75-091-… – Cathodic Disbonding Tester

Standards

ASTM G-8, ASTM G-42, CSA Z-245, DIN 30 670, DIN EN ISO 15711, ISO 21809 Part 1 Annex H

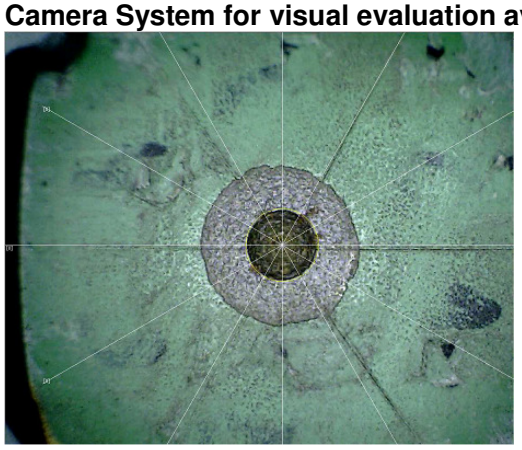
Application

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

Features

- **Simple** voltage is set once for a channel, then the cell is connected voltage remains until changed by the user
- **Precise** CD-Tester keeps the potential precise to the millivolt. Current measurement tolerance is 0.2%
- **Reliable** proven sturdiness and reliability for more than 20 years. Proven analog technique. Short-time disruptions of the power net do not disturb the measurement. Once the power line is stable again, MCP CaDis continues its work reliably.
- **Provable** Our logger Windows-software logs potential, current, and optionally temperature
- **Comfortable** To each channel, a Pt 100 thermometer can be attached when specifications require the logging of temperature.

Camera System for visual evaluation available (75-091-051)



Camera zooms into inspected area.

Damage is to be recognized as a circle, which is divided into segments at an even angle (picture: 12 segments, 30° angle)

For each segment the depth of disbonding is measured in mm from the bore hole to the surface defect.

Technical Data

Measuring stations	1 / 4 / 8 / 10 / 16 / 20 / 30 (depending on device configuration)
Nominal voltage range	-5 to 0 V
Max. current	± 200 mA
Current ranges	200 mA
Datalogger	highly precise, extreme low-noise USB data loggers Incl. Software, records saved in CSV format loggers are mounted inside our potentiostat

Dimensions and Connection

Dimensions (HxWxD)	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	analogue output, USB (optional)

Device configuration (from 1 up to 30 measuring stations available on request)

incl.	Item no.	Description
-	75-091-023	Cathodic Disbonding Tester 4 measuring stations, ± 5 V output; 200 mA
-	75-091-024	Cathodic Disbonding Tester 8 measuring stations, ± 5 V output; 200 mA
-	75-091-025	Cathodic Disbonding Tester 16 measuring stations, ± 5 V output; 200 mA
-	75-091-050	Datalogger/Software for monitoring and recording for up to 8 values (standard parameters: 4x voltage and 4x current – For logging temperature additional accessories are required)
-	75-091-058	Datalogger/Software for monitoring and recording for up to 16 values (standard parameters: 8x voltage and 8x current – For logging temperature additional accessories are required)
-	75-091-065	Temperature measuring board for 8 measuring stations (enables the datalogger to log temperature)
-	75-091-067	Pt100 probe 5-pol for use inside of the test cup 1 required per measuring station

Accessories

incl.	Item no.	Description
-	75-091-101	Reference electrode calomel (Hg/HgCl)
-	75-091-113	Reference electrode Ag/AgCl
-	75-091-123	Titanium anode with platinum wire Ø 0,5 mm
-	75-091-103	Titanium anode with platinum wire Ø 0,6 mm
-	75-091-114	Titanium anode with platinium wire Ø 0,8 mm
-	75-091-129	Titanium anode with platinum wire Ø 1,0 mm
-	75-091-110	Platinum coated anode Ø 8 x 120 mm
-	75-091-137	Test cup with cover made of acrylic glass Ø 74 mm with lid, 2 drill-holes
-	75-091-115	Test cup with cover made of acrylic glass Ø 74 mm with lid, 3 drill-holes
-	75-091-125	Test cup with cover made of acrylic glass Ø 74 mm with lid, 4 drill-holes
-	75-091-112	Test cup with cover made of acrylic glass Ø 80 mm
-	75-091-102	Test cup with cover made of acrylic glass Ø 100 mm
-	75-091-124	Test cup with cover made of acrylic glass Ø 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, á 100 x 100 mm
-	KABELMCP-3.0-T	Cell cable for MCP, L 3,0 m to 100°C
-	75-091-051	Camera System for visual evaluation