

**Chapter 1 : ASTM D - 14() Standard Test Method for Specular Gloss**

*Measured gloss ratings by this test method are obtained by comparing the specular reflectance from the specimen to that from a black glass standard. Since specular reflectance depends also on the surface refractive index of the specimen, the measured gloss ratings change as the surface refractive index changes.*

A properly prepared Drywall Finishing Level 5 should precede gloss Level 3 and higher. Textured finishes, not subject to critical lighting conditions, may be applied to a properly prepared Drywall Finishing Level 3 or 4. What is Gloss and Sheen? A gloss finish indicates that it is shiny or glass-like. The gloss of a surface is described as the reflection of light from the surface that is independent of color. This is also known as the "objective gloss". To measure gloss reflectance, a single beam of light is deflected off the surface, at a prescribed angle, into a receptor. This receptor gauges the intensity of that light in gloss units. The testing equipment is standardized by the use of specially produced, polished, glass or ceramic tiles. The higher the number of units, the shinier the surface. ASTM method D outlines the procedures for performing the test. It gives a good general evaluation of gloss except at the extremes of low and high gloss surfaces. Variances in the sheen of a surface are most noticeable in low gloss coatings. Measurements at this angle are generally thought to be a more accurate indicator of the transition between flat and eggshell. The gloss level of a coating is influenced by surface roughness. In a paint or coating, the protrusion of pigment particles through the resin or binder layer causes the diffraction of the light, and a dullness is visible. Where the pigment is completely coated by the resin, the surface is smoother and the angular light is reflected unhindered, producing a glossy appearance, not unlike a polished glass surface. As gloss is a property of reflected light, it can influence the visual color of a surface when viewed from various angles. This is commonly seen where coatings that have been tinted to the same color, but have different gloss levels, are applied side by side on the same substrate. Viewing from a position directly perpendicular from the surfaces, with the light directly behind, will show the closest color. Moving to an angle away from the perpendicular or moving the light source, will show a color difference caused by the difference in gloss. This reduces visible shading effects from slightly non-uniform surfaces. An example of this in day-to-day situations would be a long hallway. With this a person walking along the hall would not notice a sheen difference even though the angle to the wall was ever changing as the person continued walking. Where color and white reflection are measured, two light sources are used. These are angled at 45 degrees on opposite sides of a central receptor. The receptor is split up into individual detectors that are each responsive to a different primary color. Most color testing equipment uses this geometry to avoid the influence of gloss while measuring the color. This property is tested on very glossy, smooth surfaces such as automotive coatings. Luster A term used to describe the shine, gloss, sheen or brilliance of a surface e. Since then, many manufacturers developed subdivisions of these, particularly between Flat and semi-gloss. As many of these subdivisions were made on a regional basis, there are now many deviations from a uniform categorization. Some have it below eggshell, and still others have it above eggshell measured at the same angle. Among various other gloss names created are platinum, pearl, melamine, velvet, eggshell, and satin. The names were chosen presumably to reflect the very literal, but very subjective, description of the surface.

Chapter 2 : ASTM D Test Methods | TQC Sheen

*Specular Gloss ASTM D, ASTM D Scope: Specular Gloss is a measure of the light reflected by the surface of a material. Gloss can be inherent in the material, a.*

The system shall include all components i. Privacy filler materials will be supplied by specify manufacturer or distributor of specific filler option. Materials shall be stored in such a manner to ensure proper ventilation and drainage, and to protect against damage, weather, vandalism and theft. Wood, Aluminum, Manufactured, Vinyl, etc. FenceTrac is manufactured in Tulsa, OK. Material for the Top and Bottom Tracs shall be 16 Ga. Fence posts and gate posts shall meet the minimum size requirements of Table 1. All fence framework shall be pre-cut to specified lengths. The Post Mount Tracs shall be pre-drilled for attachment to the posts. The manufactured steel framework shall be subjected to a thermal stratification coating process. Starting with the initial pre-rinse and cleaning, then adding a zinc phosphate protective coating, epoxy primer coating and heating process, and a separate electrostatic spray application of a TGIC polyester powder coat or acrylic inline electrodeposition E-Coat acrylic finish. The total coating shall be a minimum thickness of 4 mils 0. The color shall be specify Black, Bronze, White or Beige. The stratification-coated framework shall be capable of meeting the performance requirements for each quality characteristic shown in Table 2. Residential applications will vary and wind speed testing can be calculated for an additional cost if necessary. For installations that must be raked to follow sloping grades, the post spacing dimension must be measured along the grade. Fence sections shall be attached to posts with self-tapping screws supplied by the manufacturer. In some cases, local restrictions of freezing weather conditions may require a greater depth. Posts setting by other methods such as plated posts or grouted core-drilled footers are permissible only if shown by engineering analysis to be sufficient in strength for the intended application. Alternative materials on posts are also possible with the FenceTrac system, additional contact may be necessary to complete special post installations. Failure to seal exposed surfaces per steps above will negate warranty. FenceTrac spray cans or paint pens shall be used to prime and finish exposed surfaces; it is recommended that paint pens be used to prevent overspray. Type and quantity of gate hinges shall be based on the application; weight, height, and number of gate cycles.

**Chapter 3 : Glossmeter - Wikipedia**

*ASTM D523 is a standard test method for specular gloss. It is a direct measurement taken with a "gloss meter". Typically measurements will be taken on a flat, homogeneous and clean surface.*

Always hold standards at the side edges to avoid getting oil from the skin on the standard surface. Clean them with a mild detergent solution brushing gently with a soft nylon brush. Do not wipe standards. The polished black glass high-gloss standard may be dabbed gently with a lint-free paper towel or other lint-free absorbent material. Place the rinsed standards in a warm oven to dry. To calibrate, adjust the instrument to read correctly the gloss of a highly polished standard, properly positioned and oriented, and then read the gloss of a working standard in the mid-gloss range. If the instrument reading for the second standard does not agree within one unit of its assigned values, check cleanliness and repeat. If the instrument reading for the second standard still does not agree within one unit of its assigned value, repeat at with an other mid-range standard. If the disparity is still more than one unit, do not use the instrument without readjustment, preferably by the manufacturer. If the range is greater than two gloss units, take additional readings and calculate the mean. For large specimens, take a proportionately greater number of readings. Diffuse Correction To apply the correction, subtract it from the glossmeter reading. For means of three determinations. **Keywords** This does not include variability due to preparation of panels in different laboratories. Gloss of Perfect White Diffuser 2. Precision on Also, Journal of Research, Nat. Six somewhat different appearance attributes are shown to be variously associated with gloss. Therefore, as many as six different photometric scales may be required to handle all gloss measurement problems. This paper is out of print. The geometric conditions of test later incorporated in Test Method D are recommended. History of Test Method D Contains photographs depicting gloss characteristics of a variety of methods. A study of the effect of geometric conditions on results of gloss tests with special attention to high-gloss panels. Comparison of visual difference ratings with instrumental measurements of specular gloss, distinctness of image gloss, and haze for series of black, gray, and white painted specimens. The data are analyzed by multidimensional scaling. Permission rights to photocopy the standard may also be secured from the ASTM website [www.astm.org](http://www.astm.org).

**Chapter 4 : Gloss ASTM D, ASTM D**

*ASTM D covers the measurement of the specular gloss of nonmetallic specimens for glossmeter geometries of 60°, 20°, and 85°. The geometry of angles and apertures is chosen so that these procedures may be used as follows.*

**Description Novo-Gloss 60 degree glossmeter** The Novo-Gloss 60 degree gloss meter is suitable for measuring gloss in most applications from matt to high gloss finishes. This high specification handheld glossmeter is suitable for use in many environments including laboratory and production areas and is the ideal choice for general gloss measurements of a variety of substrates and industry sectors including paints and coatings. Time and date stamped results Automatic tile detection for faster calibration Full on-board statistics Graphical trend analysis of results for simple reporting. Gloss is an aspect of the visual perception of objects that is as important as colour when considering the psychological impact of products on a consumer. Manufacturers design their products to have maximum appeal: It is important therefore that gloss levels are achieved consistently on every product or across different batches of products. Gloss can also be a measure of the quality of the surface, for instance a drop in the gloss of a coated surface may indicate problems with its cure, leading to other failures such as poor adhesion or lack of protection for the coated surface. It is for these reasons that many manufacturing industries monitor the gloss of their products, from cars, printing and furniture to food, pharmaceuticals and consumer electronics. **How is Gloss Measured?** Gloss is measured by shining a known amount of light at a surface and quantifying the reflectance. The angle of the light and the method by which the reflectance is measured are determined by surface and also aspect of the surface appearance to be measured. This angle also has a larger measurement spot which will average out differences in the gloss of textured or slightly uneven surfaces. To quantify haze, distinctness of image, reflected image quality and other surface texturing please consider the Rhopoint IQ. **Measurement Fast** measurement of all parameters. Full on-board statistics with trend analysis and reporting. Simultaneous measurement of all parameters, results are and time stamped. Displays full statistics for the number of readings in the current batch. Graphical reporting for quick trend analysis. **Easy Batching** User definable batch names and batch sizes for quicker and more efficient reporting. **Rapid data transfer** Software-free data transfer USB connection to PC instantly recognises the device as a drive location which facilitates the quick transfer of files using Windows Explorer or similar.

## Chapter 5 : ASTM D - 08 Standard Test Method for Specular Gloss

*The ASTM D test method explains the measurement of gloss on non-metallic samples for geometries of 20, 60 and 85 degrees. The ASTM D standard test method is used to measure the gloss of solid plastics and plastic films (opaque and transparent both).*

History[ edit ] Ingersoll Of the many internationally recorded publications relating to gloss measurement, the earliest recorded studies perceived and instrumental are attributed to Ingersoll, [1] who in developed a means to measure the glare of paper. The instrument employed incident and viewing angles of Ingersoll successfully applied for and patented this instrument a few years later in In Jones, [2] during his study of gloss of photographic papers using goniophotometry, developed a glossmeter based on his research, which provided closer correlation to gloss ratings assigned by visual evaluation. Jones was the first to emphasize the importance of using goniophotometric measurements in studies of gloss. Early work in by Pfund [3] led to the development of a variable angle "glossimeter" to measure specular gloss which was later patented in Reflected light was measured using a pyrometer lamp as a photometer. As the angle was variable this instrument could also be used for the measurement of sheen or specular gloss at near grazing angles. Pfunds glossmeter During this time, growing interest in this field resulted in a number of similar studies by other individuals each having their own method for gloss measurement, most of which published as technical articles in scientific journals of that time. A few of these also resulted in patents. In Hunter, as part of a research project for the U. National Bureau of Standards, produced a paper on the methods of determining gloss. In this paper he discussed instruments that were available at the time including the ones mentioned previously in relation to the classification of six different types of gloss. In this paper Hunter also detailed the general requirements for a standardised glossmeter. ASTM has a number of other gloss-related standards designed for application in specific industries. In the paint industry, measurements of specular gloss are made according to International Standard ISO Construction[ edit ] A typical glossmeter consists of a fixed mechanical assembly comprising a standardised light source that projects a parallel beam of light onto the test surface to be measured and a filtered detector located to receive the rays reflected from the surface. The ASTM Method states that the illumination should be defined such that the source-detector combination is spectrally corrected to give the CIE luminous efficiency,  $V_\lambda$ ? The instruments are calibrated using reference standards that are usually made from highly polished, plane, black glass with a refractive index of 1. The measurement results of a glossmeter are related to the amount of reflected light from a black glass standard with a defined refractive index. The ratio of reflected to incident light for the specimen, compared to the ratio for the gloss standard, is recorded as gloss units GU. Measurement angle refers to the angle between the incident light and the perpendicular. The angle is selected based on the anticipated gloss range, as shown in the following table.

## Chapter 6 : Specifications & Drawings - FenceTrac

*1. Scope. This test method covers the measurement of the specular gloss of nonmetallic specimens for glossmeter geometries of 60, 20, and 85 Å° (°).. The values stated in inch-pound units are to be regarded as standard.*

## Chapter 7 : ASTM D - Zehntner GmbH

*For referenced ASTM standards, visit the ASTM website, [calendrierdelascience.com](http://calendrierdelascience.com), or Measured gloss ratings by this test method are ob- contact ASTM Customer Service at [service@calendrierdelascience.com](mailto:service@calendrierdelascience.com) For Annual Book of ASTM tained by comparing the specular reflectance from the speci-*

## Chapter 8 : What gloss standard should I be using to measure gloss? | Rhopoint Instruments

*ASTM International, formerly known as the American Society for Testing and Materials (ASTM), is a globally recognized leader in the development and delivery of international voluntary consensus standards.*

**Chapter 9 : New ASTM D Edition on Specular Gloss Measurement - Document Center's Standards Forum**

*The following devices are in accordance with ASTM D ZGM Glossmeter The very first glossmeter featuring a " touchscreen display for measurement of all gloss ranges from matt to high gloss up to 2' GU.*