



Inline colour measurement of transparent film

Photograph: Universität Duisburg-Essen, Institute for product engineering, Chair of construction design and plastics machines

In non-contact monitoring of continuously produced transparent strips of film, each millimetre of strip produced must be identical in colour. As well as colour fluctuations, streaks can occur during production.

As these films are translucent, the colour is measured in transmission using the high speed, high precision colorCONTROL ACS7000 inline colour measurement system, which is connected to a transmission sensor head (ACS3) comprising a transmitter unit (TT) and a receiver unit (TR). By traversing over the entire width of the strip, this system enables the early detection of any slight changes in colour and streaks, allowing production parameters to be modified accordingly. As a result, productivity increases many times over and waste is reduced.

Advantages

- Automatic continuous colour detection at an earlier stage than before
- Increase in productivity and reduction of waste
- Time savings

Requirements for the measurement system

- Measuring range between receiver and target 10-130 mm
- Accuracy $\Delta E < 0.1$
- Non-contact traversing colour measurement
- Strip width between 1 and 5 m
- PLC connection via Ethernet interface

Ambient conditions

- Temperature: 0-70 °C
- Medium: air

System design

- colorCONTROL ACS7000
- Transmission sensor comprising:
 - FCS-T-ACS3-TT15-200-1200 transmitter and
 - FCS-T-ACS3-TR5-200-1200 receiver
- CAB-M9-4P-St-ge; 2m-PUR; open
- CAB-RJ45-Eth; 2m-PVC-Cat5e; RJ45-Eth

