Savvy Optics Corp Seminar
Modern Optics Drawings

Summary

Since the late 1990's, the optics community has gradually been converting optics drawings from an unstandardized notes-based method to ISO 10110, a standardized, international pictographic method. In 2015, significant advances were made in the drawing standards to allow specification and tolerancing of complex optical surfaces, including freeforms. In 2017, the standards were revised again to provide more freedom in optics tolerancing, including the addition of the popular "scratch and dig" specification for surface imperfections, and in 2018 entirely new methods of tolerancing optical glass were added. This international standard is a great boon for an industry in need of standardization, but can be very confusing to the uninitiated.

This course provides attendees with an introduction of ISO 10110, the international standard for optics drawings and notations. The course begins with the context of optics drawings and the fundamentals of the ISO 10110 drawing layout. Next we will go through each of the tolerance notations for glass parameters, surface wave front, wedge, and surface texture and coating. We will go in depth into the different methods of specifying surface imperfections. Throughout the course, attendees are also informed about the changes that are likely for ISO 10110 in the future and potential trouble spots where notes are still required. Practical and useful examples are included throughout.

Learning outcomes

This course will enable you to:

- Read and interpret an optical drawing prepared to ISO 10110
- Understand the difference between the ISO standard and typical American notations
- Describe which symbol corresponds to each of the fundamental optical parameters
- Identify the meaning of the specifications of the tolerances for materials imperfections, surface form, wedge, surface imperfections, and surface texture
- Compose and interpret a basic ISO 10110-compliant optical element drawing

Notes

The course price includes course notes for all attendees.

Course Length

Full day (7.5 hours)

Instructor

Dave Aikens is President and founder of Savvy Optics Corp., and has been involved in optics drawings and specifications for over 30 years. He is the head of the American delegation to ISO TC 172 SC1, and is the past Executive Director of the Optics and Electro-Optics Standards Council. He was chairman of the project to adopt ISO 10110 as the American National Standard for optics drawings, and currently active managing revision projects for ISO 10110.

