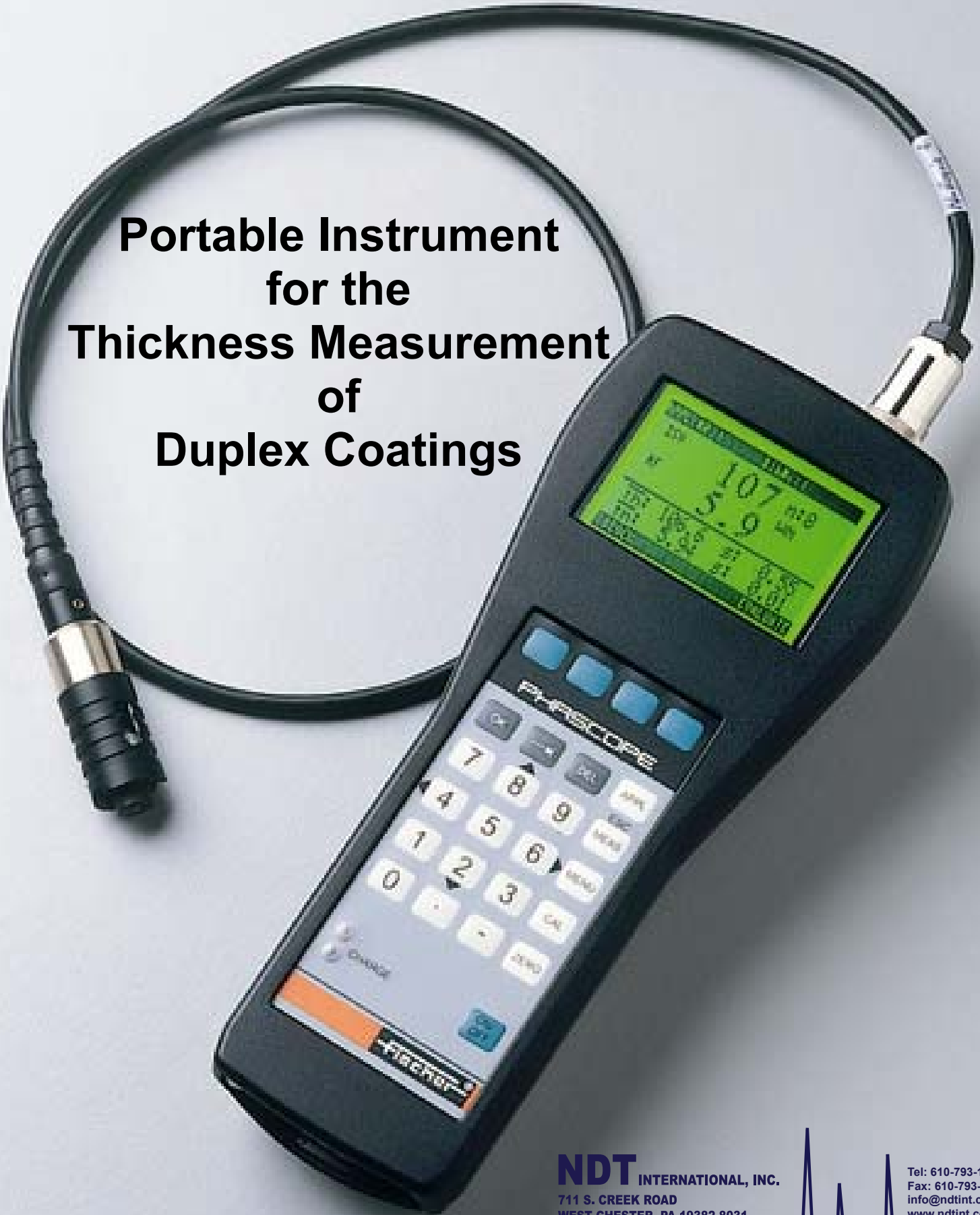
# PHASCOPE® PMP10 DUPLEX

Fischer®

## Portable Instrument for the Thickness Measurement of Duplex Coatings

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# Function, Features, Application

### Principle of Operation

The following measuring methods are integrated in the PHASCOPE® PMP10 DUPLEX:

- Magnetic induction method (MI) according to DIN EN ISO 2178.
- Amplitude-sensitive eddy current method (AEC) according to DIN EN ISO 2360.
- Phase-sensitive eddy current method (PEC) according to ISO/DIS 21968 (draft).

Using the PEC method, the thickness of a zinc coating on iron can be determined regardless of the "lift-off" (Figure 1), i.e., from the distance between the probe and the zinc coating, which may be "caused" by a lacquer coating, for example. If, in addition, the overall thickness of the lacquer and zinc coating is measured using the MI method, then the individual layer thicknesses can be computed easily from the two measurements (Figure 2).

Specifically for applications in the field of auto body painting with mixed design, the AEC method is available additionally for the measurement of the lacquer thickness on aluminum sheet.

### Features

- Large backlit LCD
- Alphanumeric data entry
- Menu-aided operator prompts
- Battery operation
- Automatic measurement upon probe contact
- Automatic selection of measuring method corresponding to the substrate material (MI+PEC or AEC)
- Memory for a maximum of 20,000 measurements in up to 100 applications, divided into a maximum of 4,000 blocks
- Statistical evaluation
- Selectable languages
- Bi-directional RS 232 interface

### Application

The PHASCOPE® PMP10 DUPLEX has been developed for the precise measurement of the individual layer thicknesses of duplex coatings (lacquer/zinc coating system on steel or iron). Due to the novel phase-sensitive eddy current method, it is capable of measuring very precisely zinc coatings with thicknesses between 0 µm and about 100 µm. In this manner, it is far superior to conventional eddy current coating thickness measuring instruments that are to reduce the influence of a fluctuating zinc coating on the measurement of the lacquer thickness by a special "phase adjustment" or an increased measurement frequency. In particular thin zinc coatings in a range of 0 – 10 µm on auto bodies can be measured very reproducibly.

Typical applications are (Figure 3) in the quality assurance of

- Auto body painting
- Shopping carts and similar
- Brake line tubes and many others

Zinc alloy coatings such as ZnNi or ZnFe cannot be measured due to their low electr. conductivity. The same applies to hot-dip galvanized coatings due to diffusion coatings that are typically present and have different electr. conductivities compared to pure zinc coatings.

### Order Informationen

| *Item* | *Order-No.* |
|---|---|
| PHASCOPE® PMP10 DUPLEX | 603-689 |
| MEAS. PROBE ESG20 | 603-690 |
| ***Accessories*** | |
| CARRYING CASE MPG | 603-303 |
| INTERFACE CONNECTION SET MP | 602-341 |
| SOFTWARE PC-DATEX | 602-465 |
| SOFTWARE PC-DATACC | 603-028 |
| PRINTER FMP3040 | 602-890 |
| PRINTER PAPER | 600-410 |

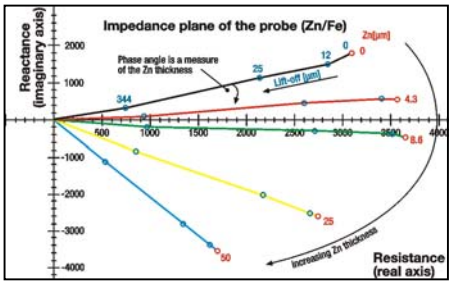


Figure 1

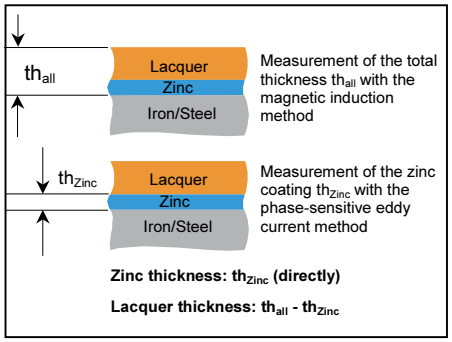


Figure 2

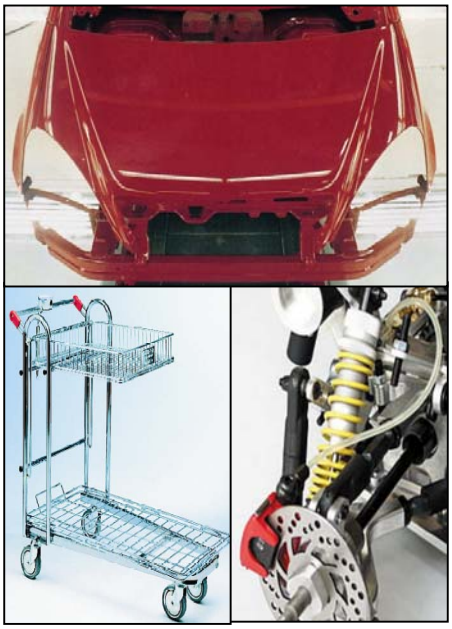

Figure 3

 Subject to changes **902-071** Printed in Germany **02/05**

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