

AN AMERICAN NATIONAL STANDARD

PIPE THREADS, GENERAL PURPOSE (INCH)

ANSI/ASME B1.20.1 - 1983

(REVISION AND REDESIGNATION OF ANSI B2.1-1968)

REAFFIRMED 1992

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PLEASE SEE ASME MANUAL AS-11

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FOREWORD

(This Foreword is not part of American National Standard, Pipe Threads, General Purpose (Inch) ANSI/ASME B1.20.1-1983.)

In 1973 American National Standards Committee B2, which had formerly been responsible for pipe thread standards, was absorbed by ANSI Standards Committee B1 and reorganized as subcommittee 20. A complete rewrite of the B2.2-1968 standard on Dryseal Pipe Threads has been completed, with the product thread data in separate documents from the gaging standards for Dryseal Pipe Threads. The system of numbering, to include metric conversions, is as follows:

ANSI B1.20.3-1976 Dryseal Pipe Threads (Inch)
ANSI B1.20.4-1976 Dryseal Pipe Threads (Metric Translation)
ANSI B1.20.5-1978 Gaging for Dryseal Pipe Threads (Inch)
In preparation, B1.20.6M Gaging for Dryseal Pipe Threads (Metric Translation)

A complete rewrite of the B2.1-1968 standard on Pipe Threads (Except Dryseal) was then undertaken. The system of numbering, to include metric conversions, is as follows:

ANSI/ASME B1.20.1 Pipe Threads, General Purpose (Inch)
In preparation, B1.20.2M Pipe Threads, General Purpose (Metric Translation)

These standards, ANSI/ASME B1.20.1 and B1.20.2M, have product thread dimensions and gaging in the same document. Thread inspection specifies the use of L_1 taper thread plug and ring gages similar to B2.1-1968. In addition, emphasis is given to the requirement that all basic thread design dimensions are to be met within the specified tolerances.

The data in this Standard supersede those given in ANSI B2.1-1968.

The ANSI/ASME B1.20.1 was approved by ASME Standards Committee B1 on December 1, 1982 for publication as an official ANSI standard.

The proposed standard was submitted by standards committee B1 to the Secretariat and the American National Standards Institute. It was approved and formally designated as an American National Standard on February 4, 1983.

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AN AMERICAN NATIONAL STANDARD
PIPE THREADS, GENERAL PURPOSE (INCH)

1 INTRODUCTION**1.1 Scope**

This American National Standard covers dimensions and gaging of pipe threads for general purpose applications.

1.2 Thread Designations

1.2.1 The types of pipe threads included in this Standard are designated by specifying in sequence the nominal pipe size,¹ number of threads per inch and the thread series symbol as follows:

3/8 - 18 NPT
 1/8 - 27 NPSC
 1/2 - 14 NPTR
 1/8 - 27 NPSM
 1/8 - 27 NPSL
 1 - 11.5 NPSH

For left hand threads add LH to the designation, otherwise right hand threads will be understood. For example:

3/8 - 18 NPT - LH

1.2.2 Each of these letters in the symbols has a definite significance as follows:

N = National (American) Standard
 P = Pipe
 T = Taper
 C = Coupling
 S = Straight
 M = Mechanical
 L = Locknut
 H = Hose Coupling
 R = Railing Fittings

¹Where it is necessary to use decimal notation for the size designation (as when inserting such in a computer or electronic accounting machine) the decimal equivalent of nominal pipe size may be substituted for fractional pipe sizes.

1.2.3 Coated or Plated Threads. The threaded product specifications covered in this Standard do not include an allowance for coatings or plating.

1.3 Sealing

1.3.1 Where pressure-tight joints are required, it is intended that taper pipe threads conforming to this Standard be made up wrench-tight with a sealant. To prevent galling on certain piping materials such as stainless steels, the sealant usually contains a lubricant.

1.3.2 Pipe threads designed for pressure-tight joints that may be used without sealing compounds (Dryseal Threads) are covered in ANSI B1.20.3 (Inch) and ANSI B1.20.4 (Metric Translation).

1.4 Inspection

A gaging method and tolerances are prescribed in this Standard to effect a functional inspection of the handtight L_1 engagement threads. However, conformance to this Standard requires that all basic design dimensions be met (within applicable tolerances) including extension of the thread elements to provide for wrench-tight makeup. Therefore, additional methods of gaging may be employed to evaluate conformance to the basic design dimensions. When additional methods of gaging are employed, they shall be agreed upon by the supplier and the purchaser.

1.5 Appendix

Useful and supplementary information which is not a part of this Standard is presented in the Appendix. Specifically, the Appendix gives Suggested Twist Drill Diameters for Drilled Hole Sizes for Pipe Threads.

1.6 Related Standard

Definitions of terms and symbols for thread dimensions are given in ANSI B1.7, Nomenclature, Definitions and Letter Symbols for Screw Threads.