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 DUPEX – 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

**Software FISCHER DataCenter**
Indispensable for the quick and easy transfer of data from the PHASCOPE® PMP10 DUPEX 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

**Typical applications:**

- Shopping trolley and brake line tubing

---

**Technical data**

<table>
<thead>
<tr>
<th>Measurement method</th>
<th>Magnetic induction</th>
<th>Magnetic induction and phase-sensitive</th>
<th>Amplitude-sensitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring mode</td>
<td>DUAL</td>
<td>DUPLEX</td>
<td>DUPLEX or DUAL</td>
</tr>
<tr>
<td>Measuring application</td>
<td>NE / Fe</td>
<td>Iso / Zn / Fe</td>
<td>Iso / NE</td>
</tr>
<tr>
<td>Measurement range</td>
<td>0 - 700 µm</td>
<td>Iso 0 - 550 µm</td>
<td>Zn 0 - 150 µm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 - 2000 µm</td>
<td></td>
</tr>
<tr>
<td>Trueness based on FISCHER standards</td>
<td>0 - 100 µm ≤ 1 µm</td>
<td>Zn 2 - 30 µm ≤ 0.5 µm</td>
<td>5 - 100 µm ≤ 2 µm</td>
</tr>
<tr>
<td></td>
<td>100 - 400 µm ≤ 1 %</td>
<td>Iso 2 - 100 µm ≤ 1 µm</td>
<td>100 - 2000 µm ≤ 2 %</td>
</tr>
<tr>
<td></td>
<td>400 - 700 µm ≤ 2 %</td>
<td>Iso 100 - 500 µm ≤ 1 %</td>
<td></td>
</tr>
<tr>
<td>Repeatability precision</td>
<td>0 - 100 µm ≤ 0.5 µm</td>
<td>Iso 2 - 100 µm ≤ 0.5 µm</td>
<td>5 - 100 µm ≤ 0.5 µm</td>
</tr>
<tr>
<td></td>
<td>100 - 700 µm ≤ 0.5 %</td>
<td>Iso 100 - 500 µm ≤ 0.5 %</td>
<td>100 - 2000 µm ≤ 0.5 %</td>
</tr>
</tbody>
</table>