

Guidelines for Using This Manual

Special Notice to Readers: Unless indicated otherwise, figures and text illustrations in the manual are not drawn to scale. Further, unless indicated otherwise, the dimensions listed in figures and tables are given first in inches, followed by the equivalent millimeters in brackets.

The first step in learning any industry is mastering its terminology. With this in mind, the Steering Committee has adopted a list of standard, industry-accepted terms for tablet manufacturing. An understanding of these terms will provide a foundation on which persons new to the industry can build a working knowledge of the basic tablet categories, tooling types, press operations, and tooling specification drawings. For those who have industry experience, the information in this section could be a useful reference for ensuring clear communication between production staff, tablet designers, tooling suppliers, and press manufacturers.

Tooling Terminology

The following definitions of the standard terminology for tooling (punches and dies) are illustrated in Figure 1 (page 3).

Abbreviations

IPT: Industrial Pharmaceutical Technology (obsolete term replaced with TSM)

TSM: *Tableting Specification Manual*

APhA: American Pharmacists Association (publisher of the *Tableting Specification Manual*)

EU: European union

FEA: Finite element analysis

kN: KiloNewton

kp: Kilopond

O.D.: Outside diameter

I.D.: Inside diameter

W.L.: Working length

O.L.: Overall length

General Terminology

Abrasion: The act of wearing of contact surfaces.

Alpha/Numeric Characters: A, B, C, etc./ 1, 2, 3, etc.

Anneal: A process of heating a steel followed by slow air cooling to change the steel's microstructure, usually to soften it.

Angle: A figure that is formed by two lines diverging from a common point.

Arc: A segment of a circle.

Axis: A straight line serving to orient a geometric object.

Barrel: The area between the neck and stem of a punch.

Barrel-to-Stem Chamfer: The beveled area located between the barrel and barrel-to-stem radius. The chamfer allows for the proper insertion of the punches turret oil seals.

Barrel-to-Stem Radius: The area at the junction of the barrel and stem, which provides a curved transition from the tip length to the barrel.

Bevel: The angle of a line that meets another at any angle other than a right angle.

Blend: To form a rounded surface at the point where two surfaces come together to form an angle.

Bore: To form a hole through an object.

Break (broken): To remove and round off a sharp edge.

Burr: A rough or raised edge.

Capping: A tablet defect in which air trapped during compression creates a layer of granulation with air between the granules, which in turn weakens the structure and allows a capping fracture (the tablet top and/or bottom curvature breaks off at or above the band).