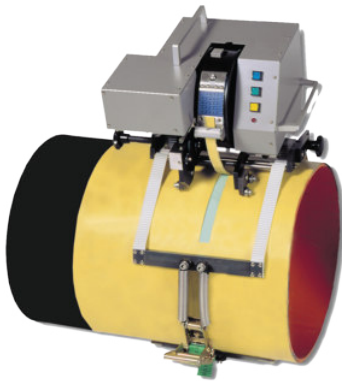


## Pipe Testing

According to ISO, DIN, CAN/CSA standards



Pipe testing is our most narrowly defined field. Most testing equipment relates to the quality control of pipe coatings according to ISO, DIN and CAN/CSA standards. We offer you all necessary solutions in the fields of: peel resistance, cathodic disbonding, indentation hardness, impact strength, gel time, percentage elongation at failure, melt mass flow rate, coating resistivity, heat ageing, minimum coating thickness and holiday testing.



### Peel resistance

page 4

#### *Mobile Tension Tester MTT 2000*

for determination of the peel resistance of coated steel pipes and the assessment of the adhesive power of other coatings and foils.

- composed of a control unit with PC and a peeling unit
- peeling strength up to 2000 N
- software-supported data evaluation
- transfer of measurement data on USB memory device
- online graphical display of measured values



### Cathodic Disbonding

page 7

#### *CD-Tester*

for visual test of adhesion of plastic coatings on steel

- up to 30 independent measuring stations
- accessories designed to meet different standards
- nominal current voltage:  $\pm 5000$  mV
- max. current:  $\pm 200$  mA (depending on device configuration)



### Indentation hardness

page 9

#### *Penetrometer for pipes*

for instrumented measurement of indentation hardness of polymeric coated pipes and formed parts under influence of weight and temperature

- tempering and testing by digital control units
- device configurations from 3 to 6 measuring stations
- cooling water connection for testing at room temperature
- optional: external cooling unit for low temperature testing
- optional: control, data acquisition and evaluation by software



## Impact strength

page 11

### *Mobile impact tester for pipes FW R 1000*

for manual determination of impact strength of pipe coatings

- consists of a slotted pipe with a scale and a falling weight
- falling height infinitely adjustable up to 1000 mm
- falling bolts with different diameters and weights according to the required standards



## Gel time

page 13

### *Gel time measurement machines*

for determination of gel time and hardening characteristics of powder coating and resin

- exact surface temperature control (60 ... 250 °C)
- integrated digital timer
- simple use, repeatable and comparable gel times



## Percentage elongation at failure

### *Universal testing machine*

for tensile, compression and bending tests

- 3kN, 5kN, 10kN and 20kN max. test force
- different travel and inner widths with diverse accessories
- evaluation by Windows-software



## Melt mass flow rate

### *Extrusion plastometer*

Instruments for measurement of mass flow rates and volume flow rates (acc. to: method A, B, C and D)

- 3 device configurations with a rising degree of automation
- optional: weight selector, automatic parameter control, defined pre-compacting of the polymer, fast ejection of remaining material, cleaning at the press of a button



## Coating resistivity

### *Tera ohm meter*

for resistance measurement

- 3 device configurations with different resistance ranges
- programmable data storage with read-out by PC or device
- wide range of electrodes available



## Heat ageing

### *Heating oven*

for fast drying and sterilization

- electronically controlled preheating chamber assures temperature accuracy and reproducible results
- 5 °C above ambient temperature to 300 °C
- different interior volumes available



## Coating thickness

### *Coating thickness meter*

measures non-magnetic coatings on steel and non-conductive layer on non-ferrous metals/non-magnetic steel

- tests paint, varnish, plastics and galvanic layers on magnetic steel
- tests all kinds of insulating coatings (paint, varnish, plastics and anodic layers) on non-ferrous metals
- internal memory for up to 10.000 readings



## Holiday testing

### *Holiday detector*

for non-destructive holiday detection of coatings via high voltage impulse technology test

- sensitive coatings like FBE, enamel, epoxy, halar etc.
- intelligent signal analysis allows testing of completely coated parts
- menu-driven sensitivity guarantees exact results



## 40-070-001 – Mobile Tension Tester MTT 2000

### Standards

CAN/CSA Z245.21, DIN 30 670, DIN 30 672, DIN 30 674, DIN 30 678, EN 10 285, EN 10 329, prEN ISO 21 809-1



### Application

Portable tension tester especially designed for determination of the peel resistance of coated steel pipes. Further, it assesses the adhesive power of other coatings and foils.

### Features

The MTT is composed of a control unit with software and a peeling unit. The control unit has power supply by external mains. The measuring process is controlled independently (start/stop). After testing, data evaluation is being supported by the software. A printout of the results per thermal printer is possible as well as the transmission of the measurement data on an USB memory device. The software provides a permanent graphical display of the measured values (force/time). The calculation of minimum, maximum and average value takes place in free selectable segment division after test end. The peeling unit works with separate drives for carriage and stripping. The stripping angle of 90° is automatically adjusted.

### Technical Data

Mean forward speed	10 mm / min.
Control of forward speed	± 2 mm
Peeling speed	10 mm / min
Sample width	max. 50 mm
Min. clamping length	ca. 70 mm
Peeling travel	max. 200 mm
Measuring range	50 – 2000 N
Peeling angle	90° (automatically controlled)
Min. tube diameter	100 mm / 50 mm with extension for small pipes (optional order number 30-400-201)
Max. tube diameter	free, up to plane surface



### Dimensions and connection

Dimensions (WxDxH)	peeling unit: approx. 350 x 360 x 280 mm control unit: approx. 550 x 600 x 200 mm
Weight	peeling unit: approx. 16 kg control unit: approx. 32,6 kg
Mains	230 V / 50 – 60 Hz or 110 V / 50 – 60 Hz
Power	1000 W
Interfaces	USB
Air	n.a.
Cooling	n.a.
Others	n.a.

### Device configuration

incl.	Articlenumber	Description
1	40-070-002	MTT 2000 control unit (compatible with MTT 1500 peeling units)
1	40-070-003	MTT 2000 peeling unit

### Accessories

incl.	Articlenumber	Description
-		Battery power pack
-	40-087-001	Preparation to support small pipes as option for a later upgrading (Ø 50 - 100 mm)
-	40-087	MTT Support for small pipes (Ø 50 - 100 mm) (cannot be used without 40-087-001)
-	40-081-001	Clamping and guiding unit for axial tests
-	40-081-002	Clamping and guiding unit for longitudinal tests
-	40-079-001	Strip cutting equipment width 20 mm (cannot be used without 40-087-001)
-	40-078-001	Strip cutting equipment width 50 mm (cannot be used without 40-087-001)
-	40-072	Double saw, 20 mm width with 2 saw blades
-	40-074	Double saw, 50 mm width with 2 saw blades
1	9-900-015	Universal clamping device for all standard coatings
1	9-900-101	Connecting cable from control unit to peeling unit, Cable length 6m
-	9-900-086	Connecting cable from control unit to peeling unit, Cable length 15m
1	40-085-001	Thermopaper coated (for thermoprinter), 5 rolls per package
1	8-888-008	Aluminium box
-	8-888-177	Wooden box for sea freight/air freight; 132 x 92 x 99 cm; 80 kg



## 96-352 – Mobile Tension Tester MTT M 500

### Standards

DIN 30 670, DIN 30 672, DIN 30 674, DIN 30 678, EN 10 285, EN 10 329, prEN ISO 21 809-1, CAN/CSA Z245.21



### Application

COESFELD testing units series MTT/M are designed to measure the peeling resistance of coatings, e.g. pipes.

### Features

The testing machine is a stable construction, which can be used without mains supply. The tension (max 50 kg) is displayed directly at the tension gauge. The clamping device allows a quick chucking of a stripe of the pipe.

### Technical Data

Maximum width of coating stripe	50 mm
Clamping length of stripe	approx. 70 mm
Maximum peeling travel	200 mm
Force measuring	mechanical gauge 0-50 kg (for Newton: multiply by 9,81 m/s <sup>2</sup> )
Peeling angle	90°
Minimum Ø of working piece	300 mm
Maximum Ø of working piece	free, up to flat surface

### Dimensions and Connection

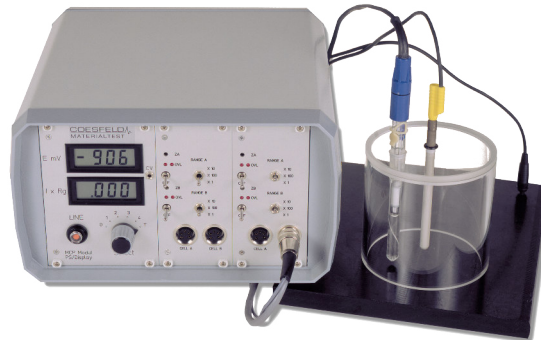
Dimensions (WxDxH)	550 x 300 x 850 mm
Weight	20 kg
Mains/Power	n.a.
Interfaces	n.a.
Air	n.a.
Cooling	n.a.
Others	n.a.



## 75-091-... – Cathodic Disbonding Tester

### Standards

ASTM G-8, ASTM G-42, DIN 30 670, DIN EN ISO 15711



### Application

The CD-Test unit tests the adhesion of plastic coatings on steel.

### Features

For testing, the coating of a sample (steel pipe) is deliberately damaged so that the steel surface is exposed. Then the sample is polarized cathodically towards an anode, i.e. the steel is connected to the negative pole of an adjustable power source (potentiostat of the CD-Tester). After testing, the coating is removed and the dimension of the disbonding is rated.

### Technical Data

Measuring stations	1 / 4 / 8 / 10 / 16 / 20 / 30 (depending on device configuration)
Nominal voltage range	5 V
Max. current	± 200 mA
Current ranges	200 mA / 20 mA / 2 mA (depending on device configuration)





### Dimensions and Connection

Dimensions (HxBxD)	4 measuring stations: 152 x 280 x 385 mm 8 measuring stations: 152 x 560 x 385 mm 16 measuring stations: 304 x 560 x 385 mm
Weight	6 / 12 / 18 kg (depending on device configuration)
Mains	230 V / 50 – 60 Hz or 110 V / 50 – 60 Hz
Power	1000 W
Interfaces	analog output
Air	n.a.
Cooling	n.a.
Others	n.a.

### Device configuration

incl.	Articlenumber	Description
-	75-091-018	Cathodic Disbonding Tester 4 measuring stations, $\pm 5$ V output; 200 mA
-	75-091-020	Cathodic Disbonding Tester 8 measuring stations, $\pm 5$ V output; 200 mA
-	75-091-021	Cathodic Disbonding Tester 16 measuring stations, $\pm 5$ V output; 200 mA

Other devices from 1 up to 30 measuring stations are also available.

### Accessories

incl.	Articlenumber	Description
-	75-091-101	Reference electrode calomel (Hg/HgCl)
-	75-091-113	Reference electrode Ag/AgCl
-	75-091-123	Titanium anode with platinum wire $\varnothing$ 0,5 mm
-	75-091-103	Titanium anode with platinum wire $\varnothing$ 0,6 mm
-	75-091-114	Titanium anode with platinum wire $\varnothing$ 0,8 mm
-	75-091-129	Titanium anode with platinum wire $\varnothing$ 1,0 mm
-	75-091-110	Platinum coated anode $\varnothing$ 8 x 120 mm
-	75-091-137	Test cup with cover made of acrylic glass $\varnothing$ 74 mm with lid, 2 drill-holes
-	75-091-115	Test cup with cover made of acrylic glass $\varnothing$ 74 mm with lid, 3 drill-holes
-	75-091-125	Test cup with cover made of acrylic glass $\varnothing$ 74 mm with lid, 4 drill-holes
-	75-091-112	Test cup with cover made of acrylic glass $\varnothing$ 80 mm
-	75-091-102	Test cup with cover made of acrylic glass $\varnothing$ 100 mm
-	75-091-124	Test cup with cover made of acrylic glass $\varnothing$ 100 x 145 mm
-	75-093-003	Sandbath, 50...300°C, 590 x 440 mm, 4000 W, 230 V
-	75-093	Sandbath up to 350°C, 580 x 430 mm, 4000 W, 230 V
-	75-093-001	Sandbath for 4 sample plates, $\hat{a}$ 100 x 100 mm
-	KABELMCP-3.0-T	Cell cable for MCP, L 3,0 m to 100°C
-	75-091-050	Datalogger for monitoring and recording for up to 4 measuring stations (to be integrated into newly purchased CD-Tester)*
-	75-091-058	Datalogger for monitoring and recording for up to 8 measuring stations (to be integrated into newly purchased CD-Tester)*
-	75-091-057	Datalogger for monitoring and recording for up to 16 measuring stations (to be integrated into newly purchased CD-Tester)*
-	75-091-059	Datalogger for CD-Tester 4-place device (for retrofitting of CD-Tester)*

Normally, the number of needed reference electrodes, test cups and titanium anodes is equal the number of measuring stations. Other dataloggers (for new devices and retrofitting) are also available on request.

\*Datalogging of two parameters, standard: voltage and temperature (selectively: current).  
For logging all three parameters, another logger is required (75-091-054).



## 40-602-... – Penetrometer for pipes

### Standards

ASTM G17, DIN 30 670, DIN 30 671, DIN 30 672, DIN 30 674, DIN 30 678, EN 10 285, EN 10 286, EN 10 287, EN 10 288, EN 10 329



### Application

Penetrometer to measure the indentation hardness of polymeric coated pipes and formed parts under influence of weight and temperature.

### Features

The pipe penetrometers are manually run testing devices. Tempering and testing is done by digital control units. If required, control, data acquisition and evaluation can be carried out with optionally available software. Depending on the requirements there are different device alternatives from 3 to 6 measuring stations. For testing at room temperature a cooling water connection is integrated by default. As needed, an external cooling unit can be attached. All components getting in contact with fluids are made from stainless steel or corrosion-resistant materials.

### Technical Data

Model	RP3	RP3T	RP3K	RP3K PC	RP6	RP6T
Article No.	40-602-001	40-602-002	40-602-006	40-602-008	40-602-004	40-602-005
Number of testing stations	3	3	3	3	6	6
Temperature Range [°C]	+30...+90	+30...+130	-10...+95	-10...+95	+30...+90	+30...+130
Temperature range [°C] with water cooling (RT = Room temperature)	RT...+90	RT...+130	Cooling integrated	Cooling integrated	RT...90	RT...+130
Temperature range [°C] with additional water circulation cooler	+10...+90	+10...+130	Cooling integrated	Cooling integrated	+10...+90	+10...+130
Temperature accuracy [°C]	± 1	± 0,5	± 0,2	± 0,2	± 1	± 0,5
Heating medium	Water	Water/Oil	Water	Water	Water	Water/Oil



### Dimensions and Connection

Model	RP3	RP3T	RP3K	RP3K PC	RP6	RP6T
Dimensions (WxDxH) [mm]	578 x 436 x 238	580 x 350 x 420	750 x 360 x 400	750 x 360 x 400	818 x 516 x 238	850 x 350 x 420
Weight [kg]	15	30	55	55	22	39
Bath volume [l]	14	20	26	26	29	40
Bath size (WxDxH) [mm]	350 x 290 x 140	480 x 300 x 160	350 x 300 x 200	350 x 300 x 200	590 x 350 x 140	750 x 300 x 200
Power [W]	1800	2300	2500	2500	2400	2300
Mains	230 / 115 V 50 / 60 Hz	230 / 115 V 50 / 60 Hz	230 / 115 V 50 / 60 Hz	230 / 115 V 50 / 60 Hz	230 / 115 V 50 / 60 Hz	230 / 115 V 50 / 60 Hz
Cooling coil	included	included	not necessary, with built-in cooling unit	not necessary, with built-in cooling unit	included	included
PC Extension Kit available	no	yes	no	yes	no	yes

### Accessories

incl.	Articlenumber	Description
-	40-051	Flat tip indenter 2,5 mm diameter (DIN 30 670)*
-	40-063	Flat tip indenter 6,35 mm diameter (ASTM G17)*
-	40-057	Additional weight 2,25 kg (DIN 30 670)*
-	40-064	Additional weight 4,36 kg (ASTM G17)*
-	60-005-003	Circulation chiller for penetrometer for pipes

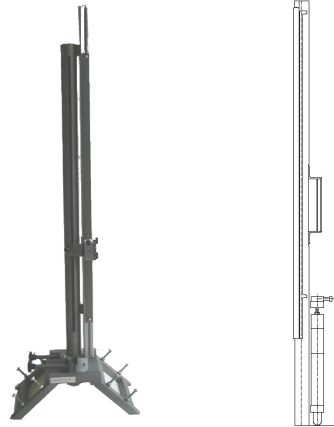
\* Note: The number of indenters and weights depends on the number of testing stations, e.g. for 3 testing stations there must be ordered 3 indenters and 3 weights.



## 42-200-200 Mobile impact tester for pipes - FW R 1000

### Standards

ASTM G14, DIN 30 670, DIN 53 373, DIN EN 12068



*For illustration only*

### Application

Mobile impact tester for testing the impact strength of pipe coatings

### Features

The manually operated impact tester is a stainless steel construction consisting of a slotted pipe with a scale. The falling height can be adjusted infinitely up to 1000 mm with an accuracy of 1 mm. Thus, the impact energy can be adjusted gradually. A standard falling bolt ( $\varnothing$  25 mm) and a standard set of weights falling masses belong to the scope of delivery. Falling bolts with different diameters and weights according to the required standards are available.

### Technical Data

Falling height	up to 1000 mm
Scale reading precision	1 mm
Falling bolt diameter	25 mm (standard falling bolt)
Max. falling weight	5000 g
Falling masses	408 g, 815 g, 1529 g, 3058 g (standard set of weights)
Impact energy	4 J, 8 J, 15 J, 30 J (at a falling height of 1000mm)



DIN EN  
ISO 9001



Deutsche  
Akkreditierungsstelle  
D-K-15093-01-00  
IEC 17025



### Dimensions and Connection

Dimensions (WxDxH)	approx. 100x100x1000 mm
Weight	approx. 15 kg
Mains	n.a.
Power	n.a.
Interfaces	n.a.
Air	n.a.
Cooling	n.a.
Others	n.a.

### Accessories

incl.	Articlenumber	Description
-	42-200-201	Prism for impact tester
-	42-208	Adapter for small pipes (needs 42-200-201)
-	42-202-004	Falling bolt 15 mm diameter
-	42-202-002	Falling bolt 16 mm diameter
-	42-202	Falling bolt 20 mm diameter
1	42-203	Falling bolt 25 mm diameter
-	42-207	Set of weights for mobile impact tester FW R 1000 (1x50 g; 1x100 g; 1x200 g; 1x250 g; 1x400 g)



## 51-... Gel Time Measurement Devices

### Standards

ASTM D3451, ASTM D3532, ASTM D4217, CAN/CSA-Z245.20, DIN 16 916, DIN 55 990, EN ISO 8130-6, ISO 21809-2



### Application

Instruments for determination of gel time and hardening characteristics of powder coatings and resins

### Features

The exact surface temperature control and the integrated digital stop watch enable the user to produce repeatable and comparable gel times. Using a measuring spoon the specimen is filled into the polished hollows of the tempered heating plate. Simultaneously the integrated stop watch is turned on. The test piece is stirred with a stirring needle until there are no threads when pulling out the needle. When this point is reached, the watch is stopped and the gel time is read off.

### Technical Data

Temperature control	micro processor controller, digital temperature display
Temperature range	+60 ... +250°C
Temperature accuracy	± 0.1 °C
Digital stop watch	1 sec ... 24 h

### Device configuration

Device	Geltest GT 16	Geltest GT 16	Geltest GT 16/20	Geltest GT 20	Geltest GT 20	Geltest GT 100
Polished hollows	1	4	2/2	1	4	plain plate
Diameter	16 mm	16 mm	2x16 mm 2x20 mm	20 mm	20 mm	100x100 mm
Item no.	51-100	51-100-001	51-103	51-104-002	51-104	51-108



## Dimensions and Connection

Dimensions (WxDxH)	450 x 220 x 240 mm
Weight	approx. 10 kg
Mains	230 V / 50 HZ (optional 115 V / 60 Hz)
Power	450 VA
Interfaces	n.a.
Air	n.a.
Cooling	n.a.
Others	n.a.

## Accessories

incl.	Item no.	Description
-	51-114	Dust cover with door made of acryl glass
-	51-126	Handle for stirring pins Ø 1 mm
-	51-125	Handle for stirring pins Ø 2 mm
-	51-127	Stirring pins made of stainless steel Ø 1 mm (1 pack = 100 pieces)
-	51-128	Stirring pins made of stainless steel Ø 2 mm (1 pack = 100 pieces)
-	51-130	Stirring pins made of glass Ø 2 mm (1 pack = 100 pieces)
-	51-131	Measuring spoon for samples 200 mg (±10 mg)
-	51-136	Cleaning scraper brass Ø 16 mm for hollows
-	51-137	Cleaning scraper brass Ø 20 mm for hollows



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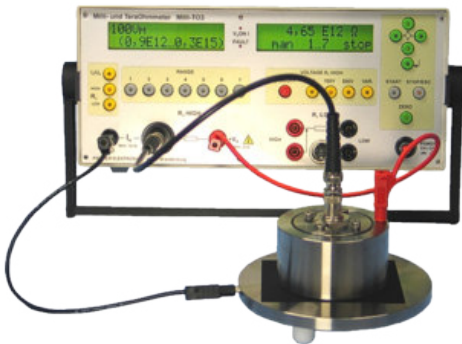


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DIN 30 670, DIN 30 672, DIN 30 674, DIN 30 678, EN 10 285, EN 10 329, prEN ISO 21 809-1, CAN/CSA Z245.21



### Application

COESFELD testing units series MTT/M are designed to measure the peeling resistance of coatings, e.g. pipes.

### Features

The testing machine is a stable construction, which can be used without mains supply. The tension (max 50 kg) is displayed directly at the tension gauge. The clamping device allows a quick chucking of a stripe of the pipe.

### Technical Data

Maximum width of coating stripe	50 mm
Clamping length of stripe	approx. 70 mm
Maximum peeling travel	200 mm
Force measuring	mechanical gauge 0-50 kg (for Newton: multiply by 9,81 m/s <sup>2</sup> )
Peeling angle	90°
Minimum Ø of working piece	300 mm
Maximum Ø of working piece	free, up to flat surface

### Dimensions and Connection

Dimensions (WxDxH)	550 x 300 x 850 mm
Weight	20 kg
Mains/Power	n.a.
Interfaces	n.a.
Air	n.a.
Cooling	n.a.
Others	n.a.



## 75-091-... – Cathodic Disbonding Tester

### Standards

ASTM G-8, ASTM G-42, DIN 30 670, DIN EN ISO 15711



### Application

The CD-Test unit tests the adhesion of plastic coatings on steel.

### Features

For testing, the coating of a sample (steel pipe) is deliberately damaged so that the steel surface is exposed. Then the sample is polarized cathodically towards an anode, i.e. the steel is connected to the negative pole of an adjustable power source (potentiostat of the CD-Tester). After testing, the coating is removed and the dimension of the disbonding is rated.

### Technical Data

Measuring stations	1 / 4 / 8 / 10 / 16 / 20 / 30 (depending on device configuration)
Nominal voltage range	5 V
Max. current	± 200 mA
Current ranges	200 mA / 20 mA / 2 mA (depending on device configuration)



### Dimensions and Connection

Dimensions (HxBxD)	4 measuring stations: 152 x 280 x 385 mm 8 measuring stations: 152 x 560 x 385 mm 16 measuring stations: 304 x 560 x 385 mm
Weight	6 / 12 / 18 kg (depending on device configuration)
Mains	230 V / 50 – 60 Hz or 110 V / 50 – 60 Hz
Power	1000 W
Interfaces	analog output
Air	n.a.
Cooling	n.a.
Others	n.a.

### Device configuration

incl.	Articlenumber	Description
-	75-091-018	Cathodic Disbonding Tester 4 measuring stations, $\pm 5$ V output; 200 mA
-	75-091-020	Cathodic Disbonding Tester 8 measuring stations, $\pm 5$ V output; 200 mA
-	75-091-021	Cathodic Disbonding Tester 16 measuring stations, $\pm 5$ V output; 200 mA

Other devices from 1 up to 30 measuring stations are also available.

### Accessories

incl.	Articlenumber	Description
-	75-091-101	Reference electrode calomel (Hg/HgCl)
-	75-091-113	Reference electrode Ag/AgCl
-	75-091-123	Titanium anode with platinum wire $\varnothing$ 0,5 mm
-	75-091-103	Titanium anode with platinum wire $\varnothing$ 0,6 mm
-	75-091-114	Titanium anode with platinum wire $\varnothing$ 0,8 mm
-	75-091-129	Titanium anode with platinum wire $\varnothing$ 1,0 mm
-	75-091-110	Platinum coated anode $\varnothing$ 8 x 120 mm
-	75-091-137	Test cup with cover made of acrylic glass $\varnothing$ 74 mm with lid, 2 drill-holes
-	75-091-115	Test cup with cover made of acrylic glass $\varnothing$ 74 mm with lid, 3 drill-holes
-	75-091-125	Test cup with cover made of acrylic glass $\varnothing$ 74 mm with lid, 4 drill-holes
-	75-091-112	Test cup with cover made of acrylic glass $\varnothing$ 80 mm
-	75-091-102	Test cup with cover made of acrylic glass $\varnothing$ 100 mm
-	75-091-124	Test cup with cover made of acrylic glass $\varnothing$ 100 x 145 mm
-	75-093-003	Sandbath, 50...300°C, 590 x 440 mm, 4000 W, 230 V
-	75-093	Sandbath up to 350°C, 580 x 430 mm, 4000 W, 230 V
-	75-093-001	Sandbath for 4 sample plates, $\hat{a}$ 100 x 100 mm
-	KABELMCP-3.0-T	Cell cable for MCP, L 3,0 m to 100°C
-	75-091-050	Datalogger for monitoring and recording for up to 4 measuring stations (to be integrated into newly purchased CD-Tester)*
-	75-091-058	Datalogger for monitoring and recording for up to 8 measuring stations (to be integrated into newly purchased CD-Tester)*
-	75-091-057	Datalogger for monitoring and recording for up to 16 measuring stations (to be integrated into newly purchased CD-Tester)*
-	75-091-059	Datalogger for CD-Tester 4-place device (for retrofitting of CD-Tester)*

Normally, the number of needed reference electrodes, test cups and titanium anodes is equal the number of measuring stations. Other dataloggers (for new devices and retrofitting) are also available on request.

\*Datalogging of two parameters, standard: voltage and temperature (selectively: current).  
For logging all three parameters, another logger is required (75-091-054).



## 40-602-... – Penetrometer for pipes

### Standards

ASTM G17, DIN 30 670, DIN 30 671, DIN 30 672, DIN 30 674, DIN 30 678, EN 10 285, EN 10 286, EN 10 287, EN 10 288, EN 10 329



### Application

Penetrometer to measure the indentation hardness of polymeric coated pipes and formed parts under influence of weight and temperature.

### Features

The pipe penetrometers are manually run testing devices. Tempering and testing is done by digital control units. If required, control, data acquisition and evaluation can be carried out with optionally available software. Depending on the requirements there are different device alternatives from 3 to 6 measuring stations. For testing at room temperature a cooling water connection is integrated by default. As needed, an external cooling unit can be attached. All components getting in contact with fluids are made from stainless steel or corrosion-resistant materials.

### Technical Data

Model	RP3	RP3T	RP3K	RP3K PC	RP6	RP6T
Article No.	40-602-001	40-602-002	40-602-006	40-602-008	40-602-004	40-602-005
Number of testing stations	3	3	3	3	6	6
Temperature Range [°C]	+30...+90	+30...+130	-10...+95	-10...+95	+30...+90	+30...+130
Temperature range [°C] with water cooling (RT = Room temperature)	RT...+90	RT...+130	Cooling integrated	Cooling integrated	RT...90	RT...+130
Temperature range [°C] with additional water circulation cooler	+10...+90	+10...+130	Cooling integrated	Cooling integrated	+10...+90	+10...+130
Temperature accuracy [°C]	± 1	± 0,5	± 0,2	± 0,2	± 1	± 0,5
Heating medium	Water	Water/Oil	Water	Water	Water	Water/Oil





### Dimensions and Connection

Model	RP3	RP3T	RP3K	RP3K PC	RP6	RP6T
Dimensions (WxDxH) [mm]	578 x 436 x 238	580 x 350 x 420	750 x 360 x 400	750 x 360 x 400	818 x 516 x 238	850 x 350 x 420
Weight [kg]	15	30	55	55	22	39
Bath volume [l]	14	20	26	26	29	40
Bath size (WxDxH) [mm]	350 x 290 x 140	480 x 300 x 160	350 x 300 x 200	350 x 300 x 200	590 x 350 x 140	750 x 300 x 200
Power [W]	1800	2300	2500	2500	2400	2300
Mains	230 / 115 V 50 / 60 Hz	230 / 115 V 50 / 60 Hz	230 / 115 V 50 / 60 Hz	230 / 115 V 50 / 60 Hz	230 / 115 V 50 / 60 Hz	230 / 115 V 50 / 60 Hz
Cooling coil	included	included	not necessary, with built-in cooling unit	not necessary, with built-in cooling unit	included	included
PC Extension Kit available	no	yes	no	yes	no	yes

### Accessories

incl.	Articlenumber	Description
-	40-051	Flat tip indenter 2,5 mm diameter (DIN 30 670)*
-	40-063	Flat tip indenter 6,35 mm diameter (ASTM G17)*
-	40-057	Additional weight 2,25 kg (DIN 30 670)*
-	40-064	Additional weight 4,36 kg (ASTM G17)*
-	60-005-003	Circulation chiller for penetrometer for pipes

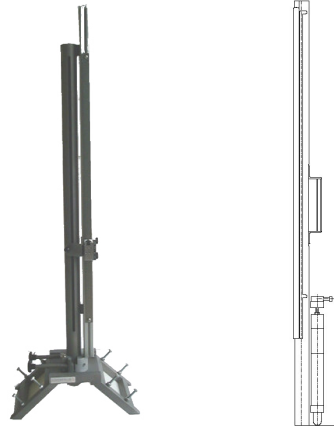
\* Note: The number of indenters and weights depends on the number of testing stations, e.g. for 3 testing stations there must be ordered 3 indenters and 3 weights.



## 42-200-200 Mobile impact tester for pipes - FW R 1000

### Standards

ASTM G14, DIN 30 670, DIN 53 373, DIN EN 12068



*For illustration only*

### Application

Mobile impact tester for testing the impact strength of pipe coatings

### Features

The manually operated impact tester is a stainless steel construction consisting of a slotted pipe with a scale. The falling height can be adjusted infinitely up to 1000 mm with an accuracy of 1 mm. Thus, the impact energy can be adjusted gradually. A standard falling bolt ( $\varnothing$  25 mm) and a standard set of weights falling masses belong to the scope of delivery. Falling bolts with different diameters and weights according to the required standards are available.

### Technical Data

Falling height	up to 1000 mm
Scale reading precision	1 mm
Falling bolt diameter	25 mm (standard falling bolt)
Max. falling weight	5000 g
Falling masses	408 g, 815 g, 1529 g, 3058 g (standard set of weights)
Impact energy	4 J, 8 J, 15 J, 30 J (at a falling height of 1000mm)



DIN EN  
ISO 9001



Deutsche  
Akkreditierungsstelle  
D-K-15093-01-00  
IEC 17025



### Dimensions and Connection

Dimensions (WxDxH)	approx. 100x100x1000 mm
Weight	approx. 15 kg
Mains	n.a.
Power	n.a.
Interfaces	n.a.
Air	n.a.
Cooling	n.a.
Others	n.a.

### Accessories

incl.	Articlenumber	Description
-	42-200-201	Prism for impact tester
-	42-208	Adapter for small pipes (needs 42-200-201)
-	42-202-004	Falling bolt 15 mm diameter
-	42-202-002	Falling bolt 16 mm diameter
-	42-202	Falling bolt 20 mm diameter
1	42-203	Falling bolt 25 mm diameter
-	42-207	Set of weights for mobile impact tester FW R 1000 (1x50 g; 1x100 g; 1x200 g; 1x250 g; 1x400 g)



## 51-... Gel Time Measurement Devices

### Standards

ASTM D3451, ASTM D3532, ASTM D4217, CAN/CSA-Z245.20, DIN 16 916, DIN 55 990, EN ISO 8130-6, ISO 21809-2



### Application

Instruments for determination of gel time and hardening characteristics of powder coatings and resins

### Features

The exact surface temperature control and the integrated digital stop watch enable the user to produce repeatable and comparable gel times. Using a measuring spoon the specimen is filled into the polished hollows of the tempered heating plate. Simultaneously the integrated stop watch is turned on. The test piece is stirred with a stirring needle until there are no threads when pulling out the needle. When this point is reached, the watch is stopped and the gel time is read off.

### Technical Data

Temperature control	micro processor controller, digital temperature display
Temperature range	+60 ... +250°C
Temperature accuracy	± 0.1 °C
Digital stop watch	1 sec ... 24 h

### Device configuration

Device	Geltest GT 16	Geltest GT 16	Geltest GT 16/20	Geltest GT 20	Geltest GT 20	Geltest GT 100
Polished hollows	1	4	2/2	1	4	plain plate
Diameter	16 mm	16 mm	2x16 mm 2x20 mm	20 mm	20 mm	100x100 mm
Item no.	51-100	51-100-001	51-103	51-104-002	51-104	51-108



## Dimensions and Connection

Dimensions (WxDxH)	450 x 220 x 240 mm
Weight	approx. 10 kg
Mains	230 V / 50 HZ (optional 115 V / 60 Hz)
Power	450 VA
Interfaces	n.a.
Air	n.a.
Cooling	n.a.
Others	n.a.

## Accessories

incl.	Item no.	Description
-	51-114	Dust cover with door made of acryl glass
-	51-126	Handle for stirring pins Ø 1 mm
-	51-125	Handle for stirring pins Ø 2 mm
-	51-127	Stirring pins made of stainless steel Ø 1 mm (1 pack = 100 pieces)
-	51-128	Stirring pins made of stainless steel Ø 2 mm (1 pack = 100 pieces)
-	51-130	Stirring pins made of glass Ø 2 mm (1 pack = 100 pieces)
-	51-131	Measuring spoon for samples 200 mg (±10 mg)
-	51-136	Cleaning scraper brass Ø 16 mm for hollows
-	51-137	Cleaning scraper brass Ø 20 mm for hollows



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Since our establishment in 1968 as a technical service organisation we have successively expanded our activities to order related production and consequently to small batch series. Today our machines are successfully installed all over the world. This is a indication for our continuity and reliability on the one hand; on the other hand it is a proof of our aims to always find the optimal solution for our customers.

At Coesfeld, we have managed to optimize the relation of supplier network, vertical integration, core competences, costs of production and process reliability.

Goal oriented and pragmatic processes form our organisation. This approach is formulated in our ISO 9001 certified Quality Management System covering our production, service and calibration services, which are performed by our ISO/IEC 17025:2005 accredited calibration laboratory CaLab.

That is why we are confident to claim that we will provide you the more intelligent solution. We will be happy to demonstrate this to you.

Coesfeld GmbH & Co. KG  
Tronjestr. 8  
44319 Dortmund

Tel. +49 (0) 231 91 29 80 0  
Fax. +49 (0) 231 17 98 85

[mail@coesfeld.com](mailto:mail@coesfeld.com)  
[www.coesfeld.com](http://www.coesfeld.com)



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