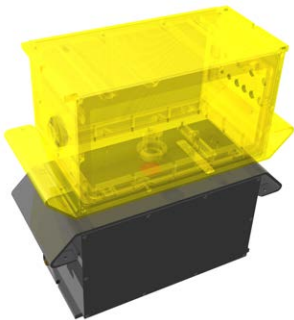


## Optoscope WLI-R-UV/VIS

### Overview



The Optoscope WLI-R-UV/VIS sensor complements the sensor portfolio of Mahlo's quality control system Qualiscan QMS in the field of white light interference measurement. This sensor variant is a further development of the proven Optoscope WLI sensor and measures the thickness and film thickness of foils and monofoils and their coatings without contact. As a specialist for very thin films with clear and slightly cloudy coatings, it solves tasks that pose challenges to conventional measurement techniques.

### Measuring principle

If clear or slightly opaque thin coatings are irradiated with white light, the light is partially reflected at both the upper and lower boundary surfaces. This results in interference colours as colourful as a rainbow. The frequencies of this interference are a measure of the layer thickness and are determined by an FFT algorithm. In order for the result to be clearly determined, the layer to be measured must have a different refractive index to the substrate layer. Under these conditions a very high accuracy can be achieved.

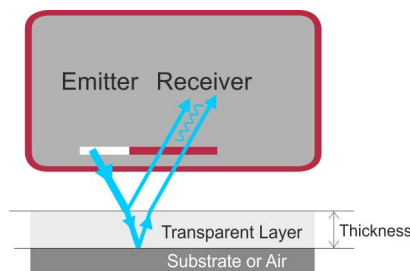


Fig. 1: Optoscope WLI-R-UV/VIS Measuring principle

### Product-Highlights

- Large measuring range, up to 250 µm thickness of the single layer
- Multi-channel evaluation for simultaneous evaluation of the thickness of several individual layers
- Higher precision for thin clear films or coatings
- Determination of the coating thickness in a single measurement
- Independent of changes in air gap temperature

### Example of Application

#### Film thickness after extruder with thermo die bolt

The particular advantage of the Optoscope WLI-R-UV/VIS sensor is its high spatial resolution. This means that layer thickness changes are detected very quickly and accurately. The profile control becomes accordingly accurate.

#### Coating thickness (e.g. adhesive) on film

Here, the Optoscope WLI-R-UV/VIS offers the possibility to measure very thin layers with only a few g/m<sup>2</sup> adhesive application with high precision. This would not be possible with a conventional basis weight measurement (beta or X-ray).

#### Single layer measurement on multilayer film (food film with barrier layer)

With only one sensor, several layers can be measured and evaluated independently of each other.

# mInfo - Optoscope WLI-R-UV/VIS

Thickness measurement by white light interference



## Technical data

Specification	Value	Unit
Measuring range	0,2 - 250	µm
Measuring distance	5 - 30	mm
Scanning spot	~ 2	mm
Measurement accuracy, laboratory	0,01	µm