

RPH-1 Reflection Probe Holder

The **RPH-1 REFLECTION PROBE HOLDER** is an anodized aluminum platform with machined holes at 45° and 90° to hold our R200 Reflection Probes or other 0.25" O.D. probes during reflection measurements. Common applications include measuring the reflection properties of mirrors and anti-reflection coatings, and measuring the visual properties of color in paints, graphic arts, plastic, and food products.

Operation

Reflection is the return of radiation by a surface, without a change in wavelength. The reflection may be:

- ◆ Specular, in which the angle of incidence is equal to the angle of reflection. If taking specular reflection measurements, position the reflection probe in the 90° aperture of the RPH-1.
- ◆ Diffuse, in which the angle of incidence is not equal to the angle of reflection. If taking diffuse reflection measurements, position the reflection probe in the 45° aperture of the RPH-1.

Every surface returns both specular and diffuse reflections. Some surfaces may return mostly specular reflection, others more diffuse reflection. The glossier the surface, the more specular the reflection.

Specular Reflectance Measurements

For a specular reflection measurement, attach the illumination leg of your reflection probe to a light source, and the read leg to the spectrometer. Place the end of the probe in the 90° aperture of the RPH-1. Use the cap screw on the holder to secure the probe at the desired distance from the sample.

1. First, take a reference spectrum. Make sure nothing is blocking the light path going to your reference. Place the reflection probe/probe holder over a first-surface mirror. Take the reference reading.
2. Next, take a dark spectrum. Completely block the light path going to your sample. Do not turn off the light source. Take the dark reading.
3. Finally, take your reflection measurement. Make sure the sample is in place and nothing is blocking the light going to your sample. If using OOIBase32, click on the **Transmission** icon to take your spectrum. (The Transmission Mode uses the same formula for transmission and reflection measurements.)

Diffuse Reflectance Measurements

For a diffuse reflection measurement, attach the illumination leg of your reflection probe to a light source, and the read leg to the spectrometer. Place the end of the probe in the 45° aperture of the RPH-1. Use the cap screws on the holder to secure the probe at the desired distance from the sample.

1. First, take a reference spectrum. Make sure nothing is blocking the light path going to your reference. Place the reflection probe/probe holder over a diffuse standard. Take the reference reading.
 2. Next, take a dark spectrum. Completely block the light path going to your sample. Do not turn off the light source. Take the dark reading.
 3. Finally, take your reflection measurement. Make sure the sample is in place and nothing is blocking the light going to your sample. If using OOIBase32, click on the **Transmission** icon to take your spectrum. (The Transmission Mode uses the same formula for transmission and reflection measurements.)
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