International standards ready for review

There is so much new work going on in the international standards arena that this month we will simply list some of the draft standards now out for review and comments. A brief abstract of each document is included to give a feel for the scope of the standard. As you look over the list, it is obvious some of these standards will have a significant impact on individuals and industries using the optical equipment covered.

• In the laser area, there is working draft ISO/TC172/SC9/-WG1 N15, Terminology, Symbols and Units of Measure for the Specification and Testing of Lasers and Laser Systems. This draft defines basic terms, symbols, and units of measure in the field of laser technology to unify the terminology and to allow reproducible tests of laser beam parameters and laser-oriented product properties.

• There is also working draft ISO/TC172/SC9/WG1 N14, Test method for width, divergence and radiation characteristic factor of a laser beam. This draft describes explicit tests and data reduction formulae for the measurement of laser beam propagation parameters. Included are allowed test devices and specifications on their use.

• Similarly, working draft ISO/TC172/SC9/WG1 N17rev., Test method for temporal pulse shape, pulse repetition rate and pulse repetition rate stability, deals with explicit methods of determining these laser operating parameters.

• There are also several Committee Drafts (CDs) out for review on more general optical properties and test methods. ISO/CD 11421, Accuracy of OFT measurement, deals with methods of evaluating error sources in equipment used to measure the OTF and how to apply error sources bars to OTF measurements.

• ISO/CD 10109-3, 4 and 9, Application standard for environmental requirements—Part 3,4 and 9: Test requirements for photographic instruments, telescopes, and geodetic instruments outline the specific environmental tests each of these instruments must pass given their likely use. The environmental test specified for this equipment includes temperature extremes, humidity, shock, corrosive atmosphere, mould growth, and cosmetic appearance.

• Some environmental test methods are still being defined. ISO/CD 9022-20, Environmental test methods—Part 20: Humid atmosphere containing sulphur dioxide or hydrogen sulphide defines testing for effects on optical instruments in the presence of these gases.

• In the field of microscopy, ISO/TC172/WG5 voted to issue to the following as Draft International Standards (DISs): ISO/DIS 10934-1 Fundamental terms, ISO/DIS 10934-2 Specific terms, ISO/DIS 10934-3 Terms for physical optics, ISO/DIS 10935 Interfacing connection type "C", ISO/DIS 10936 Operation microscopes, and ISO/DIS 10937 Mechanical interfacing of eyepieces to microscopes with tube length 160 mm.

Individual copies of any of these CDs or DISs are available from Eduard Scherrer, NAPM, 550 Mamaroneck Ave., Harrison, N.Y. 10528 for $5 each, prepaid, including postage and handling.

—Robert E. Parks

Engineering *(continued from page 37)*

the plane whose engines falls off. (With science, the situation seems to be the opposite: The good is noticed, while the bad remains obscure.)

Another road to appreciation is through the consideration of costs. We typically complain about costs, but this is largely a habit, like regretting the weather. In manufactured goods, it is remarkable what can be purchased for, say, a day's work. Consider, for instance, a 35mm camera bursting with hundreds of intricate optical, mechanical, and electronic parts, often capable of so much function that we never learn to use it all. How can such a thing be so inexpensive that many of us can purchase it by working a day or two? If you were able to make it yourself, how long would it take? (Moreover, in an example such as this, the manufacturing cost is just a fraction of the retail cost.)

There is little in the media in praise of engineering. There is no Nobel Prize for engineering. The *New York Times* has a science section, but no engineering section. There is nothing on TV like "NOVA," for example, pertaining to engineering, and there is no "Mr. Wizard" of engineering. On occasion, a spectacular engineering feat may be treated, like the Eiffel Tower or the Panama Canal. But we are rarely presented with, say, "The Story of the Refrigerator," to which considerable brain time has been devoted, with the result that it is both extremely reliable and incredibly inexpensive relative to the improvement it makes to our lives.

Perhaps the recent hoopla about our military technology can be used to advantage for engineering awareness.

Next month: The true confessions of a lens designer.