

For more information on end mills, see page 2175.

Bright (Uncoated) Finish
4 Flutes
45XN34

Double-End Straight-Shank Chamfer Mills

Double-end chamfer mills have a straight shank with angled cutting edges on both ends and can accomplish more milling tasks than single-end chamfer mills before they need to be replaced. They are used to create chamfered or beveled edges, to debur edges, and to spot and countersink holes in one step prior to drilling.

Milling Dia.	Included Angle	Length of Cut	Overall Length	Shank Dia.	Brand	Item No.
2 Flutes						
1/8 in	60°	—	1 1/2 in	1/8 in	—	55HF95
	90°	1/16 in	1 1/2 in	1/8 in	—	45XN27
	60°	—	2 in	3/16 in	—	55HF96
3/16 in	90°	3/32 in	2 in	3/16 in	—	45XN29
	60°	—	2 3/8 in	1/4 in	—	55HF97
1/4 in	90°	—	2 1/2 in	1/4 in	—	45XN31
	60°	—	2 1/2 in	3/8 in	—	55HF98
3/8 in	90°	—	2 1/2 in	3/8 in	—	55HG01
	60°	—	3 in	1/2 in	—	55HF99
1/2 in	90°	—	3 in	1/2 in	—	55HG02
4 Flutes						
1/8 in	90°	—	1 1/2 in	1/8 in	—	55HG03
3/16 in	90°	—	2 in	3/16 in	—	55HG04
1/4 in	90°	—	2 1/2 in	1/4 in	—	55HG05
3/8 in	90°	—	2 1/2 in	3/8 in	—	55HG06
1/2 in	90°	—	3 in	1/2 in	—	55HG07

AlTiN Finish
2 Flute
45XM49

Single-End Straight-Shank Chamfer Mills

Single-end chamfer mills have a straight shank with angled cutting edges on one end and are less fragile than double-end chamfer mills. They are used to create chamfered or beveled edges, to debur edges, and to spot and countersink holes in one step prior to drilling.

Milling Dia.	Included Angle	Length of Cut	Overall Length	Shank Dia.	Brand	Item No.
2 Flutes						
1/8 in	60°	1/64 in	1 1/2 in	1/8 in	—	45XM49
	82°	1/16 in	1 1/2 in	1/8 in	—	45XM73
	90°	1/16 in	1 1/2 in	1/8 in	—	45XM97
3/16 in	60°	3/32 in	2 in	3/16 in	—	45XM51
	82°	3/32 in	2 in	3/16 in	—	45XM75
	90°	3/32 in	2 in	3/16 in	—	45XM99
1/4 in	60°	1/32 in	2 1/2 in	1/4 in	—	45XM53
	82°	1/16 in	2 1/2 in	1/4 in	—	45XM77
	90°	1/16 in	2 1/2 in	1/4 in	—	45XM02
3/8 in	60°	3/16 in	2 1/2 in	3/8 in	—	45XM55
	82°	3/16 in	2 1/2 in	3/8 in	—	45XM79
	90°	3/16 in	2 1/2 in	3/8 in	—	45XM04
1/2 in	60°	3/8 in	3 in	1/2 in	—	45XM57
	82°	1/4 in	3 in	1/2 in	—	45XM81
	90°	1/4 in	3 in	1/2 in	—	45XM06
3/4 in	60°	3/8 in	3 in	3/4 in	—	45XM59
	82°	3/8 in	3 in	3/4 in	—	45XM83
	90°	3/8 in	3 in	3/4 in	—	45XM08
1 in	90°	1 1/2 in	4 in	1 in	—	54PY71
4 Flutes						
1/8 in	60°	1/64 in	1 1/2 in	1/8 in	—	45XM61
	82°	1/16 in	1 1/2 in	1/8 in	—	45XM85
	90°	1/16 in	1 1/2 in	1/8 in	—	45XM10
3/16 in	60°	3/32 in	2 in	3/16 in	—	45XM63
	82°	3/32 in	2 in	3/16 in	—	45XM87
	90°	3/32 in	2 in	3/16 in	—	45XM12
1/4 in	60°	1/32 in	2 1/2 in	1/4 in	—	45XM65
	82°	1/16 in	2 1/2 in	1/4 in	—	45XM89
	90°	1/16 in	2 1/2 in	1/4 in	—	45XM14
3/8 in	60°	3/16 in	2 1/2 in	3/8 in	—	54P204
	82°	3/16 in	2 1/2 in	3/8 in	—	45XM67
	90°	3/16 in	2 1/2 in	3/8 in	—	45XM91
1/2 in	60°	3/8 in	3 in	1/2 in	—	45XM93
	82°	1/4 in	3 in	1/2 in	—	45XM18
	90°	3/8 in	3 in	1/2 in	—	45XM71
3/4 in	60°	3/8 in	3 in	3/4 in	—	45XM95
	82°	3/8 in	3 in	3/4 in	—	45XM20
	90°	3/8 in	3 in	3/4 in	—	45XM96
Bright (Uncoated) Finish						
2 Flutes						
1/8 in	60°	1/64 in	1 1/2 in	1/8 in	—	45XM48
	60°	1 1/2 in	1 1/2 in	1/8 in	Cleveland	33FY97
	82°	1/16 in	1 1/2 in	1/8 in	—	45XM72
	82°	1 1/2 in	1 1/2 in	1/8 in	Cleveland	33FY98
	90°	1/16 in	1 1/2 in	1/8 in	—	45XM96
3/16 in	90°	1 1/2 in	1 1/2 in	1/8 in	Cleveland	33FY99

Milling Dia.	Included Angle	Length of Cut	Overall Length	Shank Dia.	Brand	Item No.
Bright (Uncoated) Finish						
2 Flutes						
1/8 in	60°	1/64 in	1 1/2 in	1/8 in	—	45XN21
	90°	1/16 in	1 1/2 in	1/8 in	—	45XN26
	90°	1 1/2 in	1 1/2 in	1/8 in	Cleveland	33FZ14
3/16 in	60°	3/32 in	2 in	3/16 in	—	45XN22
	90°	3/32 in	2 in	3/16 in	—	45XN28
	90°	2 in	2 in	3/16 in	Cleveland	33FZ15
1/4 in	60°	1/32 in	2 1/2 in	1/4 in	—	45XN23
	90°	1/16 in	2 1/2 in	1/4 in	—	45XN30
	90°	2 1/2 in	2 1/2 in	1/4 in	Cleveland	33FZ16
3/8 in	60°	3/16 in	2 1/2 in	3/8 in	—	45XN24
	90°	3/16 in	2 1/2 in	3/8 in	—	45XN32
	90°	2 1/2 in	2 1/2 in	3/8 in	Cleveland	33FZ17
1/2 in	60°	3/8 in	3 in	1/2 in	—	45XN25
	90°	1/4 in	3 in	1/2 in	—	45XN33
	90°	3 in	3 in	1/2 in	Cleveland	33FZ18
3/4 in	90°	3/4 in	4 in	3/4 in	Cleveland	33FZ19
4 Flutes						
1/8 in	90°	1/16 in	1 1/2 in	1/8 in	—	45XN34
3/16 in	90°	3/32 in	2 in	3/16 in	—	45XN35
1/4 in	90°	1/16 in	2 1/2 in	1/4 in	—	45XN36
3/8 in	90°	2 1/2 in	2 1/2 in	1/4 in	Cleveland	32ZX64
	90°	3/16 in	2 1/2 in	3/8 in	—	45XN37
1/2 in	90°	2 1/2 in	2 1/2 in	3/8 in	Cleveland	32ZX65
	90°	1/4 in	3 in	1/2 in	—	45XN38
3/4 in	90°	3 in	3 in	1/2 in	Cleveland	32ZX66
	90°	4 in	4 in	3/4 in	Cleveland	32ZX67

Milling Dia.	Included Angle	Length of Cut	Overall Length	Shank Dia.	Brand	Item No.
3/16 in	60°	3/32 in	2 in	3/16 in	—	45XM50
	82°	3/32 in	2 in	3/16 in	—	45XM74
	90°	3/32 in	2 in	3/16 in	—	45XM98
1/4 in	60°	1/32 in	2 1/2 in	1/4 in	Cleveland	33FZ01
	82°	1/16 in	2 1/2 in	1/4 in	—	45XM52
	90°	2 1/2 in	2 1/2 in	1/4 in	Cleveland	33FZ02
3/8 in	82°	1/16 in	2 1/2 in	1/4 in	Cleveland	45XM76
	90°	1/16 in	2 1/2 in	1/4 in	Cleveland	45XM01
	90°	2 1/2 in	2 1/2 in	1/4 in	Cleveland	33FZ04
1/2 in	60°	3/8 in	2 1/2 in	3/8 in	—	45XM54
	82°	3/16 in	2 1/2 in	3/8 in	Cleveland	33FZ05
	90°	3/16 in	2 1/2 in	3/8 in	Cleveland	45XM78
3/4 in	82°	2 1/2 in	2 1/2 in	3/8 in	Cleveland	33FZ06
	90°	3/16 in	2 1/2 in	3/8 in	—	45XN03
	90°	3/8 in	2 in	3/8 in	—	54PY40
1 in	60°	2 1/2 in	2 1/2 in	3/8 in	Cleveland	33FZ07
	82°	2 1/2 in	2 1/2 in	3/8 in	Cleveland	33FZ13
	90°	3/8 in	3 in	1/2 in	—	45XM56
1/2 in	60°	3 in	3 in	1/2 in	Cleveland	33FZ08
	82°	1/4 in	3 in	1/2 in	—	45XM80
	90°	3 in	3 in	1/2 in	Cleveland	33FZ09
3/4 in	60°	3/4 in	3 in	1/2 in	—	45XN05
	82°	3 in	3 in	1/2 in	Cleveland	33FZ10
	90°	3 in	3 in	1/2 in	Cleveland	33FZ11
1 in	60°	3 in	3 in	3/4 in	—	45XM58
	82°	3/8 in	3 in	3/4 in	—	45XM82
	90°	3/8 in	3 in	3/4 in	—	45XN07
4 Flutes	60°	1 1/2 in	4 in	3/4 in	—	54PY68
	90°	4 in	4 in	3/4 in	Cleveland	33FZ12
1/8 in	60°	1/64 in	1 1/2 in	1/8 in	—	45XM60
	82°	1/16 in	1 1/2 in	1/8 in	—	45XM84
	90°	1/16 in	1 1/2 in	1/8 in	—	45XN09
3/16 in	60°	3/32 in	2 in	3/16 in	—	45XM62
	82°	3/32 in	2 in	3/16 in	—	45XM86
	90°	3/32 in	2 in	3/16 in	—	45XN11
1/4 in	60°	1/32 in	2 1/2 in	1/4 in	—	45XM64
	82°	1/16 in	2 1/2 in	1/4 in	Cleveland	33GC63
	90°	1/16 in	2 1/2 in	1/4 in	—	45XM88
3/8 in	60°	2 1/2 in	2 1/2 in	1/4 in	Cleveland	33GC64
	82°	1/16 in	2 1/2 in	1/4 in	Cleveland	45XN13
	90°	2 1/2 in	2 1/2 in	1/4 in	Cleveland	33GC65
1/2 in	60°	3/8 in	2 1/2 in	3/8 in	—	45XM66
	82°	2 1/2 in	2 1/2 in	3/8 in	Cleveland	33GC66
	90°	3/16 in	2 1/2 in	3/8 in	—	45XM90
3/4 in	82°	2 1/2 in	2 1/2 in	3/8 in	Cleveland	33GC67
	90°	3/16 in	2 1/2 in	3/8 in	—	45XN15
	90°	2 1/2 in	2 1/2 in	3/8 in	Cleveland	33GC68
1 in	60°	2 1/2 in	2 1/2 in	3/8 in	Cleveland	33GC62
	82°	3/8 in	3 in	1/2 in	—	45XM68
	90°	3 in	3 in	1/2 in	Cleveland	33GC69
3/4 in	82°	1/4 in	3 in	1/2 in	—	45XM92
	90°	3 in	3 in	1/2 in	Cleveland	33GC70
	90°	1/4 in	3 in	1/2 in	—	45XN17
1/2 in	90°	3/8 in	2 1/2 in	1/2 in	—	54PY86
	90°	1 in	3 in	1/2 in	—	54PZ09
	90°	3 in	3 in	1/2 in	Cleveland	33GC71
3/4 in	120°	2 1/2 in	3 in	1/2 in	Cleveland	33GC72
	60°	3/8 in	3 in	3/4 in	—	45XM70
	82°	3/8 in	3 in	3/4 in	—	45XM94
1 in	90°	3/8 in	3 in	3/4 in	—	45XN19
	90°	1 in	4 in	3/4 in	—	54PZ13
	90°	2 1/2 in	4 in	3/4 in	Cleveland	33GC73