For everyone having an association with the paints and coatings industry, the new ASTM Paint and Coating Testing Manual: 15th Edition of the Gardner-Sward Handbook is an essential resource. This includes, not only those who manufacture or apply the coatings but, also, those who supply the raw materials used in coatings manufacturer, build the paint manufacturing equipment or investigate and analyze coatings’ failures. Even those that assist the “Triers-of-Fact” during litigation need the understanding that comes from the information found within this book. This is because the ASTM Paint and Coating Testing Manual goes much further that addressing testing paint films. Testing includes the components of the paint such as binders, solvents, pigments, plasticizers, and additives, as well as the physical characteristics of the paint before application and films after application. The individual chapters go deep into each subject discussing the chemistry and physics involved in the testing protocols. This allows the reader to appreciate many aspects of the testing including specific limitations of a procedure or their coating system.

Each chapter serves as a textbook in explaining the reasons for most testing protocols as well as teaching the underlying principles that are operative. The authors of these chapters are experts in their field and share their vast experience with the reader. A very good example is the chapter “Understanding Osmotic Activity in Paint Films and Determining Cause by Systematic Analysis of Blister Fluids and Blistered Coatings”. Osmotic activity in paint films is a very common paint failure mode that can originate from a multitude of causes. This may include mistakes in the coating’s formulation, manufacturer, specification/use environment, or application. A considerable amount of litigation revolves around this failure mode. In this chapter the complex phenomena of osmosis is addressed in a way to assist both the technical and lay person in understanding what has happened, why it happened, and, hopefully, how to fix the problem. This usually leads to aiding in establishing liability.

The new ASTM Paint and Coating Testing Manual: 15th Edition of the Gardner-Sward Handbook provides a “Concentrated Source of All that is Paint”. It is a publication that should be readily available to all who deal with paints and coatings and it is highly recommended for every library as an essential resource.

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