



Standard Practice for Designation of Yarn Construction¹

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INTRODUCTION

This practice conforms in general with the practices adopted by the International Organization for Standardization in Document ISO 1139 Designation of Yarns. The ISO document, however, covers the use of the tex direct yarn numbering system only, whereas ASTM Practice D 1244, as in previous texts, also covers other direct yarn numbering systems and traditional indirect yarn numbering systems.

1. Scope

1.1 This practice covers instructions for the designation of yarn construction and is applicable to single yarns, plied yarns, and cabled yarns or cords of filaments or spun fibers. The application of the practice to specific cases is illustrated with examples. This practice does not cover the description of novelty yarns or core spun yarns of various types.

1.2 The primary purpose of this practice is to establish a reference system for use in the trade and particularly for use in correspondence and publications. To secure a simplified notation, certain portions may be omitted provided there is no doubt as to the omitted parts.

1.3 *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.*

2. Referenced Documents

2.1 ASTM Standards:

D 123 Terminology Relating to Textiles²

D 861 Practice for Use of the Tex System to Designate Linear Density of Fibers, Yarn Intermediates, and Yarns²

2.2 Other Standard:

ISO1139 Designation of Yarns³

3. Terminology

3.1 Definitions:

3.1.1 *resultant yarn number, n* —the yarn number based on the observed mass per unit length of a plied yarn, a cabled yarn,

or a yarn whose number has been changed by processing such as twisting or bulking.

3.1.1.1 *Discussion*—A calculated yarn number obtained from the yarn number(s) of the components should not be called a resultant yarn number.

3.1.2 For definitions of other textile terms used in this practice, refer to Terminology D 123.

4. Explanation of Abbreviations and Symbols

4.1 *B*—A symbol designating the resultant yarn number of bulked yarns, to be placed before the numerical value.

4.2 *R*—A symbol designating the resultant yarn number of plied or cabled yarns, to be placed before the numerical value.

4.3 $\times$ —The multiplication symbol is used before the number of identical component strands combined in any stage of manufacture for yarns numbered in a direct yarn numbering system.

4.4 $+$ —The plus sign is used to denote the addition or combination of dissimilar component strands in a more complex structure.

4.5 $/$ —When used with direct yarn numbers, the solidus denotes the separation of a structure numbered in a direct yarn numbering system into its component strands. When used with indirect yarn numbers, the solidus denotes combining (plying) of identical component strands, numbered in an indirect yarn numbering system. See also Note 2.

4.6 *f*—An abbreviation for filaments, to be placed before the number of filaments.

4.7 *t0*—Symbol indicating zero twist in a yarn.

4.8 *tpi*—An abbreviation for turns of twist per inch in a yarn.

4.9 *tpm*—An abbreviation for turns of twist per metre in a yarn.

4.10 ()—Parentheses are used to enclose information describing the material from which the yarn is made.

4.11 []—Brackets are used to enclose the description of dissimilar components forming a subcomponent of a cabled yarn or cord.

¹ This practice is under the jurisdiction of ASTM Committee D-13 on Textiles, and is the direct responsibility of Subcommittee D13.58 on Yarn Test Methods, General.

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² *Annual Book of ASTM Standards*, Vol 07.01.

³ Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.