

Material Quality Tester - MRP29HY

Measure the surface quality of sheet metal and plates due to international regulations as DVS 2929

High precision resistance meters

Special Test Equipment

The surface quality and the efficiency in surface conditions of sheet metal / plates can measure with the resistance measurement system MRP29HY.

The MRP29HY consists of a micro-ohmmeter and a hydraulic press, the engineering principle is based on the 'DEUTSCHEN VEREINIGUNG FÜR SCHWEISSTECHNIK e.V.' data sheet for quality evaluation on sheet metal.

It is important for every application where the reliability is dependent from the surface quality. On top priority is **welding of sheet metal** (e.g. after etching, and brushing) in the automotive and aircraft industry, but also surface treatment as for example lacquer and splicing.

You can measure the contact resistance on single sheet metal or overlap sheet metal e.g. aluminum or corresponding alloy. But it is also possible to measure other material. One can set all important parameter for another metal or measuring procedure (e.g. pressure).

Especially aluminum has the property to react with oxygen in the ambient air, these results in an oxide film. The oxide has a high effect on the regularity and repeatability of welded connections or the homogeneity of coatings. But oil and other pollutions have the same effect.

The measuring method measures the **contact /surface resistance** of the sheet metal under high pressure (typ. 7.5 kN) with a standardized convex electrode and a measurement current of 10 A.

The test sequence depends on the selected **DVS2929-method** with different waiting times under high pressure and result averaging with the required number of measurements.

The initial resistance of the system is determined before and after each test series. This leads to very accurate results and a good detection of the quality of sheet surfaces represented by the contact resistance.

Specifications

Microohmmeter:	special, integrated
Autom. Ranges:	100.0 $\mu\Omega$ / 1000 $\mu\Omega$
Effective range:	up to 1800 $\mu\Omega$
Uncertainty:	0.05% of reading +/- 2d
Displayed Resolution:	0.1 $\mu\Omega$, internal 0.01 $\mu\Omega$ (10 n Ω)
Display:	Color, numerical, graphically
Current:	10 A pure DC (selectable*)
Measuring methods:	DIN EN ISO 18594:2007 DVS 2929-1 v2007, DVS 2929-0
Thickness of sheet metal:	0.10 mm to 4 mm
Electrode distance:	5 mm, electrode radius 300 mm
Sheet metal dimension:	typ. 150 mm width unlimited length 300 mm width by wheeling it 180°
Laminating pressure:	7.5 kN (adjustable 1 ... 10 kN*)
Resistance control:	by calib. external shunt*
Force control:	by 4-20mA strain gauge sensor
Interfaces:	LAN, 3 x USB (Printer, Barcode reader, XY-Positioning table**)
Div. Safety directives e.g.:	EG:2006/42/-05-17 EG:2004/108/-12-15 EG:2006/95/-12-12 EG:2007/42/-03-16
Weight:	ca. 45 kg
Dimensions:	ca. 385x500x530 mm (WxHxD)
Power Supply (Mains):	90 ... 264VAC, 6.5A PFC
Pressure generation:	Closed hydraulic system

* Option

** Option, depends on XY-hardware



Resistance spot-, projection- and seam-welding - Method for determining the transition resistance on aluminium, steel and other metals/materials

DIN EN ISO 18594:2007-06

DVS 2929

Questions?

phone: +49 (0)3328 / 3179 - 0

fax: +49 (0)3328 / 3179 - 10

email: sales@schuetz-messtechnik.com

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SCHUETZ
MESSTECHNIK

SCHUETZ MESSTECHNIK GMBH, Rheinstrasse 7D, D-14513 Teltow

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