

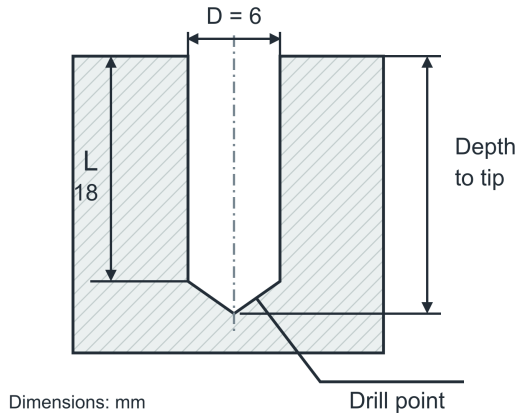
Holes & blind threads

Separate bore depth, full thread depth and fastener engagement.

DESIGN INTENT Usable thread depth is not drill depth.

01 Drilled hole: define the endpoint

SECTION / DRILLED BLIND HOLE



L stops before the drill point

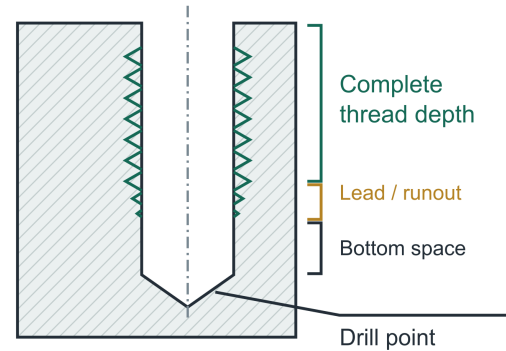
WORKED EXAMPLE / mm

Hole ratio = full-diameter depth / bore diameter

$$18 / 6 = 3:1 \mid 60 / 6 = 10:1$$

02 Blind thread: reserve bottom space

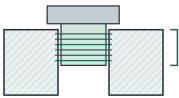
SECTION / BLIND TAPPED HOLE



Zone lengths depend on the actual tool and process.

Complete thread first, tool allowance below

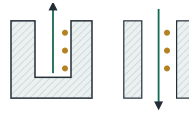
03 Check the assembled joint



Engagement is the overlap of mating threads, not drilled depth. Required overlap depends on loads, materials and the fastener.

CAD: check bolt overlap in the assembly.

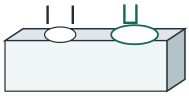
04 Give chips an exit



Blind and through holes need different chip strategies. Tool geometry, coolant and cutting cycle must match the actual hole.

CAD: use through holes where function allows.

05 Use available sizes when suitable



Standard drills can simplify tooling. A required fit may still need reaming or boring; nonstandard sizes do not always need interpolation.

CAD: keep the required fit, not an arbitrary size.

06 Make passages cleanable



Cross holes can leave burrs inside the part. Include access for deburring, cleaning and verification of critical intersections.

CAD: locate intersections with cleanup in mind.

WHAT THIS DOES NOT PROVE

Specify complete usable thread depth. Set lead, runout and bottom allowance using the selected tool and chip strategy.

BEFORE RELEASE Protect fit, loads, sealing and required material sections when changing geometry.

- ☐ State thread standard, size, pitch and class.
- ☐ Distinguish through holes from blind holes.
- ☐ Dimension required complete thread depth.
- ☐ Confirm actual mating-fastener overlap and loads.
- ☐ Allow tool-specific bottom clearance.
- ☐ Review intersection burrs and cleaning access.

Illustrative geometry; not to scale. No universal shop limits or structural approval. Drawing and approved process requirements govern.