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**Metallic and other inorganic coatings —  
Autocatalytic nickel over autocatalytic  
copper for electromagnetic shielding**

*Revêtements métalliques et autres revêtements inorganiques — Dépôts autocatalytiques de nickel sur dépôts autocatalytiques de cuivre pour protection contre les interférences électromagnétiques*

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 17334 was prepared by Technical Committee ISO/TC 107, *Metallic and other inorganic coatings*, Subcommittee SC 3, *Electrodeposited coatings and related finishes*.

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## Introduction

The proliferation of electronic equipment has created a need for methods for shielding components from the hazards of electromagnetic radiation, hazards that can result in the malfunctioning of computers, as well as medical, navigational, detonation, telecommunication and other devices. Electromagnetic shielding requirements have been established by government regulations and directives in many parts of the world.

The capability of an enclosure, housing or cabinet to prevent electromagnetic radiation from being emitted or absorbed is related to its conductivity; hence, metal enclosures are highly effective for electromagnetic shielding purposes. The cost/weight advantages of plastics, however, have led to their widespread use in computer cabinets and other enclosures. Plastics are non-conductive and as a result, metallic coating methods have been developed to shield components from the interference caused by electromagnetic radiation.

An effective method of protecting computer housings from electromagnetic interference involves the autocatalytic deposition of a layer of copper on the plastic housing. To provide durability and corrosion protection, a thin layer of autocatalytic nickel is applied over the autocatalytic copper. Although this method was first utilized in computer housings made of plastics, it is applicable to other substrates and applications. The need for effective shielding will likely intensify and the use of autocatalytic nickel over autocatalytic copper for electromagnetic shielding purposes is expected to increase.

This International Standard is intended for use by purchasers in specifying requirements to the electroplater, supplier or processor and is to be indicated on the part drawing or purchase order.

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