Standards Report



Dr. George A. Di Bari Secretary of ISO Technical Committee 107 (ISO/TC 107) On Metallic and Other Inorganic Coatings

Report to the American Electroplaters and Surface Finishers Society from the Secretary of ISO Technical Committee 107 (ISO/TC 107), metallic and other inorganic coatings.

This report was prepared for the AESF Board of Directors meeting in Orlando, FL, January 21, 2000, and is being published to keep the AESF membership informed of this activity. It includes background information and a summary of the recent activities of ISO/TC 107. Articles on ISO/ASTM Standards and Specifications will appear quarterly in this space.

Background Information

ANSI & AESF

The American National Standards Institute (ANSI) was appointed by the government to coordinate all U.S. international standardization activities and currently administers 240 different Secretariats. It is the official member of ISO and pays dues to that organization. Although ANSI receives some financial support from the U.S. government, most of its revenue is derived from fees assessed on its member bodies (e.g., ASTM, SAE and other groups that write technical standards in the U.S.). ASTM, for example, is assessed \$65,000 annually to cover organizational and other fees related to international activities. AESF agreed to assume the Secretariat of ISO Technical Committee 107, Metallic and Other Inorganic Coatings, in 1995. As a result of the existing memo of agreement with ANSI, AESF is responsible for the administration of the technical committee and for financial support. The financial support involves payment of annual fees to ANSI (\$12,770 in 1998; \$12,675 in 1999.)

ASTM's Role

ISO Technical Committee 107 is the international counterpart of ASTM Committee B8, *Metallic and Inor*-

ganic Coatings. The ASTM Technical Advisory Group (TAG) to ISO/TC 107 provides the technical support for international standardization activities. The TAG is a subcommittee of ASTM Committee B8. Its 45 members, most of whom are members of AESF, represent the U.S. surface finishing industry and help develop the U.S. position on international standards. As a result, the U.S. surface finishing industry has the opportunity to influence the technical content and requirements of international standards, as well as those being developed by the Committee for European Standardization (CEN). At the recent meeting of the Technical Activities Board, it was agreed that greater participation of AESF members would be worthwhile and will be implemented via the existing committee structure.

Goals

One goal is to make sure that technical barriers to trade are not incorporated in international standards, either accidentally or deliberately, so that U.S. plating processes and chemicals, and finished goods can be readily sold in any part of the world, particularly Europe. Alternatively, goods finished in other parts of the world shall meet the same quality requirements established in U.S. standards, so that electroplated goods from overseas compete on an equal footing. Another goal is to support the introduction of new surface finishing products, processes and technology. The overall goal, however, is to develop technically valid standards that ensure and improve the quality of metallic and other inorganic coatings.

Officers of ISO/TC 107

James Menturweck, Enthone-OMI, Dr. Donald L. Snyder, Atotech, and Dr. George Di Bari are the Chairman, Vice-Chairman and Secretary of ISO/ TC 107, respectively. Other subcommittees—terminology, general test methods, electrodeposited coatings and related finishes, hot dipped coatings (galvanized, etc.), corrosion testing and chemical conversion coatings—are administered by Switzerland (SNV), the United States (ANSI/AESF), the United Kingdom (BSI) and Poland (PKN). The AESF ASTM/ISO Specifications Review Committee, chaired by Dr. Snyder, is responsible for monitoring ISO/TC 107 activities, disseminating information about those activities within AESF and encouraging AESF members to participate.

Meetings

Meetings of the committee and all its subcommittees were held as scheduled in Stockholm, Sweden, May 31 to June 4, 1999. The next meeting is scheduled for Cape Town, South Africa, Sept. 18-22, 2000, sponsored by the South African Bureau of Standards (SABS). Tentative plans are to hold the meeting in 2001 or 2002 in the Orlando area in conjunction with AESF Week.

Recent Activities

- A report listing the resolutions (action items) and summarizing the meetings in Stockholm was written and distributed to national delegates and liaison committees in more than 40 countries.
- The backlog of work on standards covering porcelain enamel and thermally sprayed coatings has been largely eliminated in the past six months. One document on porcelain enamel terminology remains to be completed. Four new work items, two of which have already been started, are the only outstanding projects on thermally sprayed coatings that remain active.
- Work on a revised terminology document on metallic and other inorganic coatings was initiated in Sweden. The revised document was drafted by members of the ASTM TAG to ISO/TC 107. The responsi-

bility for completing the work is assigned to SNV (Switzerland), the Secretariat of Subcommittee 1.

- ISO/TC 107/SC 3, Electrodeposited Coatings and Related Finishes, for which we are responsible, still has the largest backlog of work, but progress is being made. A Draft International Standard on electroless nickel plating was completed and forwarded to ISO Central Secretariat for distribution to member countries. That standard will be voted on simultaneously by ISO and CEN members, ensuring that the international version will be technically equivalent to the European one (as well as to the existing ASTM Standard). New and revised drafts on zinc, cadmium, engineering silver and engineering gold coatings are nearing completion and are about to be circulated. Voting on draft standards covering decorative and engineering nickel, engineering chromium, and zinc alloy coatings, electroplated plastics, and the STEP test has been completed and those documents are ready to progress to the next stage. Much of this work will be completed before the next meeting in Cape Town the week of Sept.18.
- More than 26 standards developed by ISO/TC 107 were published by ISO in 1998/1999. (See Appendix 1). The list is included to indicate the progress that has been made.

Appendix 1

Surface Finishing Standards Developed by Technical Committee 107, *Metallic and other inorganic coatings*, and published by ISO in 1998 and 1999.

Working Group 1, Thermal Spraying (formerly SC 5)

ISO 14916, Thermal spraying – Determination of tensile adhesive strength

ISO 14917, Thermal spraying – Terminology, classification

ISO 14920, Thermal spraying – Spraying and fusing of self-fluxing alloys

ISO 14922, Parts 1-4, Thermal spraying – Quality requirements of thermally sprayed coatings

Working Group 2, Porcelain enamel coatings (formerly SC 6)

ISO 2744, Vitreous and porcelain enamels – Determination of resistance to boiling water and water vapour

ISO 2745, Vitreous and porcelain enamels – Determination of resistance to hot sodium hydroxide

ISO 2746, Vitreous and porcelain enamels – Enamelled articles for service under highly corrosive conditions – High voltage test

ISO 2747, Vitreous and porcelain enamels – Enamelled cooking utensils- Determination of resistance to thermal shock

ISO 2748, Vitreous and porcelain enamels – Determination of resistance to boiling citric acid

ISO 4528, Vitreous and porcelain enamel finishes – Selection of test methods for vitreous and porcelain enamelled areas of articles (in press)

ISO 4531-1, Vitreous and porcelain enamels – Release of lead and cadmium from enamelled ware in contact with food – Part 1: Method of test

ISO 4531-2, Vitreous and porcelain enamels – Release of lead and cadmium from enamelled ware in contact with food – Part 2: Permissible levels

ISO 8289, Vitreous and porcelain enamels Low voltage test for detecting and locating defects (in press)

ISO 8290, Vitreous and porcelain enamels – Determination of resistance to sulfuric acid at room temperature

ISO 13804, Vitreous and porcelain enamels for aluminium – Production of specimens for testing

ISO 13805, Vitreous and porcelain enamels for aluminium – Determination of the adhesion of enamels on aluminium under the action of electrolytic solution (spall test)

ISO 13806, Vitreous and porcelain enamels – Corrosion tests in closed systems (in press)

ISO 13807, Vitreous and porcelain enamels – Determination of crack formation temperature in the thermal shock testing of enamles for the chemical industry (in press))

ISO 15695, Vitreous and porcelain enamels – Determination of scratch resistance of enamel finishes (in press) Subcommittee 3, Electrodeposited coatings and related finishes

ISO 9587, Metallic and other inorganic coatings – Pretreatments of iron and steel to reduce the risk of hydrogen embrittlement

ISO 9588, Metallic and other inorganic coatings - Post-coating treatments of iron and steel to reduce the risk of hydrogen embrittlement

ISO 12686, Metallic and other inorganic coatings – Automated controlled shot-peening of metallic articles prior to nickel, autocatalytic nickel or chromium plating, or as a final finish (in press).

Surface Finishing Standards Developed by Technical Committee 107, Metallic & Other Inorganic Coatings, & published by ISO in 1998 and 1999

Subcommittee 4, Hot dip coatings (galvanized, etc.)

ISO 1461, Hot dip galvanized coatings on fabricated iron and steel articles – Specifications and test methods

ISO 14713, Protection against corrosion of iron and steel in structures – Zinc and aluminium coatings – Guidelines

Subcommittee 7, Corrosion tests

ISO 10289, Methods for corrosion testing of metallic and other inorganic coatings on metallic substrates – Rating of test specimens and manufactured articles subjected to corrosion tests

Subcommittee 8, Chemical conversion coatings

ISO 11408, Chemical conversion coatings – Black oxide coatings on iron and steel – Specifications and test methods

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