ASME B16.22-2001
(Revision of ASME B16.22-1995)

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FOR CURRENT COMMITTEE PERSONNEL
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WROUGHT COPPER AND COPPER ALLOY SOLDER JOINT PRESSURE FITTINGS

AN AMERICAN NATIONAL STANDARD

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The next edition of this Standard is scheduled for publication in 2007. There will be no addenda issued to this edition.

ASME issues written replies to inquiries concerning interpretations of technical aspects of this Standard.

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FOREWORD

Standardization of cast and wrought solder-joint fittings was initiated in Subcommittee 11 of American Standards Association (ASA) Sectional Committee A40 on Plumbing Requirements and Equipment. Development work culminated in publication of ASA A40.3-1941. The standard benefited from work done by Mr. A. R. Maupin of the National Bureau of Standards, both before and during its development, on the strength of solder joints.

In 1949, work on these fittings was transferred to Sectional Committee B16, which established Subcommittee 9 (now Subcommittee J) with a scope broader than plumbing applications. The first standard developed was approved as ASA B16.18-1950, Cast-Brass Solder Joint Fittings. It was then decided to revise A40.3 as a B16 standard covering only wrought solder-joint fittings. This effort was facilitated by a 1950 draft prepared by joint effort of the Copper and Brass Research Association and the Manufacturers Standardization Society of the Valve and Fittings Industry (MSS). The draft, after review and approval by Subcommittee 9 and the Sectional Committee, was approved as B16.22-1951.

Revisions were published as ASA B16.22-1963 and, after reorganization of ASA as the American National Standards Institute (ANSI), as ANSI B16.22-1973. In these editions, updated practices, new materials, and new types of fittings were incorporated into the standard, as well as editorial improvements and updating of referenced specifications and standards.

In 1979, Subcommittee I (formerly 9, now J) added metric dimensional equivalents and made other minor improvements. This revision was approved by ANSI, after approval by the Committee and secretariat organizations, as ANSI B16.22-1980.

In 1982, American National Standards Committee B16 was reorganized as an ASME Committee operating under procedures accredited by ANSI.

In 1989, Subcommittee J removed metric equivalents and updated referenced standards.

In 1995, Subcommittee J defined bursting strength, defined standard gaging method for threaded ends, revised solder-joint lengths for $\frac{1}{8}$ in. size external and internal ends, and revised minimum wall-thickness values based on a comprehensive bursting-test study. Following approval by the Standards Committee and ASME, approval as an American National Standard was given by ANSI on July 24, 1995, with the new designation ASME B16.22-1995.

In 1998, editorial revisions, which included the addition of a new section on quality systems and a change in the designation of ASTM B 32 alloys, were issued as an addendum. This addendum to the 1995 edition of ASME B16.22, after approval by the ASME B16 Committee and ASME, was approved as ASME B16.22a-1998.

In this 2001 edition, Subcommittee J converted the physical requirements to SI (metric) units of measure, added requirements for tube stops, clarified ovulate and alignment requirements, and made numerous editorial revisions. Alloy E and Alloy HB were incorporated into the table listing pressure–temperature ratings for the soldering and brazing materials, plus values for the 95–5 tin–antimony solder were revised. These revisions to pressure–temperature ratings reflect the data from a National Institute of Standards and Technology (NIST) solder-joint testing study, initiated in 1993 to develop stress rupture and strength data on copper tube sleeve joints using various solders. Following approval by the Standards