



## Standard Specification for Taper Pipe Threads 60° for Thermoplastic Pipe and Fittings<sup>1</sup>

This standard is issued under the fixed designation F 1498; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This specification establishes requirements for dimensions and gaging of taper pipe threads used on threaded plastic pipe and fittings.

1.2 Threads meeting this specification shall only be used on those plastic materials deemed suitable by the manufacturer.

1.3 Specialty threads or threads not requiring a leak-tight joint are not covered in this specification.

NOTE 1—The terms “wrench makeup” and “wrench tight” are standard terminology for tightness and do not imply using a pipe wrench or other tools which would damage plastic pipe and fittings. The terms “hand-tight” and “hand-tight engagement” refer only to thread gaging (not pipe and fitting connections) and is the definition of the  $L_1$  gage length.

1.4 **Thread Designations**—The type of pipe threads included in this specification are designated by specifying in sequence the nominal pipe size, number of threads per inch, and the thread series symbols as follows in accordance with ANSI/ASME B 1.20.1:  $\frac{3}{8}$ -18 NPT. For left-hand threads add LH to the designation, otherwise right-hand threads will be understood. For example:  $\frac{3}{8}$ -18 NPT-LH.

1.4.1 Each of these letters in the symbol has a definite significance as follows:

N = National (American Standard)  
P = Pipe  
T = Taper

1.5 The values stated in inch-pound units are to be regarded as the standard.

1.6 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.* For specific precautionary statements, see 7.2.1 and 8.3.

### 2. Referenced Documents

#### 2.1 ASTM Standards:

D 1600 Terminology for Abbreviated Terms Relating to Plastics<sup>2</sup>

E 177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods<sup>3</sup>

F 412 Terminology Relating to Plastic Piping Systems<sup>4</sup>

#### 2.2 ANSI/ASME Standards:

B 1.20.1 Pipe Threads, General Purpose (inch)<sup>5</sup>

B 1.7M Nomenclature, Definitions and Letter Symbols for Screw Threads<sup>5</sup>

B 47.1 Gage Blanks<sup>5</sup>

### 3. Terminology

3.1 Terminology is in accordance with Terminology F 412 and abbreviations are in accordance with Terminology D 1600, unless otherwise indicated.

3.2 Nomenclature, definitions, and letter symbols for screw threads are in accordance with ANSI/ASME B 1.7M.

### 4. American National Standard Taper Pipe Thread Form

4.1 **Thread Form**—The form of thread profile specified in this specification shall be known as the American National Standard Taper Pipe Thread Form. The relations as specified herein, for form of thread and general notations are shown in Fig. 1.

4.2 **Angle of Thread**—The angle between the sides of the thread is 60° when measured in an axial plane. The line bisecting this angle is perpendicular to the axis.

4.3 **Truncation and Thread Height**—The height of the sharp V thread,  $H$ , is as follows:

$$H = 0.866025p = 0.866025/n \quad (1)$$

where:

$p$  = pitch of thread, and

$n$  = threads per inch.

4.3.1 The basic maximum height of the truncated thread,  $h$  (see Fig. 1) is based on factors entering into the manufacture of cutting tools and the making of tight joints.

$$h = 0.800p = 0.800/n \quad (2)$$

The crest and root of pipe threads are truncated a minimum of  $0.033p$ . Maximum truncation for the crest and root of these pipe threads is in Table 1. The crests and roots of the external

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<sup>2</sup> Annual Book of ASTM Standards, Vol 08.01.

<sup>3</sup> Annual Book of ASTM Standards, Vol 14.02.

<sup>4</sup> Annual Book of ASTM Standards, Vol 08.04.

<sup>5</sup> Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.