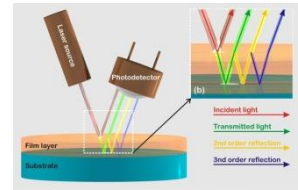


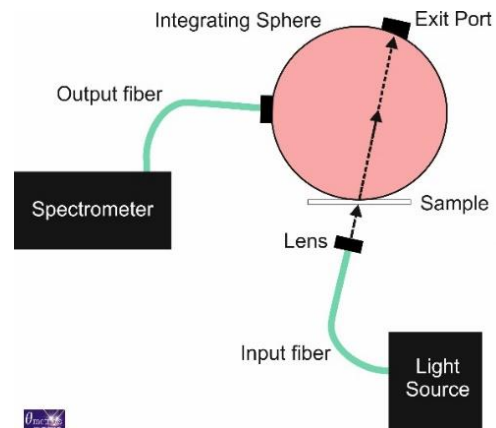
## ThetaMetrisis APPLICATION NOTE #032

### Relative transmission haze measurements of a polymer on glass substrate

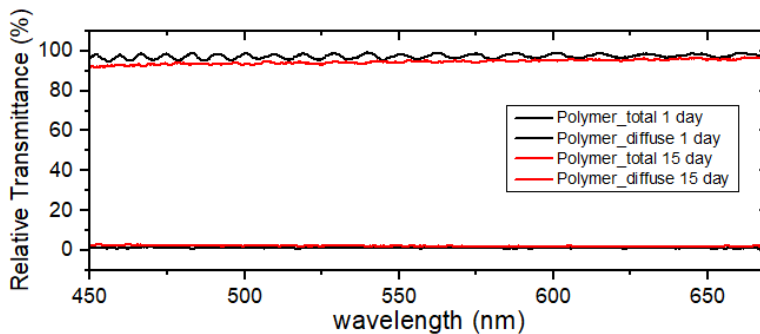


**Introduction:** The term haze is used to describe the slightly cloudy appearance of a material resulting from the forward scattering of light. **Transmission haze** is defined as the **scattering of light by a specimen responsible for the reduction in contrast of objects viewed through it**. In this application note, we measure the relative transmission haze using FR-Tools.

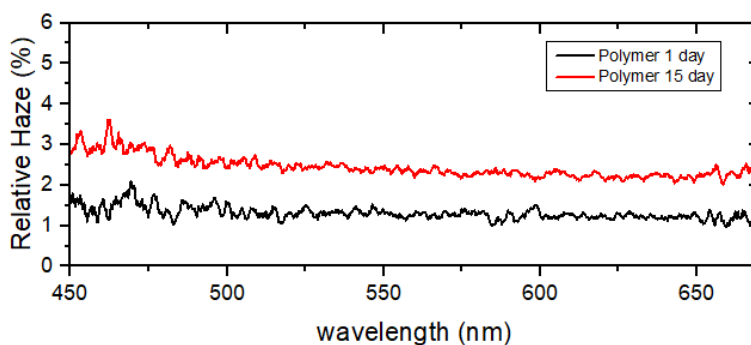
**Means & Methods:** Relative transmittance and transmission haze measurements of the polymer before and after 15 days of aging, were done using an FR-Basic VIS/NIR tool, including the apparatus shown in Schematic at right. An input fiber collects the light from a light source and illuminates the sample under test. The integrating sphere collects the transmitted flux and provides a uniform luminance to the output fiber and the detector after the spectrometer has analyzed the spectrum collected. By placing a light trap on the exit port the incident beam is being absorbed completely. Using this configuration, the diffused transmittance ( $T(\lambda)_{Absolute\ Diffuse}$ ) can be recorded. In case of a gloss trap, the total transmittance ( $T(\lambda)_{Absolute\ Total}$ ) can be measured.



**Results:** Relative transmittance (top) and relative haze (bottom) of the polymer, at 1<sup>st</sup> day (black line) and after 15 days (red line) as measured using FR-Basic VIS/NIR including an integrating sphere setup are shown in Figure 1 a, b.



**Figure 1.a:**  
Relative transmittance of polymer, at 1<sup>st</sup> day (black line) and after 15 days of aging (red line)



**Figure 1.b:**  
Relative haze of polymer, at 1<sup>st</sup> day (black line) and after 15 days of aging (red line)

**Conclusions:** Relative transmission haze measurements of a polymer on glass substrate have been successfully determined using FR-Tools.