Measuring equipment for Gloss - GlossHaze - Chalking

**ZGM 1020**
Glossmeter

- Portable, accumulator-powered and sturdy precision single-angle glossmeter
- Application areas:
  - Determination of all gloss ranges of coating materials, plastics, metals, paper, etc.
- Single-angle versions: 20°, 45°, 60°, 75°, 85°

**ZGM 1023**
Glossmeter

- Portable, accumulator-powered and sturdy precision single-angle glossmeter for high-gloss surfaces
- Application areas:
  - As for ZGM 1020, with a measuring range of 0 - 199,9 gloss units
  - Ideal for the gloss measurement of metallic surfaces and mirrors because of the measuring range capable of being extended to 1999 gloss units
- Single-angle versions: 20°, 60° and 75°

**ZGM 1022**
Glossmeter

- Portable, accumulator-powered and sturdy precision dual-angle glossmeter
- Application areas:
  - Determination of all gloss ranges of coating materials, plastics, metals, paper, etc.
- Dual-angle versions: 20° and 60°, 20° and 75°, 20° and 85°, 45/0° and 60°
<table>
<thead>
<tr>
<th><strong>ZRM 1021</strong></th>
<th>lightness / hiding power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflectometer</td>
<td>Portable, accumulator-powered and sturdy precision reflectometer for the determination of lightness and hiding power values</td>
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<tr>
<td>Application areas:</td>
<td></td>
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<tr>
<td>• Measurement of lightness and hiding power of emulsion paints</td>
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<tr>
<td>• Determination of day visibility of road markings (whiteness and β-value)</td>
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<tr>
<td>Single-angle version:</td>
<td>45/0°</td>
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<thead>
<tr>
<th><strong>ZGH 1024</strong></th>
<th>high gloss</th>
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<tbody>
<tr>
<td>GlossHaze</td>
<td>Portable, accumulator-powered and sturdy precision Glosshazemeter for the determination of scattered light of low intensity close to the main reflection on high-gloss surfaces</td>
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<tr>
<td>Application areas:</td>
<td></td>
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<tr>
<td>• For glosshaze or glosshaze and gloss measurements on high-gloss surfaces of coatings, plastics, metals, paper etc.</td>
<td></td>
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<tr>
<td>• Measuring range 0 - 1999 gloss units</td>
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<tr>
<td>Single-angle version:</td>
<td>GlossHaze</td>
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<tr>
<td>Dual-angle versions:</td>
<td>GlossHaze and gloss 20°</td>
</tr>
<tr>
<td></td>
<td>GlossHaze and gloss 60°</td>
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</tbody>
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<thead>
<tr>
<th><strong>ZGM 1020 / ZLR 1050</strong></th>
<th>gloss measurement on small surfaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini-measuring head</td>
<td>Separate measuring head for ZGM and ZLR glossmeters. Available as ZGM/ZLR single-angle unit or as ZGM 1022 dual-angle unit in combination with an angle of the basic unit</td>
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<tr>
<td>Application areas:</td>
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<tr>
<td>• Determination of all gloss ranges on very confined areas, also on curved surfaces and surfaces being not plane</td>
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<tr>
<td>Single-angle versions:</td>
<td>20°, 45°, 60° for plane surfaces</td>
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<td></td>
<td>20°R, 45°R, 60°R for curved surfaces</td>
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<tr>
<td>Dual-angle versions:</td>
<td>20°, 45° or 60° mini-measuring head in combination with 20°, 45°, 60°, 75° or 85° in the basic unit</td>
</tr>
</tbody>
</table>
ZLR 1050
Laboratory glossmeter

Portable, off-the-line statistic glossmeter with built-in printer

Application areas:

- Determination of all gloss ranges of coating materials, plastics, metals, paper etc.

Single-angle versions: 20°, 45°, 60°, 75°, 85°, 45/0° and glosshaze, 20° with switch-over for metals and mirrors

Mini-measuring head: 20°, 45°, 60°

Triple-angle versions: 20°/60°/75°, 20°/60°/85°, 45°/60°/75°

ZLR 1050F
Hinged, measuring head Flip-Flap

Hinged, especially for the paper industry

Single-angle versions: 20°, 45°, 60°, 75°, GlossHaze

Triple-angle version: 20°/60°/75° and 45°/60°/75°

ZOL 1190
On-Line-Gloss-Measuring-system

Tailored gloss-measuring system for the industrial area (with 1000 measurements per seconds)

Application areas:

- Contactless system for on-line determination and control of all gloss ranges directly on the continuous material
- Input of the gloss range, optical warning system
- Statistics and graphic illustration over the whole continuous material

1, 2 and up to 3 angles in one and the same measuring-head.

Up to 8 measuring heads can be connected at the same time to take measurements at different places of the continuous material

Angles: 20°, 45°, 60°, 75°, 85° or GlossHaze
ZNS 1800 Gloss standards
calibration standards to glossmeters produced by other manufacturers

Versions:
- working standard for 1, 2, 3 or 5 single angle instruments
- intermediate standards for single or dual angle instruments
- zero standards

Optional availability of a carrying case for a safe storage.
Special customer versions are available on request.

Choosing the correct measuring geometry

If you measure the sample 1 (green line) with a measuring angle 60° you will receive approx. 28 GU. In this case the 60° is the correct measuring angle.

If you receive values less than 10 GU, you have to choose a 85° measuring angle.

If you receive values higher than 70 GU, you have to choose a 20° measuring angle.

H 100 Helmen®-Chalkingtester
degree of chalking

Test equipment for the quantitative determination of the degree of chalking of coatings following the analytical principles of nephelometry and the adhesive tape method according to Helmen. Reliable and objective measuring results, reproducible independent on the individual person

Application areas:
- Quantitative determination of the degree of chalking of colored and achromatic coatings in the laboratory, at the exposure station or directly at the object on site