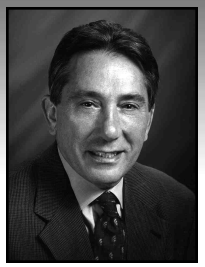

Standards Report

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On Metallic & Other Inorganic Coatings

Getting Ready for the Next Meeting

AESF not only administers the Secretariat of TC 107, *Metallic and other inorganic coatings*, but is also responsible for administering the work of Subcommittee 3 (SC 3), *Electrodeposited coatings and related finishes* (TC 107/SC 3). Some of the standards being revised and updated by SC 3 in preparation for the upcoming meeting in Cape Town, South Africa, are described in this report.

ISO/TC 107/SC 3 Technical Program

The technical program of this important subcommittee consists of the following projects:

- ***Autocatalytic Nickel.*** The second edition of ISO 4527, *Autocatalytic nickel phosphorus alloy coatings*, is now at the draft international standard (DIS) stage. The *alphanumeric* method of designating the basis metal, metal layers and heat treatment requirements described in my previous report is one of the changes that has been made (See "Standards Report," *P&SF*, July 2000). The DIS has been distributed for comment and voting. If accepted by a two-thirds majority, and assuming that no additional technical changes are suggested, the final draft will be circulated for approval. The second edition of this standard will likely be published early next year.
- ***Plated Plastics.*** During the voting on the second revision of the standard on decorative nickel-plus-chromium coatings on plastics (ISO 4525), comments were received from the U.S., Germany and the UK pointing to the growing trend to eliminate the copper underlayer and replace it with *ductile* nickel. As a result, the revised standard now permits the specification of decorative, electroplated nickel-plus-chromium coatings on plastics materials *with either copper or nickel undercoats* when thermal cycle resistance is a requirement.
- ***Decorative Nickel Coatings.*** ISO 1456 is the international standard covering decorative, electroplated nickel-plus-chromium coatings, with and without copper underlayers, on iron, steel, zinc alloys, copper and copper alloys, and aluminum and aluminum alloys. Voting on the third edition is now in progress. In addition to changes in the way the coatings are designated, a new service condition number, SC 5, has been included to cover automotive and other applications where *long-time* corrosion protection (10 years or more) is needed. STEP test requirements are included for the first time.
- ***Decorative Nickel Without Chromium.*** ISO 1458 covers decorative nickel coatings *without* chromium topcoats. The standard has been revised to permit the use of copper undercoats, as well as topcoats other than chromium; for example, tin-nickel, brass, bronze, gold, etc.
- ***STEP Test.*** A new international standard is needed because STEP test requirements will be included in the revisions of ISO 1456, ISO 1458 and ISO 4525, as already mentioned. The original draft has been edited to take into account comments received and will be circulated as a DIS before the next meeting.
- ***Zinc, Cadmium and Zinc Alloy Coatings.*** The two standards, ISO 2081 and ISO 2082, that specify zinc and cadmium coatings, respectively, have been revised to include requirements for conversion coatings and other supplementary treatments. The alphanumeric method of designating the coatings is utilized. The standard on zinc-nickel, zinc-cobalt and

zinc-iron alloys is new and is at the DIS stage.

- ***Coatings for Engineering Purposes.*** Four standards that cover coatings for engineering applications are at various stages of development. These include silver and silver alloy coatings (ISO 4521); gold and gold alloy coatings (ISO 4523); nickel (ISO 4526) and chromium (ISO 6158). These now include the coating specifications and test methods in the same document.

New Work Items

A new international standard on the measurement of hydrogen embrittlement in steel that utilizes the step-loading technique is at an early stage of development. One advantage of the method is its speed—that is, it is faster than the classical constant load method. A standard method of evaluating plating processes has been drafted and provides a means of controlling operating conditions to minimize the likelihood of hydrogen embrittlement. The development of a new specification covering autocatalytic copper in combination with autocatalytic nickel for EMI shielding applications has been initiated, and the first draft is being reviewed.

Our Next Meeting

The South African Bureau of Standards (SABS) will host the ISO/TC 107 meeting scheduled to take place in Cape Town, South Africa, September 18-22, 2000. The above-mentioned documents will be discussed at the meeting of SC 3. Three other subcommittees will meet to discuss new standards on terminology (SC 1), general test methods (SC 2), and corrosion testing (SC 7). Two working groups will discuss the new standards on EMI shielding and hydrogen embrittlement testing. Preparations for the meeting have been completed, and official notices and draft agendas have been mailed to the 32 participating and observer member countries of the committee.

The full committee will meet on Friday, September 22, 2000. The agenda includes discussion of future work, including development of a generic standard for the specification of metallic coatings, a standard guide for the preparation of metals prior to plating, and standards on cadmium and aluminum vapor-deposited coatings.

What Do You Think?

Your Society provides financial support for these activities by paying annual dues to the American National Standards Institute (ANSI). The costs associated with reviewing documents, attending meetings, preparing mailings, and obtaining word processing are subsidized by individual companies. Several consultants and delegates are contributing their expertise and time. We think the money is being well spent and hope you agree.

If you want to get involved with international standardization activities, become a member of ASTM Committee B 8 and attend meetings of the Technical Advisory Group to ISO/TC 107. If you are unable or don't want to do that, contact me by e-mail for additional information on any of the standards or topics discussed in this report. My e-mail address is gdibari@inco.com. Let me know what you think! P&SF