Paint Inspection Gauge P.I.G. 455

A small instrument with great capabilities

LED for optimum specimen illumination
Low current consumption

testing equipment for quality management

DIN 50986
DIN EN ISO 2808
ASTM D 4138
AS 1580 Meth. 408.1

For layer thickness measurements on base materials such as wood, concrete or plastics
Purpose and Application

The P.I.G. 455 is a paint inspection gauge which is suitable for use wherever conventional electro-magnetic measuring techniques are ineffective, namely for coatings on wood, concrete, plastics and other non-metallic substrates.

Testing Principle

Testing with the P.I.G. 455 is based on the standardized wedge cut procedure: The coating is cut through at a defined angle in such a way that the cut penetrates the substrate. The layer thickness (s) is calculated on the basis of the slope projection (b) of the cut face, determined using a measuring microscope, and the cutting angle (α). Similarly, the individual layer thickness of multilayer systems can be ascertained.

Design and Function

The P.I.G. 455 consists of a black painted aluminium block which accommodates the following functional elements:

- Exchangeable carbide tip with precision-ground angular cutting blade.
- Measuring microscope with a magnification of 50 and a reticle (2 mm with 1/100 division), which is also suitable for inspection tasks.
- Two pairs of support pins to hold the measuring microscope securely and guide the carbide tip.
- Battery compartment for 9 V battery block
- Combination of LED and fibre-optic light guide for optimum specimen illumination at low current consumption
- Key for the integrated illumination

Technical Data

Measuring range (standard): 2 - 200 µm
Dimensions: 110 x 85 x 25 mm
Net weight: 0.4 kg
Power supply: 9 V battery
Light source: LED diffuse white
Measuring microscope:
- Magnification: 50
- Reticle 2 mm (1/100 division)

For adhesion tests in accordance with AS 1580 Meth. 408.1, the width of the area where the coating has flaked off during the cutting operation is related to projection b.

<table>
<thead>
<tr>
<th>Carbide tip</th>
<th>Nr. 1</th>
<th>Nr. 4</th>
<th>Nr. 5</th>
<th>Nr. 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range (µm)</td>
<td>20 - 2000</td>
<td>10 - 1000</td>
<td>5 - 500</td>
<td>2 - 200</td>
</tr>
<tr>
<td>Cutting angle α</td>
<td>45°</td>
<td>26.6°</td>
<td>14°</td>
<td>5.7°</td>
</tr>
<tr>
<td>Factor (µm/sc.div.)</td>
<td>20</td>
<td>10</td>
<td>5</td>
<td>2</td>
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Ordering Information

<table>
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<tr>
<th>Order No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>0098.01.31</td>
<td>Paint Inspection Gauge P.I.G. 455</td>
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</table>

Scope of delivery includes:
- Carbide tip No. 6
- 9 V battery
- Marking pen
- Leather case
- Operating instructions

Accessories / Spares

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Description</th>
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<tr>
<td>910924741</td>
<td>Special Tip No. 1 for layer thicknesses up to 2000 µm</td>
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<tr>
<td>910927441</td>
<td>Special Tip No. 4 for layer thicknesses up to 1000 µm</td>
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<td>910927641</td>
<td>Special Tip No. 5 for layer thicknesses up to 500 µm</td>
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<tr>
<td>910927541</td>
<td>Special Tip No. 6 for layer thicknesses up to 200 µm</td>
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Subject to technical modifications.
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