



PVS-1 Paint Volume Solids Instrument Benefits

Accurately predict the Dry Film Thickness as it relates to Wet Film Thickness allowing you to correctly setup the coater head with the confidence of knowing that you will be on target at the commencement of the production run.

DJH Designs PVS-1 Instrument allows for quick and accurate testing of all incoming paint from suppliers for precision and consistently. Once the PVS base line is established for a given paint system it is a simple matter to check that all subsequent incoming batches meet the required specification from any suppliers.

Part drum and previously reduced drums of paint can be accurately and quickly tested to verify the volume solids content. This makes the job of tracking and testing easier to ensure you have the correct volume solids ratio.

Reduced scrap through the reduction of test strips. The ability to accurately measure volume solids content of the coating being applied relates directly to the setup of the coating heading. Correct coater head setup before production allows the reduction of test strips by predicting the resultant Dry Film Thickness for a given Wet Film Thickness being applied. Once you can determine the volume solids content of the coating you will know precisely the Wet Film thickness required to achieve your Dry Film Thickness target.

Lower the scrap from off colour defects. PVS-1 allows quick and accurate measurement of the PVS even for part drums retained from previous run. Inconsistent PVS value of incoming paint, or from part drums is a major source of off-colour defects.

PVS1 is the **only device in the world that performs an actual Volume Solids Test that produces a true Volume Solids Result**. ASTM and ISO test methods are not a true volume solid test¹. The test method of both standards produces a weight solid result which is then converted into a theoretical volume solid. Both ASTM and ISO recommend that the test should be done in duplicate which can represent up to 6 hours of work (ASTM method recommends drying for up to 3 hours to determine a single PVS result).

DJH's PVS-1 Paint Volume Solids Instrument produces a true PVS result in under 5 minutes. **10 minutes total time to run the test** in duplicate vs up to 6 hours for the ASTM or ISO method.

Note 1: The present ASTM and ISO method for the determination of the volume solids of clear and pigmented coatings, are based on the indirect measurement of the volume of a dried paint film using the Archimedes buoyancy effect. The weight of the paint film, supported on a metal substrate, is determined in air and in some liquid of known specific gravity. Typically, the volume solids are calculated from formulations or batch sheets using the density of the individual components and assuming that the volumes are additive. This assumption in general can be incorrect and volume solids and calculated volume solids can be different from the actual result; the magnitude of this difference will be dependent on the magnitude of the error in assuming that the additive volumes were accurate. There are also sources for error or differing interpretations to the application of ASTM and ISO test methods to the wide range of paints and coatings found in industry. For examples there are well known problems calculating the Volume Solids results using the ASTM or ISO methods in systems that use low molecular weight materials that are crosslinked into the final film by the curing process. Neither method cures the coating at a high enough temperature for cross linking to occur which will produce erroneous results in these types of coatings.