Codes and Other Standards

Reviewers

A. Davis
American Welding Society

M. J. Lucas
General Electric Aviation

W. J. Sperko
Sperko Engineering

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CHAPTER 9

CODES AND OTHER STANDARDS

INTRODUCTION

The purpose of this chapter is to familiarize the fabricators and consumers of brazed products with the basic documents that govern or guide brazing activities. These documents describe the requirements for (1) the production of safe and reliable brazed products and (2) necessary conditions for brazing in an environment free from safety and health hazards.

Publications relating to the manufacture of brazing materials or equipment are not discussed in this chapter. However, these publications may be referenced in the basic documents, and their contribution to safety and reliability should not be underestimated.

At the time of the preparation of this chapter, the referenced standards were valid. As the standards and publications referred to in this chapter are cited without a date of publication, it is understood that the latest edition of the document should be followed. As standards undergo frequent revision, the reader is encouraged to consult the most recent edition.

APPLICATIONS

The American Welding Society (AWS) uses the general term standards to refer to documents that govern and guide welding and brazing activities. Standards describe the technical requirements for a material, process, product, system, or service. They also indicate procedures, methods, equipment, or tests used to determine that the requirements have been met.

Standards include codes, specifications, guides, methods, and recommended practices. These documents have many similarities, and the terms are often used interchangeably, but sometimes incorrectly. Codes and specifications are similar types of standards that use the verbs shall and will to indicate the mandatory use of certain materials or actions, or both. Codes differ from specifications in that their use may be mandated with the force of law by one or more governmental jurisdictions. The use of specifications becomes mandatory only when they are referenced by codes or contractual documents.

Guides and recommended practices are standards that are technology transfer documents. They use verbs such as should, implying advisability, and may, denoting possibility or permission, because their use is usually optional. However, if these documents are referenced by codes or contractual agreements, their use may become mandatory. If the codes or agreements contain nonmandatory sections or appendices, the use of the referenced guides or recommended practices is at the user’s discretion.

The user of a standard should become acquainted with its scope and intended use, both of which are usually included within the sections titled “Scope” or “Introduction.” It is equally important, but often more difficult, to recognize subjects that are not addressed by the document. These omissions may require additional technical consideration. A document may cover the details of the product form without considering special conditions under which it may be used. Examples of special conditions would be corrosive atmospheres, elevated temperatures, and dynamic rather than static loading.

Codes and other standards are not handbooks and should not be considered a substitute for education, experience, or sound engineering judgment. Standards vary in their method of achieving compliance. Some have specific requirements that allow for no alternative actions. Others permit alternative actions or procedures as long as they result in properties that meet the specified criteria. These criteria are often given as minimum requirements.