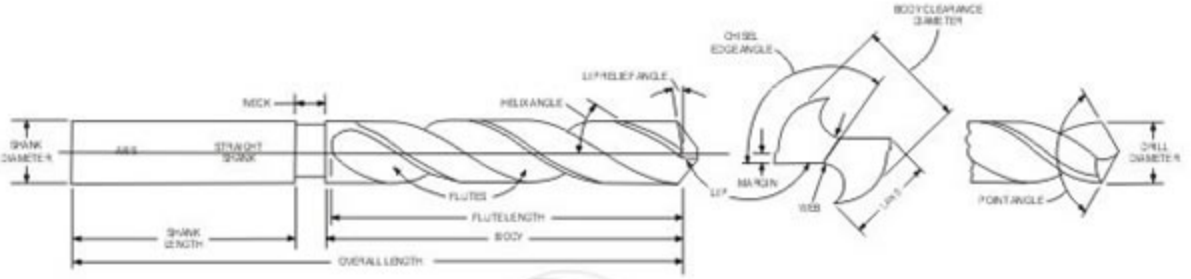
DRILL RECONDITIONING



Axis The imaginary straight line which forms the lengthwise center of a drill.

Body The section of a drill from the shank to the outer edges of the cutting lips.

Body Clearance Diameter The portion of the land that has been cut away so it will not bind against the walls of the hole.

Chip Removal The ability of a drill to pull material that has been cut away from the point, up the flutes and out of the hole.

Chisel Edge The edge at the end of the web that connects the cutting lips.

Chisel-Edge Angle The angle between the chisel edge and cutting lip, as viewed from the end of a drill.

Cobalt Steel A heat-resistant steel that produces increased drill life.

Drill Diameter The diameter over the margins of a drill, measured at the point (Dia.).

Feeds Feed rates for drilling are determined by the drill diameter, machinability of materials and depth of the desired hole. Small drills, harder materials and deeper holes require additional considerations in selecting proper feed rates (IPA).

Flute Groove cut in the body of drills to provide cutting surfaces, permit removal of chips and allow cutting fluid to reach cutting surfaces.

Flute Length The distance from the outer edges of the cutting lips to the extreme back of the flutes.

Helix Angle The angle formed between the leading edge of the land and the axis of a drill.

High-Speed Steel The high quality steel used in drills for most maintenance and industrial applications.

IPM Feed Rate in Inches Per Minute = IPR x RPM.

IPR Inches Per Revolution (Feed).

Land The outer portion of the body between two adjacent flutes.

Land Width The distance between the leading edge and heel of the land, measured at a right angle to the leading edge.

Lip Relief Angle The relief angle at the outer corner of the lip.

Lip The cutting edge of a two-flute drill which extends from the chisel edge to the outer edge.

Margin The narrow raised surface on a drill body along the flute that stabilizes the drill in the hole.

Neck The section of reduced diameter between the body and the shank of a drill.

Overall Length The length from the end of the shank to the outer corners of the cutting lip.

Point The cone shaped cutting end of a drill, made from the ends of the lands and the web.

Point Angle The angle of the cutting surfaces on a drill point, commonly 118° or 135° .

RPM Revolutions Per Minute = Dia x 3.82

SFM Surface Feet Per Minute RPM x Dia. x .26

Shank The part of a drill by which it is held and driven.

Size Measurement reference for diameter size of a drill, expressed as either Fractional, Wire, Letter or Metric.

Speed The speed of a drill is determined by the rate which the outer edge of the tool rotates in relation to the material being cut. In general, the SFM is within a range based upon the work piece material, its condition, hardness and depth of the hole. The deeper the hole, the greater tendency for more heat to be generated.

Speed reduction is often recommended to minimize the amount of heat. It is usually best to start drilling at a slower speed and then increase.

Split-Point A special point configuration that eliminates "walking," so holes stay on center.

Web The central portion of the body that joins the lands. The extreme end of the web forms the chisel edge of a two-flute drill.

Web Thickness The thickness of the web at the point, unless otherwise specified.