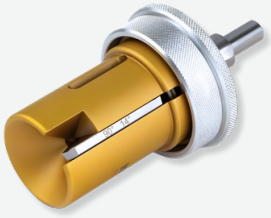
KOPAL external tube chamfering tool

KOPAL is a single-blade tool for external chamfering of tubes and other round workpieces with an outside diameter of 4-117 mm. The lockable pilot cone allows a fixed chamfer size to be set for repeat machining.

The tool is supplied with one fitted, replaceable HSS blade with a 14° rake angle. Recommended cutting speed: 10-20 m/min.



Technical data

Property	Specification
Working range	Outside diameter Ø 4-117 mm, in seven size ranges
Included angle	60° or 90° included angle, depending on model
Chamfer angle	60° included angle gives a 30° chamfer; 90° gives 45°
Shank	Cylindrical shank, Morse taper 2 (MT 2) or Morse taper 3 (MT 3)
Adjustment	Lockable pilot cone for setting the chamfer size
Supplied blade	1 fitted, replaceable HSS blade with a 14° rake angle
Cutting speed	Recommended range: 10-20 m/min

Tool models and dimensions

Available with a cylindrical shank or Morse taper 2 or 3. Select the shank, included angle and working range to suit the application and machine spindle.

Not all combinations are available. The 60-97 and 80-117 mm ranges have MT 3 shanks and a 90° included angle.

Range (mm)	Shank A	Ref. 60°	Ref. 90°	B (mm)	C (mm)	D (mm)
4-17	Cyl. Ø 10	02-020	02-010	26	54	18
4-37	Cyl. Ø 10/16	02-055	02-035	65	85	42
4-37	MT 2	02-050	02-030	65	85	42
10-45	Cyl. Ø 10/16	02-110	02-095	65	85	48
10-45	MT 2	02-105	02-090	65	85	48
21-57	MT 2	02-140	02-135	70	85	60
41-77	MT 2	02-155	02-150	90	95	80
41-77	MT 3	02-156	02-151	90	95	80
60-97	MT 3	-	02-166	110	107	100
80-117	MT 3	-	02-181	130	110	120

Included angle and rake angle

The included angle determines the chamfer angle on the workpiece: 60° gives a 30° chamfer and 90° gives a 45° chamfer. The rake angle describes the blade geometry and must not be confused with the included angle.

KOPAL replacement blades - external

Replaceable titanium-coated HSS blades. Select the same size designation and included angle as your existing KOPAL tool. The size selection refers to the tool working range, not the blade dimensions.

Part number	Included angle	Chamfer angle	Blade dimensions length × height (mm)
KO-2T-305B	60°	30°	30 × 8.7
KO-2T-300B	90°	45°	30 × 8.7
KO-2T-315B	60°	30°	88 × 20
KO-2T-310B	90°	45°	69 × 20

Blade selection by tool size

For the 4-17 mm working range, use KO-2T-305B for a 60° included angle and KO-2T-300B for a 90° included angle.

For the larger tool sizes, use KO-2T-315B for a 60° included angle and KO-2T-310B for a 90° included angle. The table shows the matching blades for each tool model.

Tool working range (mm)	Blade for 60° included angle	Blade for 90° included angle
4-17	KO-2T-305B	KO-2T-300B
4-37	KO-2T-315B	KO-2T-310B
10-45	KO-2T-315B	KO-2T-310B
21-57	KO-2T-315B	KO-2T-310B
41-77	KO-2T-315B	KO-2T-310B
60-97	-	KO-2T-310B
80-117	-	KO-2T-310B

Rake angle and materials

The complete tool is supplied with a 14° rake angle. The table provides guidance on materials and rake angles. Contact Tubeck for available blade options and help with selection.

Rake angle	Material
0°	Bronze, ebonite, plastic laminates and castings
14°	Brass, acrylic (PMMA) and high-carbon steel
20°	Copper, plastics, aluminium alloys and stainless steel
25°	Aluminium, iron, thin steel sheet and tubes