



NOVO-GLOSS GLOSSMETER

For uncomplicated gloss measurements

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- Why is surface finish important?
- What is “Gloss”?
- Traditional gloss measurement
- Software

Why is

SURFACE

Finish important?



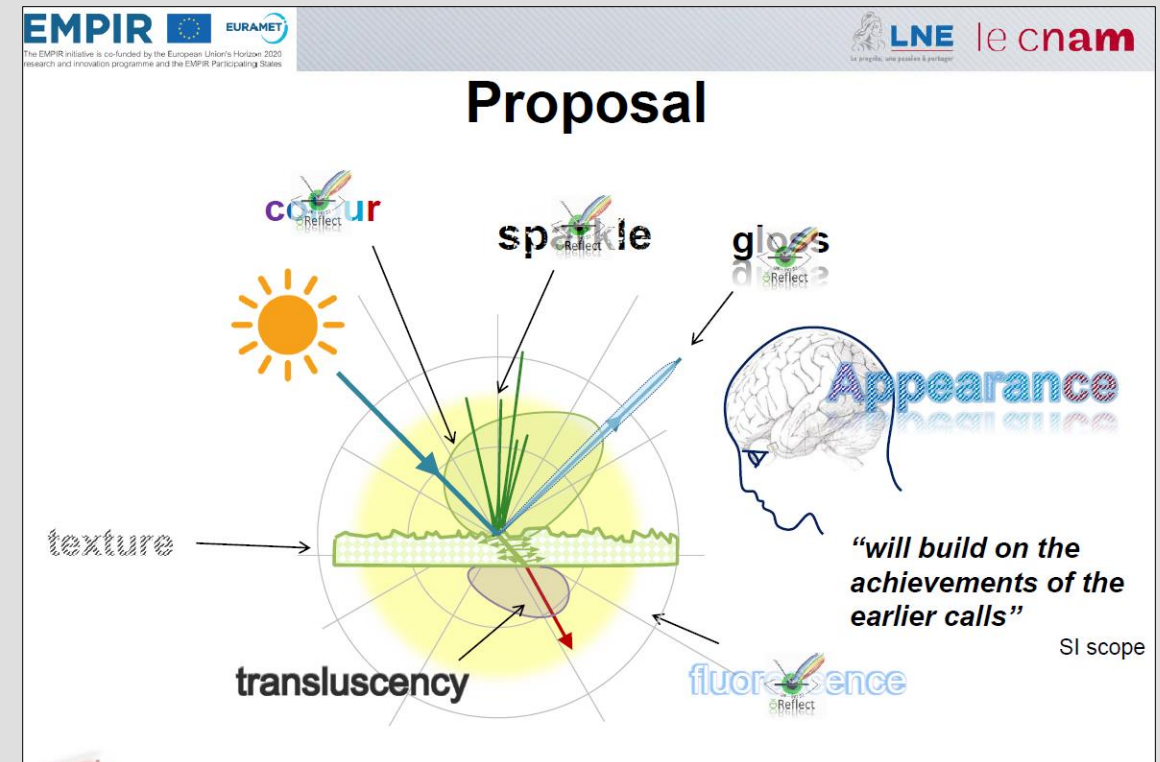
Consumers place high value on the surface characteristics of a product.

The product performs over a period of time but the look makes an immediate impression.

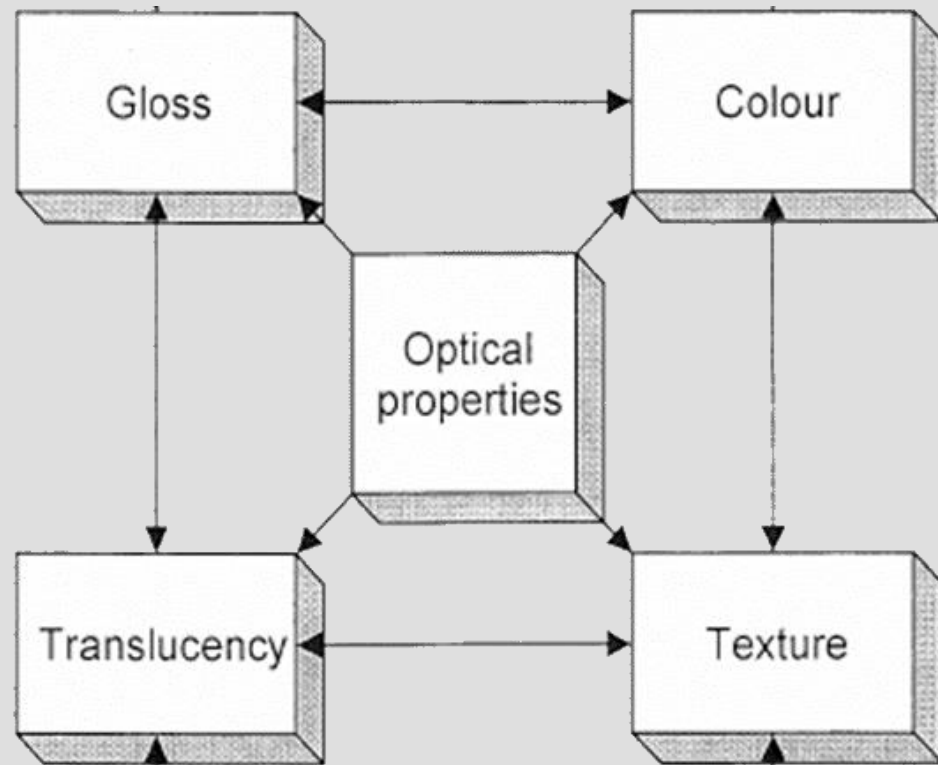
Technically, **appearance consists of several aspects...**

As written in the CIE 175:2006 “A Framework for the Measurement of Visual Appearance”

“Appearance is the visual sensation through which an object is perceived to have attributes as size, shape, colour, texture, gloss, transparency, opacity etc.”



...but for an easy entry point, we can break it down to four main optical parameters:



I. INTRODUCTION

Gloss is possessed by most materials encountered in everyday life, and its occurrence is so common that persons seldom stop to give it particular notice. People are, nevertheless, responsive to the general appearance of objects and nearly everyone is able to form opinions as to the beauty, attractiveness, or striking appearance of things they see. Gloss is one of the major factors in appearance, and a number of methods for determining it have been developed. The purpose of these methods is usually to enable the producers and vendors of articles in commerce to rate them according to glossiness.

This is what we call “Appearance”

... but

COLOUR **SURFACE**

...is a matter of taste

finish conveys a sense of quality.

In a “typical” consumer application, a Premium quality product is perceived to be:

- High glossy / reflective
- Clean - “Shiny and Smooth”

Whether shopping for fruit and vegetables or choosing luxury items:

- “Gloss” plays a similarly important role for the purchase decision
- “Correct” gloss means a higher price can be charged for this product



Verbally.

Low gloss



Medium gloss



High gloss

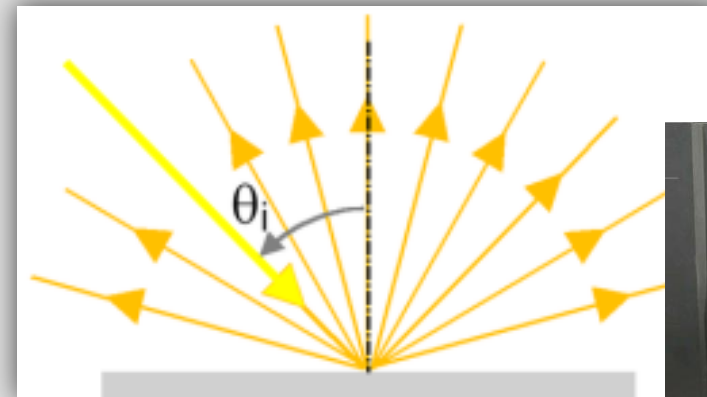
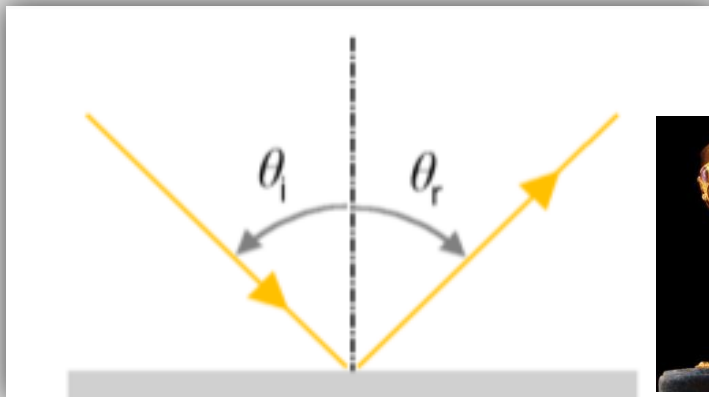


Technically.

- Gloss according to ISO 2813: „*optical property of a surface to reflect light directionally* “

The reflection of objects is more pronounced the more directionally the light is reflected from the surface.

On mirror-like surfaces, incident light is (almost) only reflected in the specular reflection direction.





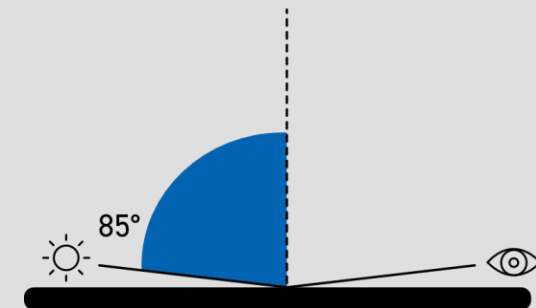
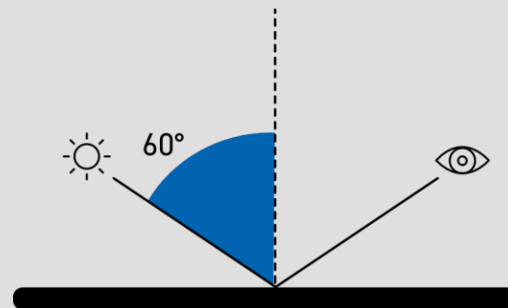
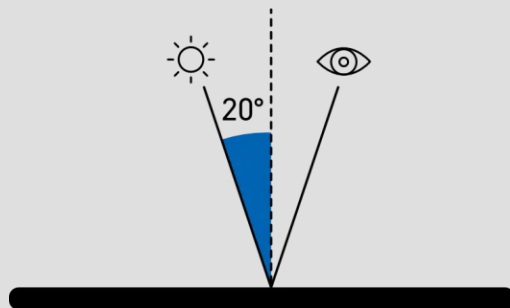
Traditional Gloss measurement

„Gloss measurement“ is characterized in many industry standards, e.g.

ISO 2813, ISO 7668, **ASTM D523**, ASTM D2457, DIN 67530, JIS K5600-4-7, JIS Z8741, etc.

Most important for the automotive industry: ISO 2813 as well as ASTM D523 (reference for other standards)

Those standards define **measurement angles of 20°, 60° and 85°**, and usage of integrating photodiodes to collect the light reflected in specular direction.



The result of a gloss measurement: the „**Gloss value**“

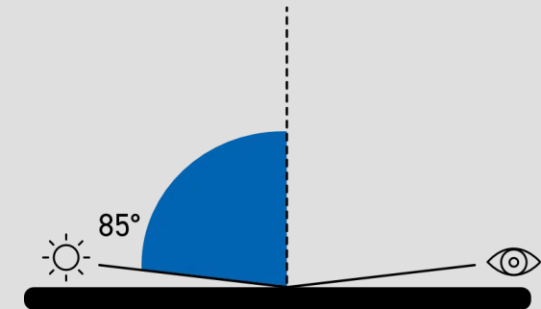
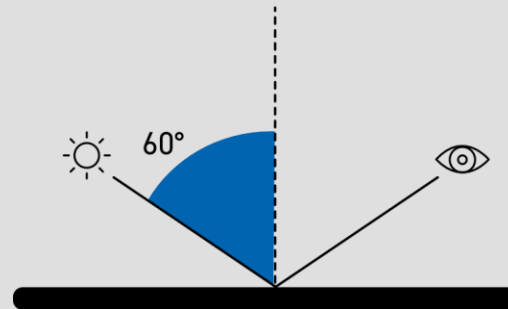
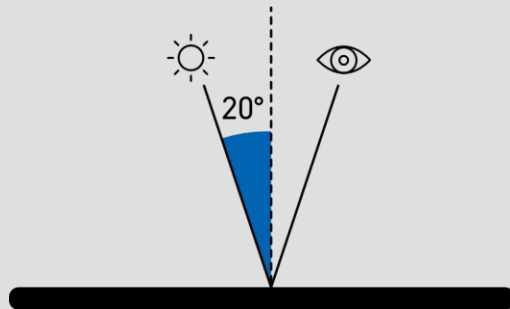
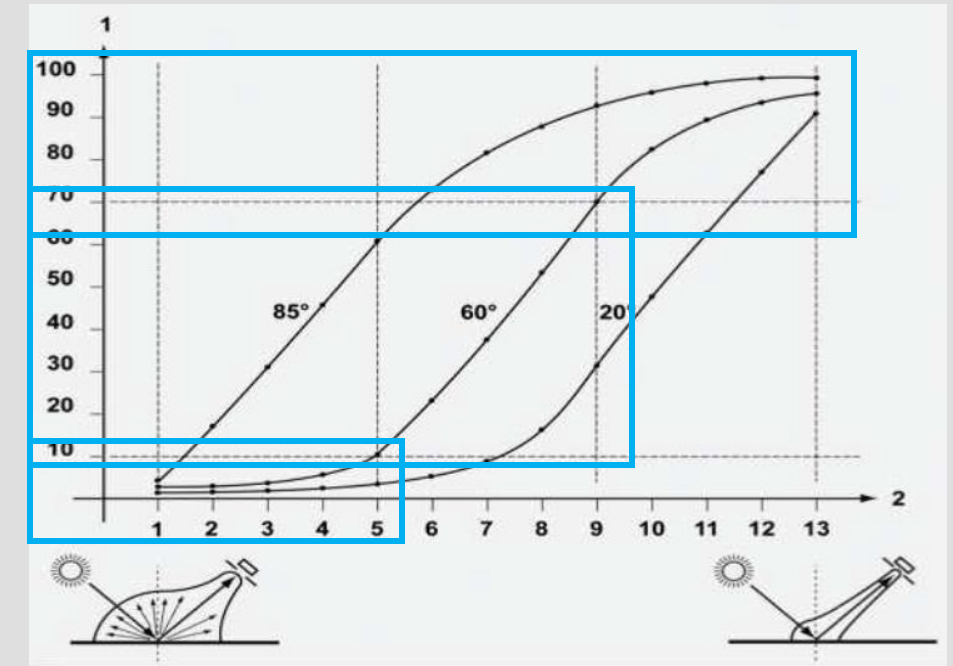
Definition according to ISO 2813:

„Ratio, multiplied by 100, of the luminous fluxes reflected in the specular direction by a specimen and a glass surface of refractive index 1.567 at a wavelength of 587.6 nm, where the angle of reflection and the aperture angles of the light source and receiver are fixed.“

According to standard recommendations:

Measure the surface with the 60° geometry first, then decide:

- Matt surfaces below 10 GU @ 60° -> use the 85° angle
- Mid gloss samples from 10-70 GU @ 60° -> use the 60° angle
- High gloss surfaces above 70 GU @ 60° -> use the 20° angle



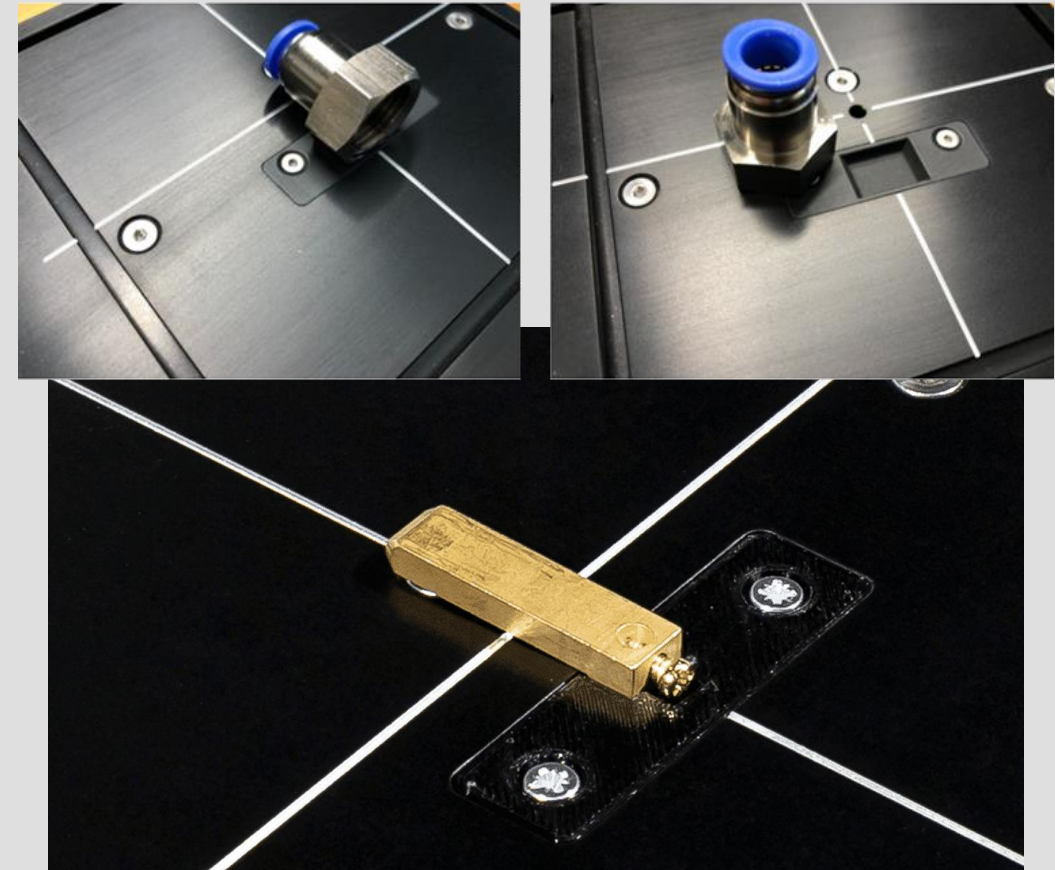


Novo-Gloss glossmeter series



Model	20° Gloss HIGH GLOSS	60° Gloss ALL GLOSS FINISHES	85° Gloss LOW GLOSS FINISHES	Haze ASTM E430	Haze ASTM D4039	45° Gloss SPECIALTY ANGLE
Novo-Gloss 60	-	✓	-	-	-	-
Novo-Gloss 45	-	-	-	-	-	✓
Novo-Gloss Trio	✓	✓	✓	-	-	-
Novo-Gloss 20/60/85 with Haze	✓	✓	✓	✓	✓	-

Precise and repeatable measurement of small areas & irregular shapes with customizable jigs



45:0° reflectometer - based on the Novo-Gloss but to assess the Shade of a surface (a simple indication based on lightness), calculate the opacity of a coating, plastic film or paper sample, or measure cleanliness of a surface.





Novo-Gloss Flex 60

The Novo-Gloss Flex 60 Glossmeter combines the functionality and reporting of an advanced glossmeter with an ultra-lightweight remote measuring head, with improved performance in low gloss applications



Specifications

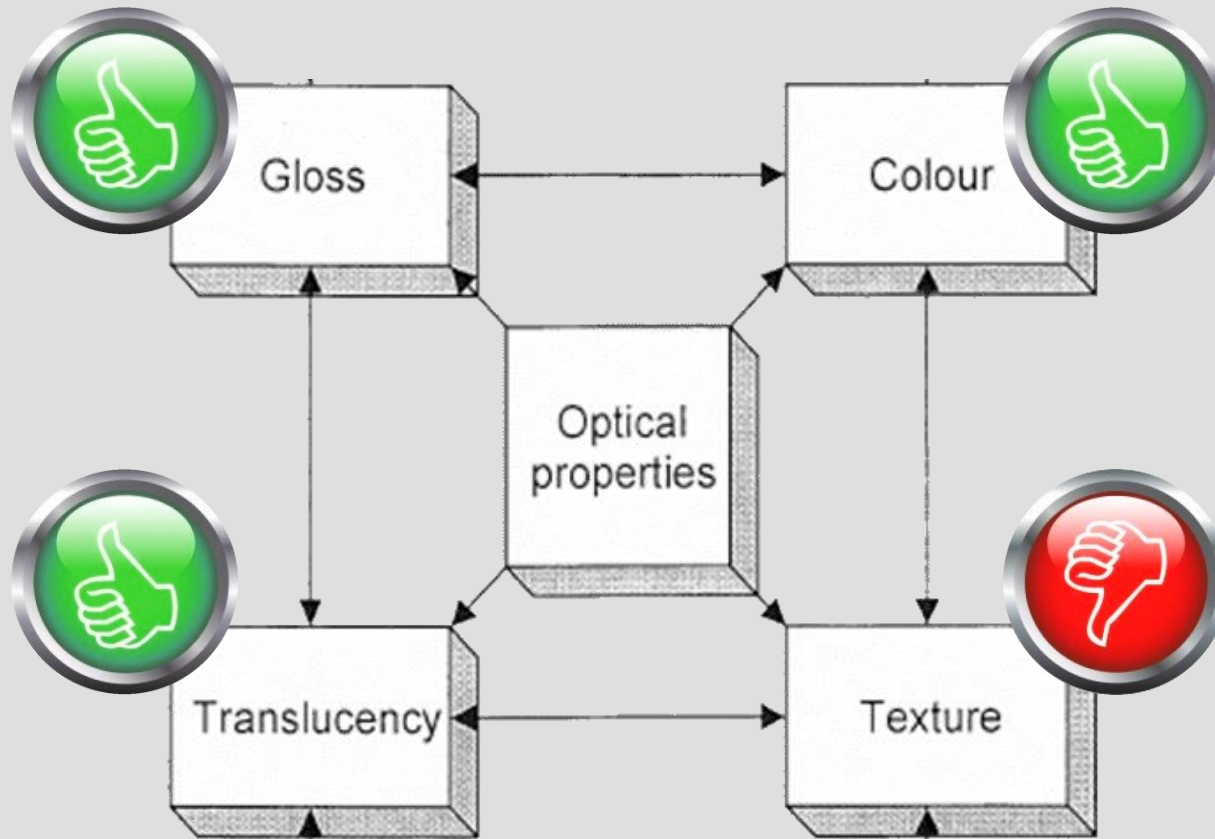
- External gloss measuring head with 60° gloss sensor
- Meets all common gloss standards (ISO 2813, ASTM D523, ISO 7668, ASTM D2457, DIN 67530, JIS 8741, JIS K 5600-4-7)
- Small measuring area (6mm x 12mm)
- Non-scratching plastic measuring heads, customizable
- First glossmeter with two separate scales for gloss:
 - GU ("normal" gloss)
 - GUh ("high-resolution" gloss)





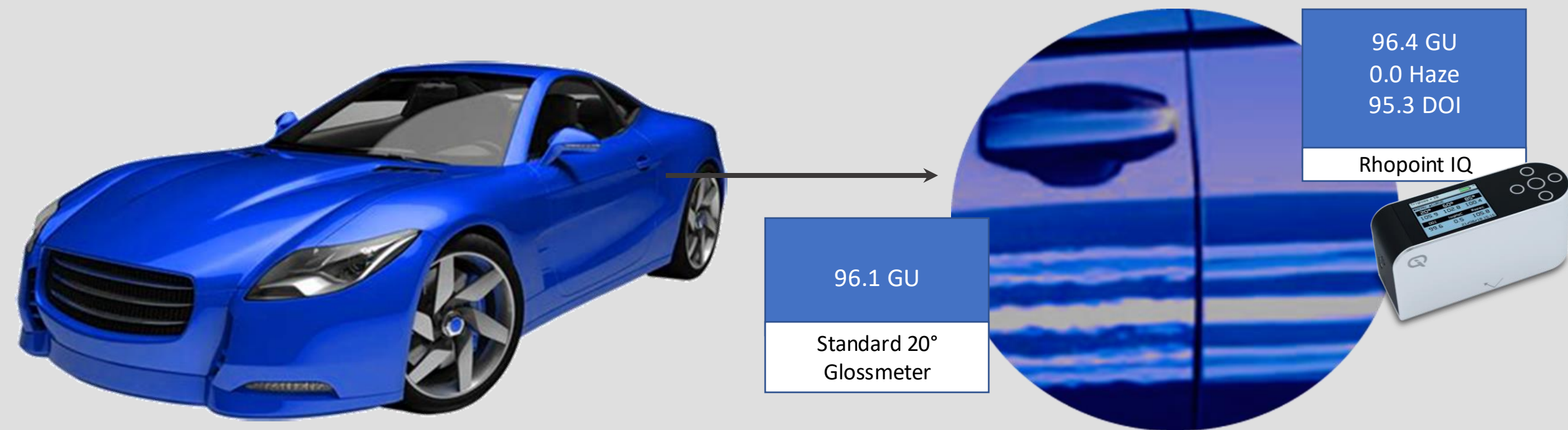
Rhopoint IQ – if gloss is not enough

Color and Gloss are OK, but your visual impression of the surface isn't? Time for IQ!



Gloss, Haze, DOI, Rspec – Surface Imaging Quality assessment for your needs

Glossmeters are usually used to measure the “shininess” of a surface but are not sensitive to surface texture effects which reduce appearance quality. The **Rhopoint IQ measure all gloss related effects** and thus is an invaluable tool.



IQ Surface Imaging Quality assessment of small and curved surfaces

100% compatible to the Rhopoint IQ, the IQ Flex 20 combines characterization of imaging quality with flexibility to measure former “unmeasurable” curved surfaces and small parts with 3D printable adaptors.



Convex surface



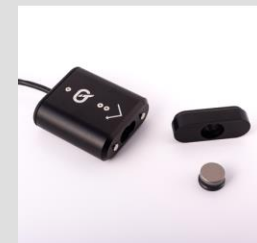
Complex curve



Concave surface



Small surfaces



Reduced spot size



3D printed adaptor



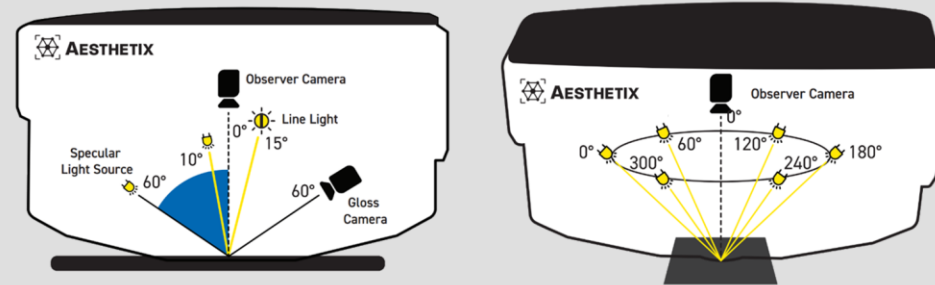


Aesthetix
– the ultimate surface QC tool

Multiple aspects of surface appearance contribute to how the quality of a surface is perceived.

Consumers subconsciously observe the glossiness, colour, translucency and texture of surfaces when judging the aesthetic appeal of a product.

Using two cameras and multiple light sources, Aesthetix can measure all of this. And more.



Modular build, enable you to buy the features that you need – when you need them

- Surface Brilliance
- Effect Finishes
- Transmission
- Texture
- Cross-Cut
- Opacity
- Etc.



Control for your needs

Simple to use tools –
For the age of complexity



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