

MIT-SCAN-T3

Precise and non-destructive determination of layer thickness on asphalt and concrete in compliance with German Standard TP D-StB 12, European Standard EN 12697-36 and US AASHTO Standard T359-16

THE SMART PRECISION



MIT-SCAN-T3

Precise and non-destructive determination of layer thickness on asphalt and concrete

The measuring device MIT-SCAN-T3 was developed for the non-destructive and precise analysis of asphalt and concrete pavements. Unbound courses of the upper pavement structure (frost protection layer and aggregate base layer) can also be assessed.

AREAS OF APPLICATION

- ✓ Quality assurance self-monitoring
- ✓ Contract compliance audits
- ✓ Site acceptance testing
- ✓ Road wear testing
- ✓ Warranty audits
- ✓ Road maintainability audits
- ✓ Road rehabilitation audits

ADVANTAGES



Rapid and efficient

- Immediately ready for use
- No on-site calibration necessary
- Fast reflector location (search mode)
- No complex search of reflector center
- Automatic plate detection (reflector)
- Measurement including analysis in less than one minute (measuring mode)



Cost-effective

- Durable device with a long service life
- Suited to construction environments
- Self-assessment and quality assurance during paving
- Effective control of paving deviations
- Swift inspections of large road sections



Precise

- Very high measurement accuracy: $\pm(1 \text{ mm} + 0.5 \% \text{ of measured value})$
- High resolution (800 data points per measurement)
- Exact and reproducible measurement results



Non-destructive

- Measurement by simple run over the pavement surface
- No requirement for mechanical core drilling



Flexible

- Robust and compact hand-held instrument
- Safe transport in high-quality MIT-SCAN-T3 carrying case (car suitable)
- Measures thickness on hot asphalt, milled surfaces and concrete
- Measurement even possible on moist and wet layers



Sustaining

- Non-damaging to pavement surface
- Mindful of nature and environment
- Emission-free

MIT-SCAN-T3

Robust and compact hand-held device for precise and rapid on-site inspections of road pavements



Intuitive and user-friendly operation



Ergonomical and lightweight, GPS module, powerful battery



Automatic plate detection, user-friendly menu, backlit display



Variably adjustable telescopic handle up to 140 cm



Robust sensor unit for use also on hot asphalt and in wet weather



PRECISION

MADE IN
GERMANY

ACCESSORIES

The following accessories are available for the MIT-SCAN-T3



Wheeled spacer
For functionality testing



USB flash drive
For data transfer to PC



Headphones
Acoustic signal output



Reflectors
Choice of compact and robust reflectors



Charger & second battery
For external charging of a second battery



Carrying case
High-quality and sturdy, car suitable

SOFTWARE



MIT's project software

MIT's project software enables additional processing of measurement data at the PC. The program processes measured data from both two-layered and three-layered road constructions:

- ✓ Preparation of site plans at the PC
- ✓ Automatic processing of measured data
- ✓ Correction of construction project specifications
- ✓ Data transfer via USB storage device
- ✓ Backup and archiving of measurement data
- ✓ Control of measurement points using GPS
- ✓ Generation of form sheets (acc. to TP D-StB 12)



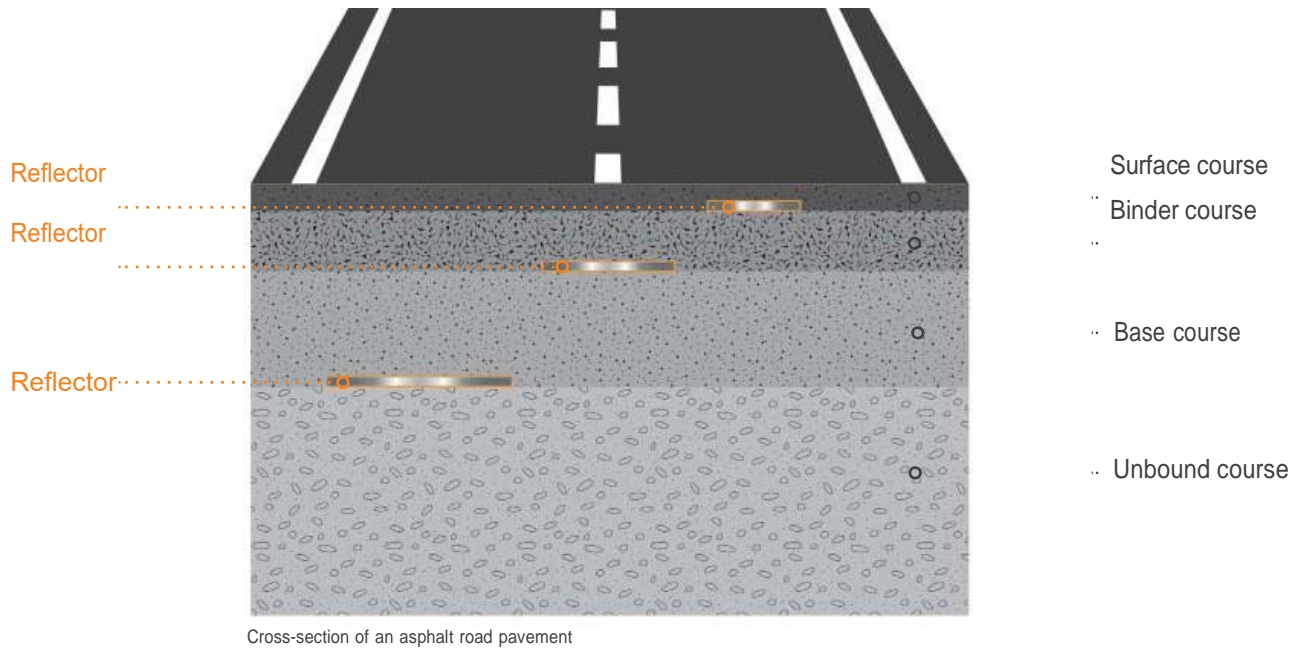
MIT-ProAsphalt

MIT's evaluation software supports users in the calculation and evaluation of construction projects:

- ✓ Reading of measurement data in different formats
- ✓ Fast & easy parameter input
- ✓ Reliable evaluations
- ✓ Generation of reports

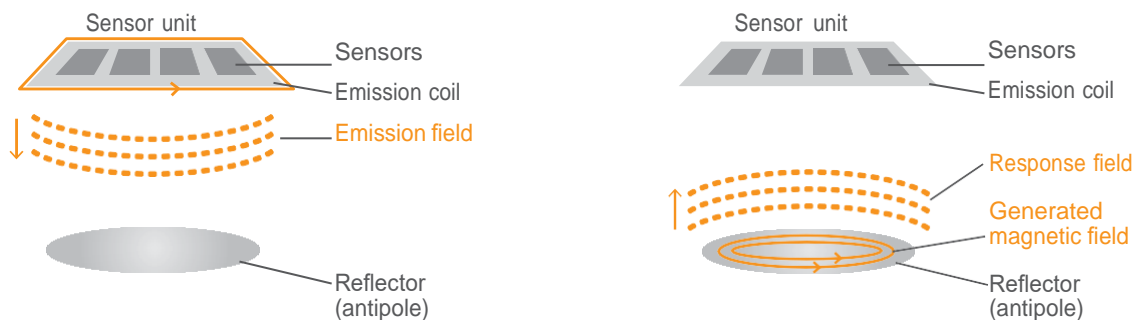
PRINCIPLE OF FUNCTION

The MIT-SCAN-T3 works with a further developed technology based on the eddy current principle called **pulse induction**. The device's outstanding characteristics are high accuracy and stability in combination with a low susceptibility to interference. This is possible through the collection of large volumes of measurement data. The electromagnetic thickness measurements require metal reflectors to be installed beneath the layers to be measured. The metal reflectors are placed during the paving process directly in front of the machine.



MEASUREMENT

Pulse induction utilizes the characteristics of electromagnetic fields and their transmission.



Emission field

First, the sensor unit in the MIT-SCAN-T3 generates a time-dependent magnetic field, the emission field. As it spreads out, this field reaches the installed measurement reflector, the antipole.

Response field

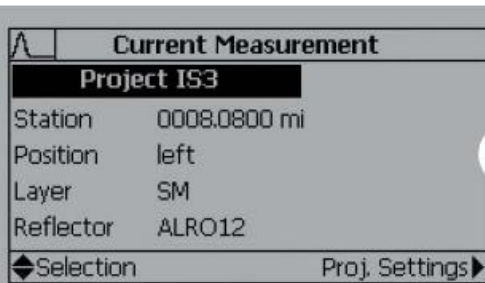
At contact, it induces eddy currents inside the antipole, which again in turn generates a time-dependent magnetic field.

This response field spreads out and is received by the MIT-SCAN-T3 device's sensor unit. The sensors detect and record the time-dependent decay of the response field. From this data, the MIT-SCAN-T3 quickly, accurately and non-destructively calculates the layer thickness – measured from the surface of the installed reflector up to the road surface top.

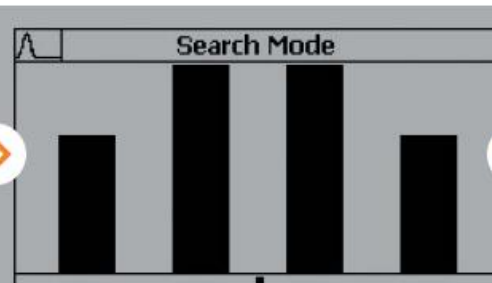
MEASUREMENT PROCEDURE

Precise and non-destructive determination of layer thickness on concrete and asphalt in less than a minute

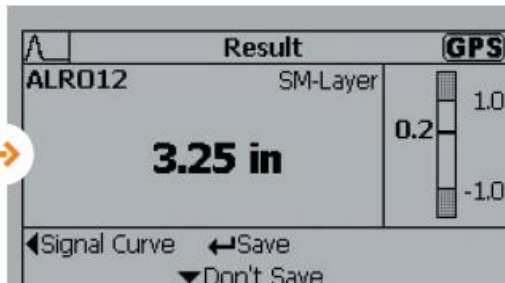
Measurement mode



Search mode



Result display



SPECIFICATIONS

Measurement range	1.5 to 50 cm based on reflector type
Measurement accuracy	$\pm(1 \text{ mm} + 0.5 \% \text{ of measured value})$
Resolution	1 mm
Asphalt temperature	up to 110 °C
Operating temperature	-10 °C to +50 °C
Memory capacity	up to 5,000 data sets
PC connectivity	USB connection, data transfer via MIT's project software to MS Excel or MIT-ProAsphalt
Power supply	NiMH battery 12V/2Ah
Battery life	8 hours or approx. 1,000 measurements
Recharge time	1.5 hours
Dimensions	Device: 75 cm x 40 cm x 26 cm Carrying case: 85 cm x 50 cm x 35 cm
Weight	Net weight: 4 kg (device) Gross weight: 18 kg including packaging and accessories



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