

What Drill Bit for Metal

What drill bit for metal — bit, point angle, speed and cutting fluid

METAL	BIT TO USE	POINT	SPEED	CUTTING FLUID?
Aluminium	HSS	118°	Fast	Optional (wax)
Mild steel	HSS	118° / 135°	Moderate	Yes, 1/8"+
Stainless steel	Cobalt (HSS-Co)	135° split	Slow	Yes
Hardened / alloy	Cobalt or carbide	135° split	Very slow	Yes

To drill metal you need an HSS (high-speed steel) twist bit at minimum; for stainless or hardened steel, a cobalt (HSS-Co) bit. A brad-point wood bit or a carbide masonry bit will not cut steel - the wood bit slices fibres, the masonry bit chips concrete under hammer impact.

Bit material: HSS (M2) for mild steel and aluminium (the cheap baseline); cobalt (HSS-Co, M35/M42) for stainless and hardened steel - it is alloyed through the bit, takes the heat, and survives resharpening. Titanium (TiN) bits are HSS with a gold coating that is lost when resharpened - a gold bit is not a cobalt bit. Carbide is for hard, abrasive material and a rigid setup, not the DIY default.

Point angle: 118 degrees is general purpose (wood, plastic, soft metal) but has a flat chisel centre that ploughs and skates on hard steel; a 135-degree split point self-centres and bites - the one to use on steel and stainless.

Technique: centre-punch first so the bit does not walk; go slow (small bits up to 1/8 inch ~3000 RPM, larger 350-1000 RPM, slower for harder/bigger; slow down if it smokes, chatters or turns blue); cutting fluid on steel 1/8 inch and up (aluminium likes wax, cast iron is drilled dry); steady firm pressure so it cuts rather than rubs (rubbing work-hardens the steel); step up in sizes for big holes; deburr; wear eye protection. Speeds and feeds vary by bit, metal and machine - these are starting points; for structural or critical work follow the manufacturer's data.