

Measure what you see.

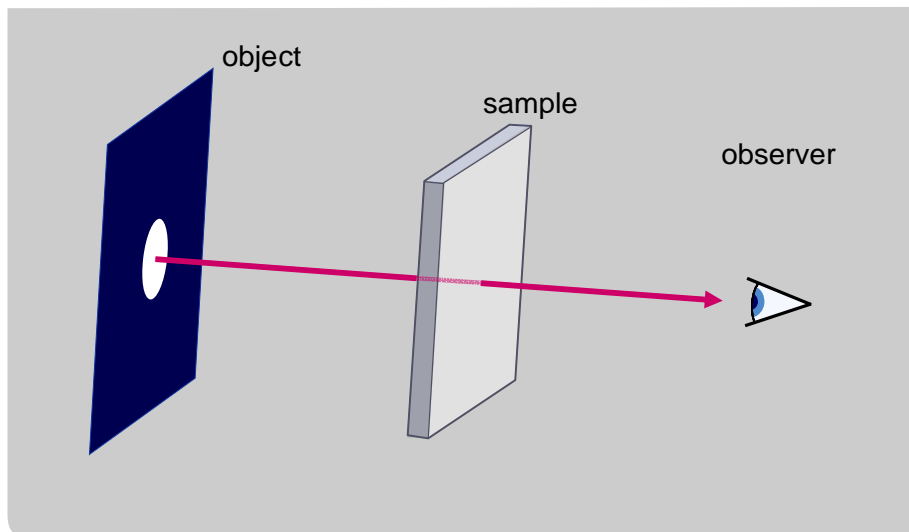
Transmission Haze

BYK-Gardner GmbH, 2010

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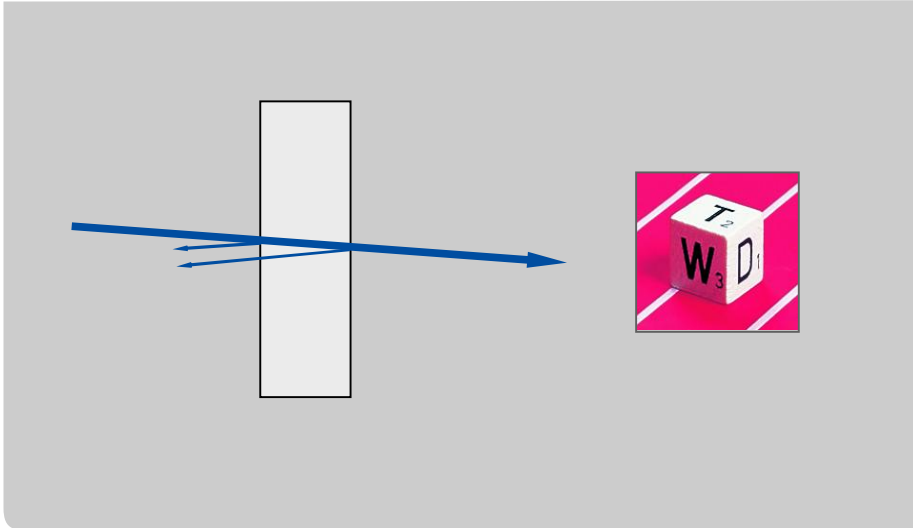
Visual Perception



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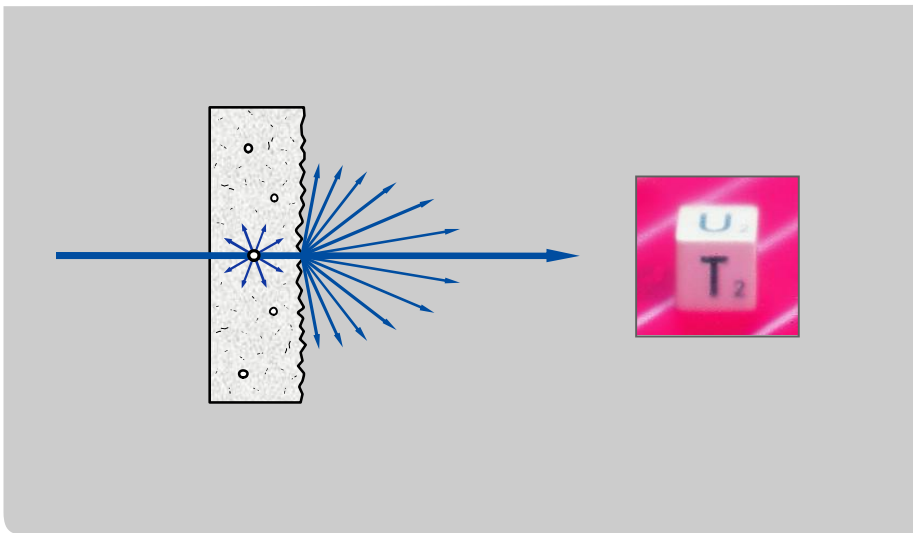
Reflection and Absorption Homogeneous Material with a smooth surface



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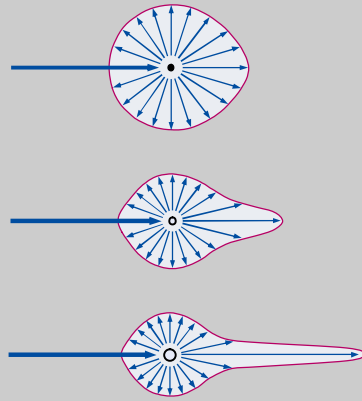
Diffuse Scattering Internal Scatters and Surface Structures



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Distribution of scattered light Influence of particle size

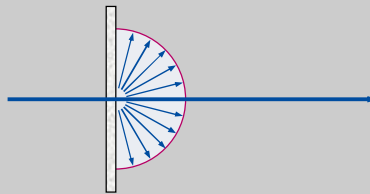


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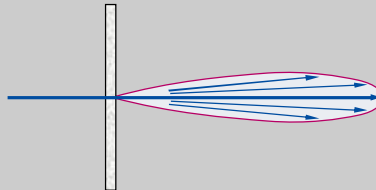
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Distribution of scattered light

Wide angle
scattering



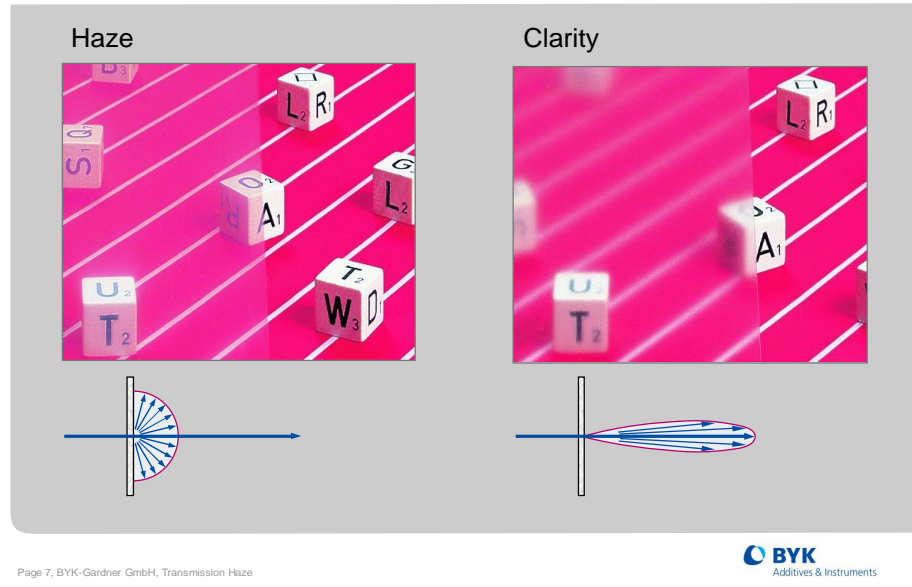
Narrow angle
scattering



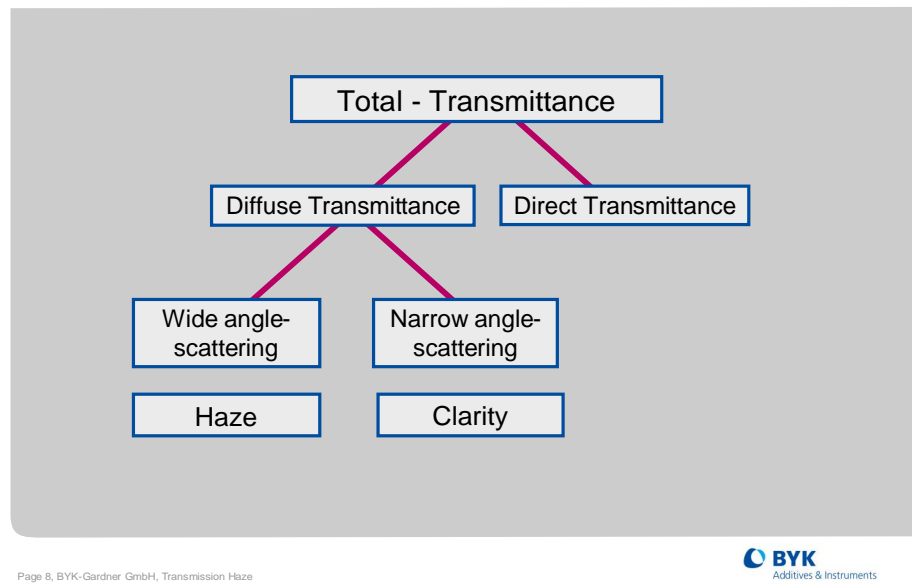
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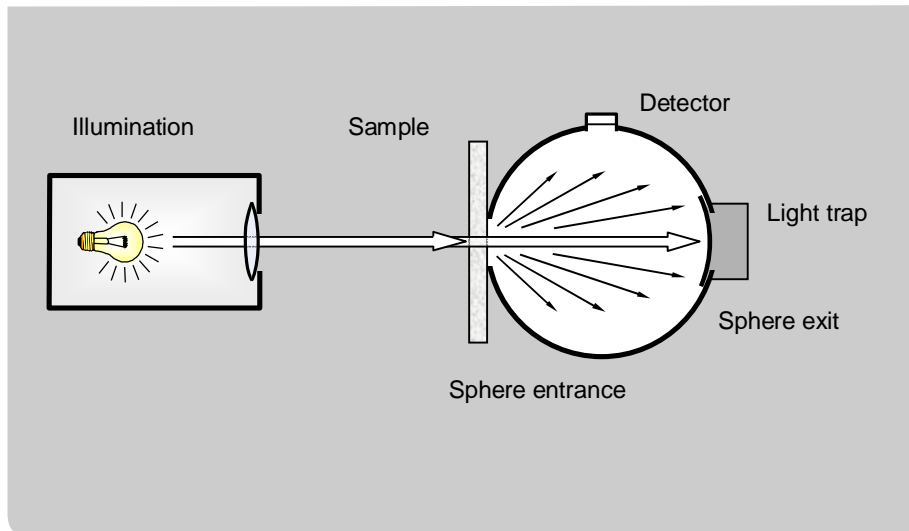
Perception of scattered light



Transparency



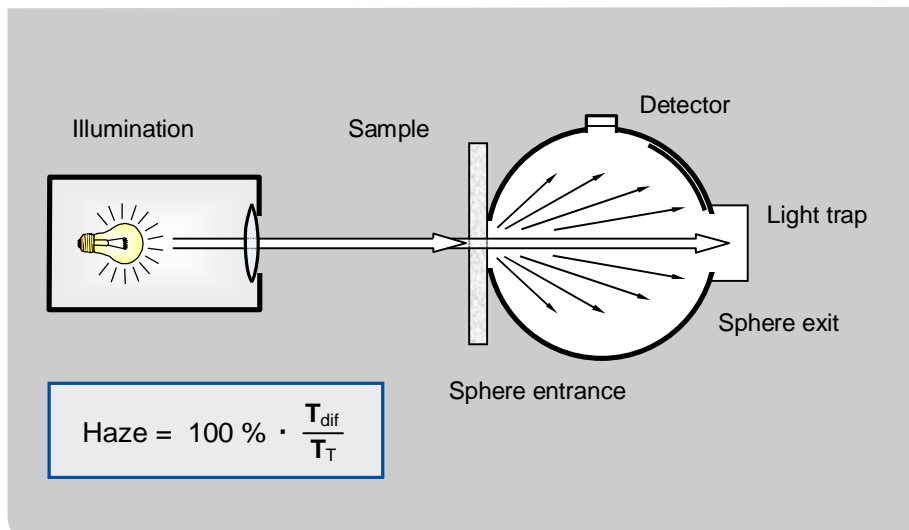
Measurement Principle: Total Transmittance



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Measurement Principle: Haze

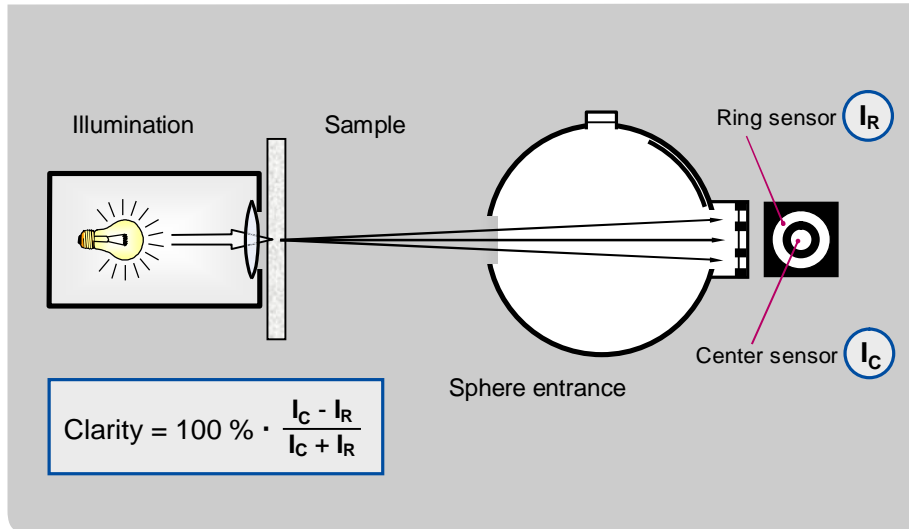


$$\text{Haze} = 100 \% \cdot \frac{T_{\text{dif}}}{T_{\text{T}}}$$

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Measurement Principle: Clarity



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haze-gard plus the objective standard for a clear view



- Total Transmittance
- Transmission Haze
- See-through quality - Clarity

... in one instrument

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haze-gard plus the industry standard according to ASTM



- Open sample area for small & large samples
- Automatic measurement
- Foot switch for hands-free operation
- Direct data transfer to Excel - professional documentation

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haze-gard plus the industry standard according to ASTM

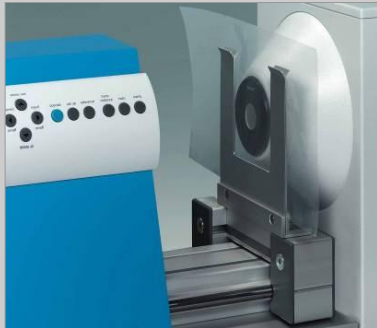


- Reference beam and enclosed optics - accurate readings
- Automatic & long-term calibration stand for reliable results
- Built-in statistics and large memory

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haze-gard plus Special Film Holder

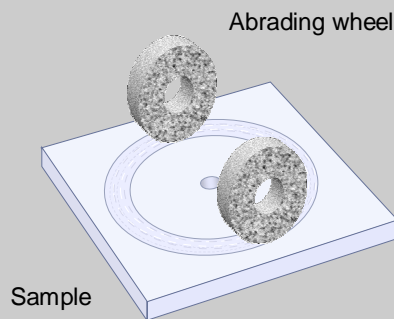


- Easy positioning of films with a special holder
- Precision track system guarantees repeatable readings

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Application: Taber Abrasion test ASTM D 1044



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haze-gard plus measurement of liquids

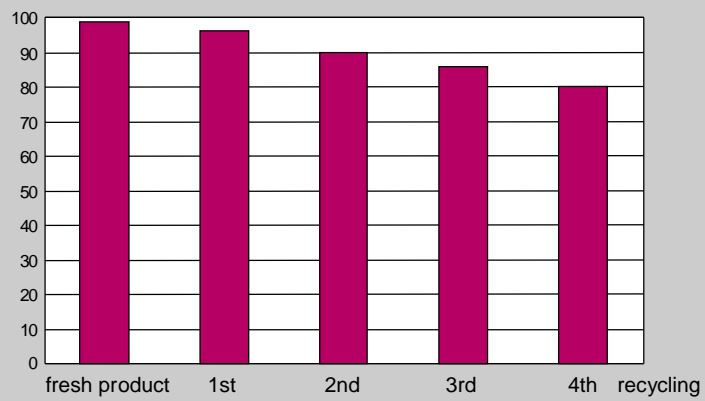


- Table for easy positioning of cuvettes
- Cuvettes with 2.5, 4, 5, 10 and 20 mm path length

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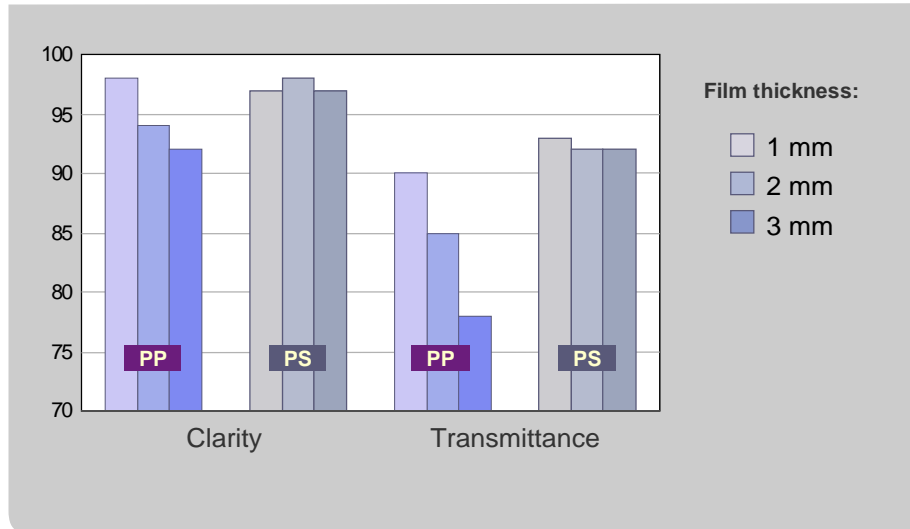
Application Transmission of Recycled Polyethylene



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See-through quality of Packaging Films Influence of film thickness and material



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Fogging Test: Headlamps

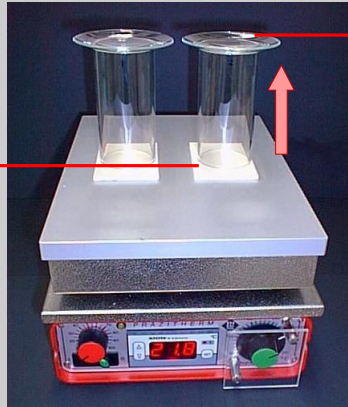


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Fogging Test

Heating of sample
200°C, 2 hours

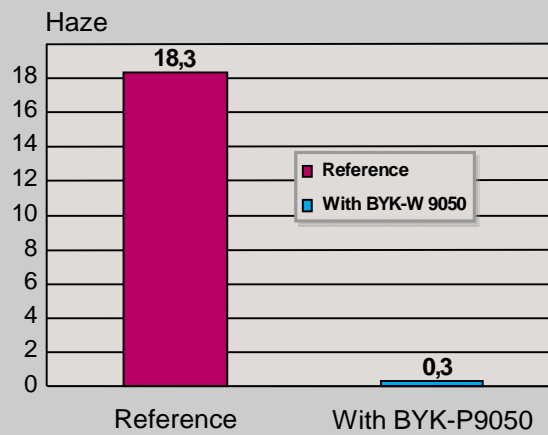
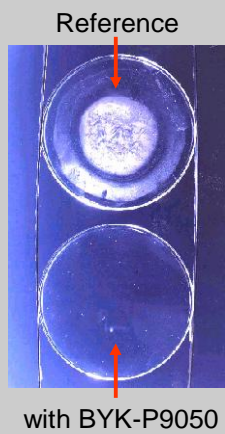


“Fog” evaporates and
condenses on the
glass disc

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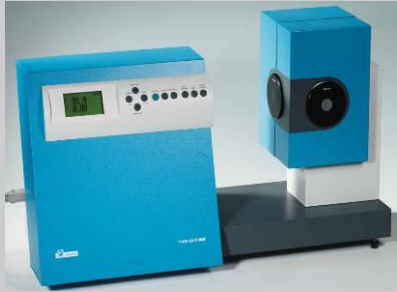
Fogging Test: Headlamps



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haze-gard dual Two Standard Methods in one Unit



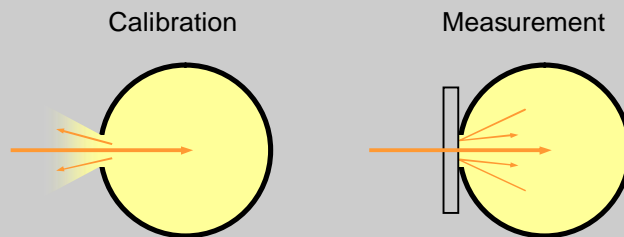
Total Transmittance according to

- ASTM D 1003
- ISO 13468 (Compensation port)

Transmission haze according to

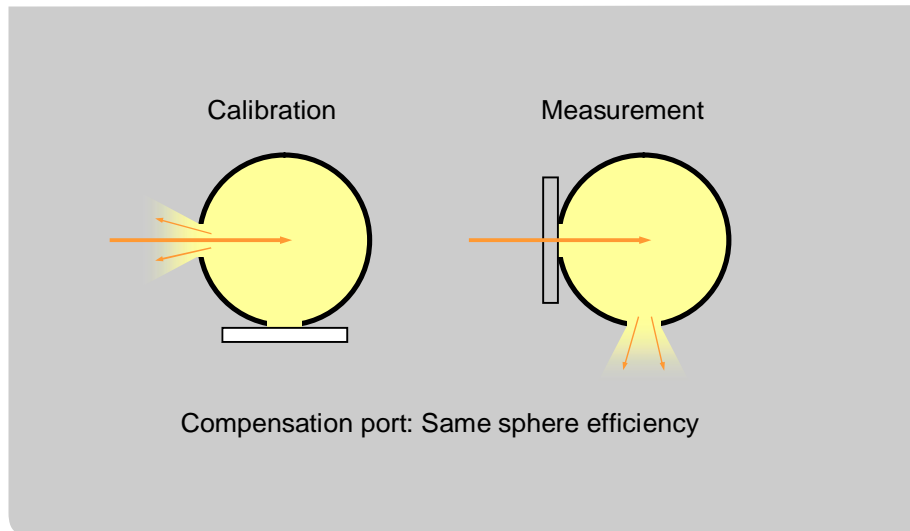
- ASTM D 1003
- ISO / DIS 14782

Total Transmittance according to ASTM D1003



No compensation port: Different sphere efficiency

Total Transmittance according to ISO 13468



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Thank you for your attention

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