

# PHASCOPE® PMP10 DUPLEX

Hand-held instrument for measuring the thickness of duplex coatings



## Hand-held instrument for measuring tasks specific to the automotive industry

The PHASCOPE® PMP10 DUPLEX – along with the ESG20 probe – was specially developed for the automotive industry to measure duplex coatings (paint/zinc on steel or iron). The thicknesses of the paint and zinc layers are recorded in a single measurement process and displayed separately on the display. Due to the automatic substrate material recognition, paint layers can also be measured on aluminium without requiring an additional probe.

### Applications

- Sheet metal processing
  - Paint/zinc on iron, e.g. thin EPD coatings
  - Paint on aluminium
  - Paint on steel
- Brake line tubing
- Wire (mesh and lattice), e.g. shopping trolleys



Car body after the painting process



EPD painting process

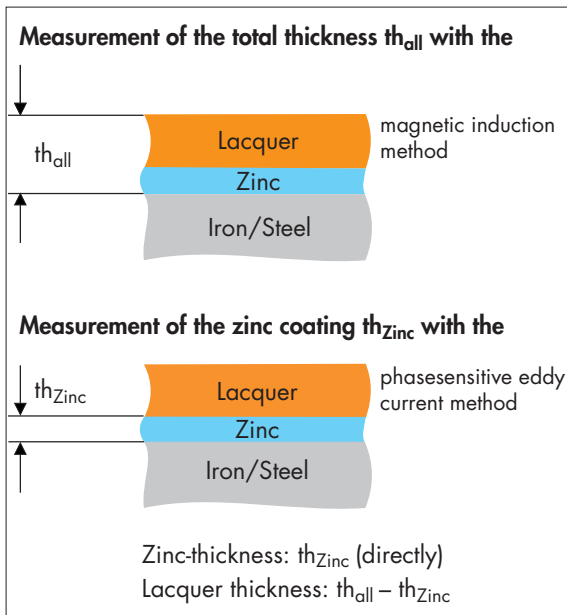
### Software FISCHER DataCenter

Indispensable for the quick and easy transfer of data from the PHASCOPE® PMP10 DUPLEX to a computer, FISCHER DataCenter software is a powerful tool that also offers extensive graphic display and statistical analysis functions ideal for quality control: statistical process control charts, cumulative frequency diagrams and FISCHER's own FDD® (factory diagnosis diagram). The built-in report editor enables measurement data to be conveniently processed, archived and printed out as individual inspection reports.

**The PHASCOPE® PMP10 DUPLEX combines three measurement methods**

- **Magnetic induction method DIN EN ISO 2178**  
For measuring the overall thickness of paint and zinc coatings on iron
- **Amplitude-sensitive eddy current method DIN EN ISO 2360**  
For measuring a single paint layer on aluminium
- **Phase-sensitive eddy current method ISO 21968**  
For measuring zinc coatings on iron, irrespective of overlying paint layers

For the measurement of zinc and paint coatings, the magnetic induction method and the phase-sensitive eddy current method are used in parallel (duplex), so that the individual layers of paint and zinc can be calculated separately.



With aluminium as substrate material an automatic switch to the amplitude-sensitive eddy current method occurs and the thickness of the paint layer is displayed.

**Instrument features**

- DUPLEX measuring mode: display of paint on zinc on iron or paint on aluminium
- DUAL measuring mode: display of total thickness (paint and zinc) on iron or paint on aluminium
- Extensive evaluation and statistics functions
- Outlier control and tolerance monitoring options
- Various languages to choose from
- Battery and/or continuous operation via plug-in charger (included)
- Storage of up to 20,000 readings
- Data transfer via RS232 interface

**Standard Content of shipment**

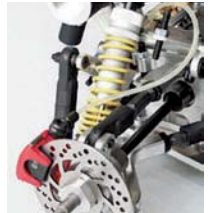
- PHASCOPE® PMP10 DUPLEX with accessories
- ESG20 probe
- FISCHER DataCenter software

Order no.

- 603-689
- 603-690
- 604-575



The ESG20 probe



Typical applications: shopping trolley and brake line tubing

**Technical data**

Measurement method	Magnetic induction	Magnetic induction and phase-sensitive	Amplitude-sensitive
Measuring mode	DUAL	DUPLEX	DUPLEX or DUAL
Measuring application	NE/Fe	Iso/Zn/Fe	Iso/NE
Measurement range	0-700 $\mu\text{m}$	Iso 0-550 $\mu\text{m}$ Zn 0-150 $\mu\text{m}$	0-2000 $\mu\text{m}$
Trueness based on FISCHER standards	0-100 $\mu\text{m} \leq 1 \mu\text{m}$ 100-400 $\mu\text{m} \leq 1 \%$ 400-700 $\leq 2\%$	Zn 2-30 $\mu\text{m} \leq 0.5 \mu\text{m}$ Iso 2-100 $\mu\text{m} \leq 1 \mu\text{m}$ Iso 100-500 $\mu\text{m} \leq 1\%$	5-100 $\mu\text{m} \leq 2 \mu\text{m}$ 100-2000 $\mu\text{m} \leq 2 \%$
Repeatability precision based on FISCHER standards	0-100 $\mu\text{m} \leq 0.5 \mu\text{m}$ 100-700 $\mu\text{m} \leq 0.5\%$	Iso 2-100 $\mu\text{m} \leq 0.5 \mu\text{m}$ Iso 100-500 $\mu\text{m} \leq 0.5 \%$	5-100 $\mu\text{m} \leq 0.5 \mu\text{m}$ 100-2000 $\mu\text{m} \leq 0.5 \%$