

General Information: Gloss Measurement

TI – G 3 / USA

Information about Gloss measurement

Gloss is the most obvious optical property of a surface. This occurs when directed light reflects from a surface. Paints and varnishes are measured by gloss units (GU). Gloss measurement shall be made at least at three areas of the test object. In doing so the maximum unit or the low 5 GU value should not be exceeded, otherwise measure at two additional locations. The measurement results are calculated as the average of the individual measurements and they are recorded in gloss units (GU).

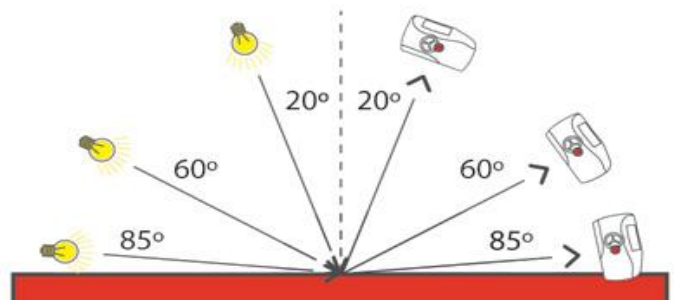
Areas of application

Car paints and coatings (Car refinishing), plastics as well as manufacturing industry (General Industry).

Measurement Geometry:

20° High gloss / 60° Semi gloss / 85° Matt gloss

This gloss measurement meets the standards of ASTM D 523, ASTM D 2457, BS 3900, DIN EN ISO 2813 and DIN 67530.



When you measure the matt surface, they have to measure 3 times on one part/object. Example: Result of the 1st measure 24.1 / 2nd measure 27.4 / 3rd measure 25.7 ; the smallest and the largest values are 24.1 and 27.4 ; the max. difference is 3.3 which is within the 5 GU limit. Now, add the three allowable values 24.1 + 27.4 + 25.7 = 77.2 and divide by 3 (number of measurements) for the result 25.7 → This is the gloss level.

Is the 1st measure 24.1 / 2nd 30.2 / 3rd 28.4 – the smallest and the largest is 24.1 – 30.2 = 6.1 out of the tolerance of 5 GU, the customer shall measure at 2 additional locations on that part/object - 4th measure 29.4 / 5th measure 27.4 Is 24.1 + 30.2 + 28.4 + 29.4 + 27.4 = 139.5 / 5 = **27.9 GU**

Procedure to follow:

A lacquered surface is measured at 60° angle of light. If the measured value is between 10 GU and 70 GU (e.g. 45 GU), the measuring geometry is correct. If the measured value is above 79 GU, you should select a 20° angle. If the measured value is below 10 GU, you should select 85° for the angle of light.

Selection geometry	GU	Degree of gloss (Notation)
	100	
High-gloss 20°	90	100-70 GU downwards from high-gloss until glossy surfaces
	80	
	70	
Semi-gloss 60°	60	70-10 GU downwards from glossy – semi-gloss - until matt surfaces
	50	
	40	
	30	
	20	
Low-gloss 85°	10	10-0 GU matt until dull-matt surfaces
	0	

The Valspar logo consists of the word "valspar" in a white, lowercase, sans-serif font, set against a purple rectangular background.

INDUSTRIAL MIX

Technical Information Sheet

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