



See page 2184 for more information on ball end mills.



Bright (Uncoated)
4 Flute
19LP77



General Purpose Roughing/Finishing Carbide Ball End Mills

■ 30° helix angle

Milling Dia.	Length of Cut	Overall Length	Shank Dia.	Shank Type	Brand	Item No.
AlTiN Finish						
2 Flutes						
5/32 in	9/16 in	2 in	3/16 in	Weldon Flat	—	19LN39
3/16 in	1 1/8 in	3 in	3/16 in	Weldon Flat	—	19LT29
1/4 in	1/2 in	2 in	1/4 in	Weldon Flat	—	19LM45
1/4 in	1/2 in	4 in	1/4 in	Straight	Micro 100	16F671
1/4 in	3/4 in	2.5 in	1/4 in	Weldon Flat	—	19LN51
1/4 in	3/4 in	2.5 in	1/4 in	Straight	Micro 100	16F493
1/4 in	1 1/2 in	6 in	1/4 in	Weldon Flat	—	19LT33
5/16 in	1 in	2 in	5/16 in	Weldon Flat	—	19LM48
3/8 in	5/8 in	2 in	3/8 in	Weldon Flat	—	19LM50
3/8 in	7/8 in	2.5 in	3/8 in	Straight	Micro 100	16F512
1/2 in	1 in	3 in	1/2 in	Weldon Flat	—	19LN74
1/2 in	1 in	6 in	1/2 in	Straight	Micro 100	16F687
1/2 in	2 in	4 in	1/2 in	Weldon Flat	—	19LR91
1/2 in	3 in	6 in	1/2 in	Weldon Flat	—	19LT48
9 mm	22-mm	63-mm	10 mm	Weldon Flat	—	19LP17
3 Flutes						
3/8 in	1 in	2.5 in	3/8 in	Weldon Flat	—	45XU81
1/2 in	1 in	3 in	1/2 in	Straight	Micro 100	16F526
1/2 in	1 in	3 in	1/2 in	Weldon Flat	—	45XU89
5/8 in	1 1/4 in	3.5 in	5/8 in	Weldon Flat	—	45XU97
3/4 in	1 1/2 in	4 in	3/4 in	Weldon Flat	—	45XV02
4 Flutes						
1/8 in	1/4 in	1.5 in	1/8 in	Weldon Flat	—	19LM80
1/8 in	1/2 in	1.5 in	1/8 in	Weldon Flat	—	19LP62
1/8 in	3/4 in	2.2 in	1/8 in	Weldon Flat	—	19LR99
1/8 in	1 in	3 in	1/8 in	Weldon Flat	—	19LT64
3/16 in	5/8 in	2 in	3/16 in	Straight	Micro 100	16F473
3/16 in	3/4 in	2.5 in	3/16 in	Weldon Flat	—	19LT04
3/16 in	1 1/8 in	3 in	3/16 in	Weldon Flat	—	19LT68
1/4 in	1/2 in	2 in	1/4 in	Weldon Flat	—	19LM92
1/4 in	3/4 in	2.5 in	1/4 in	Straight	Micro 100	16F497
1/4 in	3/4 in	2.5 in	1/4 in	Weldon Flat	—	19LP79
1/4 in	1 1/2 in	4 in	1/4 in	Weldon Flat	—	19LT73
1/4 in	1 1/2 in	6 in	1/4 in	Weldon Flat	—	19LT75
5/16 in	1 1/8 in	2.5 in	5/16 in	Straight	Micro 100	16F510
5/16 in	1 1/2 in	6 in	5/16 in	Weldon Flat	—	19LT79
5/16 in	1 1/8 in	4 in	5/16 in	Weldon Flat	—	19LT77
3/8 in	1 in	2.5 in	3/8 in	Weldon Flat	—	19LP99
3/8 in	1 1/8 in	3 in	3/8 in	Weldon Flat	—	19LT10
3/8 in	1 1/2 in	6 in	3/8 in	Weldon Flat	—	19LT83
3/8 in	1 3/4 in	4 in	3/8 in	Weldon Flat	—	19LT81
7/16 in	2 in	4 in	7/16 in	Weldon Flat	—	19LT12
1/2 in	1 in	3 in	1/2 in	Weldon Flat	—	19LP97
1/2 in	2 in	4 in	1/2 in	Weldon Flat	—	19LT16
5/8 in	1 1/4 in	3.5 in	5/8 in	Weldon Flat	—	19LR08
3/4 in	1 1/2 in	4 in	3/4 in	Weldon Flat	—	19LR11
3/4 in	4 in	7 in	3/4 in	Straight	—	55HG13
1 in	4 in	7 in	1 in	Weldon Flat	—	19LU02
4 mm	14-mm	51-mm	4 mm	Weldon Flat	—	19LR33
5 mm	16-mm	51-mm	5 mm	Weldon Flat	—	19LR37
6 mm	19-mm	63-mm	6 mm	Weldon Flat	—	19LR40
7 mm	19-mm	63-mm	8 mm	Weldon Flat	—	19LR42
8 mm	20-mm	63-mm	8 mm	Weldon Flat	—	19LR45
9 mm	22-mm	63-mm	10 mm	Weldon Flat	—	19LR47
10 mm	22-mm	76-mm	10 mm	Weldon Flat	—	19LR49
12 mm	25-mm	76-mm	12 mm	Weldon Flat	—	19LR53
14 mm	32-mm	90-mm	14 mm	Weldon Flat	—	19LR55
16 mm	32-mm	102-mm	16 mm	Weldon Flat	—	19LR57
20 mm	38-mm	102-mm	20 mm	Weldon Flat	—	19LR61
Bright (Uncoated) Finish						
2 Flutes						
1/8 in	1/2 in	1.5 in	1/8 in	Weldon Flat	—	19LN34
1/8 in	1 in	3 in	1/8 in	Straight	OSG	35CY23
5/32 in	9/16 in	2 in	5/32 in	Straight	OSG	35CW81
3/16 in	5/8 in	2 in	3/16 in	Weldon Flat	SGS Tool	41CH05
3/16 in	1 1/8 in	3 in	3/16 in	Straight	OSG	35CY24

Milling Dia.	Length of Cut	Overall Length	Shank Dia.	Shank Type	Brand	Item No.
13/64 in	5/8 in	2.5 in	1/4 in	Weldon Flat	—	19LN44
1/4 in	1/2 in	2 in	1/4 in	Straight	OSG	35CX21
1/4 in	1/2 in	2 in	1/4 in	Weldon Flat	—	19LM44
1/4 in	3/4 in	2.5 in	1/4 in	Weldon Flat	—	19LN50
1/4 in	3/4 in	2.5 in	1/4 in	Straight	Micro 100	16F492
1/4 in	1 1/2 in	4 in	1/4 in	Straight	OSG	35CY25
3/8 in	1 3/4 in	4 in	3/8 in	Straight	OSG	35CY27
25/64 in	1 in	2.7 in	1/8 in	Weldon Flat	—	19LN66
7/16 in	3 in	6 in	7/16 in	Straight	OSG	35CY28
1/2 in	5/8 in	2.5 in	1/2 in	Weldon Flat	—	19LM53
1/2 in	1 in	3 in	1/2 in	Straight	Micro 100	16F523
1/2 in	3 in	6 in	1/2 in	Weldon Flat	—	19LT46
3/4 in	1 in	3 in	3/4 in	Weldon Flat	—	19LM57
3/4 in	1 1/2 in	4 in	3/4 in	Weldon Flat	—	19LN83
10 mm	45-mm	102-mm	10 mm	Straight	OSG	35CY47
3 Flutes						
1/8 in	1/2 in	1.5 in	1/8 in	Straight	OSG	35CV88
1/8 in	1/2 in	1.5 in	1/8 in	Weldon Flat	—	45XU50
3/8 in	5/8 in	2 in	3/8 in	Straight	Micro 100	16F470
1/4 in	3/4 in	2.5 in	1/4 in	Straight	Micro 100	16F494
1/4 in	3/4 in	2.5 in	1/4 in	Straight	OSG	35CW05
1/4 in	3/4 in	2.5 in	1/4 in	Weldon Flat	—	45XU66
3/8 in	1 in	2.5 in	3/8 in	Weldon Flat	—	45XU78
3/8 in	1 in	2.5 in	3/8 in	Straight	OSG	35CW15
7/16 in	1 in	2.7 in	7/16 in	Straight	OSG	35CW17
1/2 in	1 in	3 in	1/2 in	Straight	Micro 100	16F525
1/2 in	1 in	3 in	1/2 in	Straight	OSG	35CW19
14 mm	30-mm	89-mm	14 mm	Straight	OSG	35CW65
4 Flutes						
1/8 in	1/4 in	1.5 in	1/8 in	Weldon Flat	—	19LM79
1/8 in	1/2 in	1.5 in	1/8 in	Weldon Flat	—	19LP60
1/8 in	1 in	3 in	1/8 in	Straight	OSG	35CY33
1/8 in	1 in	3 in	1/8 in	Weldon Flat	SGS Tool	41CE16
5/32 in	9/16 in	2 in	5/32 in	Straight	Micro 100	16F460
5/32 in	1 1/8 in	3 in	5/32 in	Weldon Flat	—	19LT65
3/8 in	5/8 in	2 in	3/8 in	Straight	OSG	35CX36
3/8 in	5/8 in	2 in	3/8 in	Weldon Flat	—	19LP70
3/8 in	5/8 in	2 in	3/8 in	Straight	Micro 100	16F472
3/8 in	1 1/8 in	3 in	3/8 in	Straight	OSG	35CY34
1/4 in	1/2 in	2 in	1/4 in	Straight	OSG	35CX38
1/4 in	3/4 in	2.5 in	1/4 in	Weldon Flat	—	19LP77
1/4 in	3/4 in	2.5 in	1/4 in	Straight	Micro 100	16F496
1/4 in	1 in	4 in	1/4 in	Weldon Flat	—	19LT71
1/4 in	1 1/2 in	4 in	1/4 in	Weldon Flat	—	19LT72
1/4 in	1 1/2 in	6 in	1/4 in	Weldon Flat	—	19LT74
5/16 in	1/2 in	2 in	5/16 in	Weldon Flat	—	19LM94
5/16 in	1/2 in	2 in	5/16 in	Straight	OSG	35CX39
5/16 in	1 1/8 in	2.5 in	5/16 in	Straight	Micro 100	16F509
5/16 in	1 1/8 in	2.5 in	5/16 in	Weldon Flat	—	19LP84
5/16 in	1 1/8 in	4 in	5/16 in	Weldon Flat	—	19LT76
3/8 in	5/8 in	2 in	3/8 in	Weldon Flat	—	19LM96
3/8 in	5/8 in	2 in	3/8 in	Straight	OSG	35CX40
3/8 in	3/4 in	3.5 in	3/8 in	Weldon Flat	OSG	35CX25
3/8 in	7/8 in	2.5 in	3/8 in	Straight	Micro 100	16F515
3/8 in	1 in	2.5 in	3/8 in	Weldon Flat	—	19LP88
3/8 in	1 1/8 in	3 in	3/8 in	Straight	OSG	35CY10
3/8 in	1 1/2 in	6 in	3/8 in	Weldon Flat	—	19LT82
7/16 in	2 in	4 in	7/16 in	Weldon Flat	—	19LT11
1/2 in	5/8 in	2.5 in	1/2 in	Weldon Flat	—	19LN01
1/2 in	1 in	3 in	1/2 in	Weldon Flat	—	19LP96
1/2 in	1 in	3 in	1/2 in	Straight	Micro 100	16F527
1/2 in	2 in	4 in	1/2 in	Straight	OSG	35CY14
1/2 in	2 in	4 in	1/2 in	Weldon Flat	—	19LT15
1/2 in	3 in	6 in	1/2 in	Weldon Flat	—	19LT87
1 1/8 in	1 1/2 in	4 in	3/4 in	Weldon Flat	—	19LR09

Milling Dia.	Length of Cut	Overall Length	Shank Dia.	Shank Type	Brand	Item No.
3/4 in	1 in	3 in	3/4 in	Straight	OSG	35CX44
3/4 in	1 1/2 in	4 in	3/4 in	Weldon Flat	—	19LR10
3/4 in	3 in	6 in	3/4 in	Weldon Flat	—	19LT94
3/4 in	3 in	6 in	3/4 in	Straight	OSG	35CY41
4 mm	19-mm	57-mm	4 mm	Straight	OSG	35CY03
4 mm	28-mm	76-mm	4 mm	Straight	OSG	35CY55
5 mm	16-mm	51-mm	5 mm	Weldon Flat	—	19LR36
6 mm	28-mm	76-mm	6 mm	Straight	OSG	35CY06
TIAIN Finish						
3 Flutes						
1/8 in	1/2 in	1.5 in	1/8 in	Straight	OSG	35CV89
3/16 in	5/8 in	2 in	3/16 in	Straight	OSG	35CV97
1/4 in	3/4 in	2.5 in	1/4 in	Straight	OSG	35CW06
1/2 in	1 in	3 in	1/2 in	Straight	OSG	35CW20
14 mm	30-mm	89-mm	14 mm	Straight	OSG	35CW66
TiCN Finish						
2 Flutes						
1/8 in	1/4 in	1.5 in	1/8 in	Weldon Flat	—	45XR31
1/8 in	1 in	3 in	1/8 in	Weldon Flat	—	45XW74
3/16 in	3/4 in	2.5 in	3/16 in	Weldon Flat	—	45XW32
1/4 in	1 1/8 in	3 in	1/4 in	Weldon Flat	—	45XW34
3/8 in	1 3/4 in	4 in	3/8 in	Weldon Flat	—	45XW89
1/2 in	1 in	3 in	1/2 in	Weldon Flat	—	45XT52
1/2 in	1 1/2 in	6 in	1/2 in	Weldon Flat	—	45XW94
1/2 in	2 in	4 in	1/2 in	Weldon Flat	—	45XW42
5/8 in	1 1/4 in	3.5 in	5/8 in	Weldon Flat	—	45XT54
3/4 in	3/4 in	3 in	3/4 in	Weldon Flat	—	45XR49
3/4 in	1 1/4 in	3.5 in	3/4 in	Weldon Flat	—	45XT56
10 mm	22-mm	76-mm	10 mm	Weldon Flat	—	45XT92
11 mm	25-mm	76-mm	12 mm	Weldon Flat	—	45XT94
12 mm	25-mm	76-mm	12 mm	Weldon Flat	—	45XT96
4 Flutes						
1/8 in	1/2 in	1.5 in	1/8 in	Weldon Flat	—	45XV19
1/8 in	1 in	3 in	1/8 in	Weldon Flat	—	45XX11
3/16 in	1 1/8 in	3 in	3/16 in	Weldon Flat	—	45XX15
1/4 in	1 1/8 in	3 in	1/4 in	Weldon Flat	—	45XW56
1/4 in	1 1/2 in	4 in	1/4 in	Weldon Flat	—	45XX17
19/64 in	1 1/8 in	2.5 in	5/16 in	Weldon Flat	—	45XW15
23/64 in	1 in	2.5 in	3/8 in	Weldon Flat	—	45XW17
3/8 in	1 in	2.5 in	3/8 in	Weldon Flat	—	45XV44
13/32 in	1 in	2.7 in	7/16 in	Weldon Flat	—	45XW19
19/32 in	1 in	3 in	1/2 in	Weldon Flat	—	45XV55
1/2 in	1 in	3 in	1/2 in	Weldon Flat	—	45XV54
1/2 in	2 in	4 in	1/2 in	Weldon Flat	—	45XW64
3/4 in	1 1/8 in	4 in	3/4 in	Weldon Flat	—	45XV61
6 mm	19-mm	63-mm	6 mm	Weldon Flat	—	45XV86
10 mm	22-mm	76-mm	10 mm	Weldon Flat	—	45XV94
16 mm	32-mm	102-mm	16 mm	Weldon Flat	—	45XW03
TiN						
2 Flutes						
1/2 in	1 1/2 in	1.5 in	1/2 in	Weldon Flat	—	45XR30
1/2 in	1 1/4 in	4 in	1/2 in	Weldon Flat	—	45XW79
3/8 in	1 in	2.5 in	3/8 in	Weldon Flat	—	45XT43
3/8 in	1 3/4 in	4 in	3/8 in	Weldon Flat	—	45XW88
1/2 in	3/8 in	2.5 in	1/2 in	Weldon Flat	—	45XR46
1/2 in	3 in	6 in	1/2 in	Weldon Flat	—	45XW95
1 in	1 1/2 in	6 in	1 in	Weldon Flat	—	45XX06
1 in	2 1/4 in	5 in	1 in	Weldon Flat	—	45XW47
1 in	3 in	6 in	1 in	Weldon Flat	—	45XX08
4 mm	14-mm	51-mm	4 mm	Weldon Flat	—	45XT77
3 Flutes						
1/4 in	3/4 in	2.5 in	1/4 in	Weldon Flat	—	45XU67
4 Flutes						
1/2 in	1/2 in	1.5 in	1/2 in	Weldon Flat	—	45XV18
3/16 in	5/8 in	2 in	3/16 in	Weldon Flat	—	45XV25
1/4 in	3/4 in	2.5 in	1/4 in	Weldon Flat	—	45XV32
1/4 in	1 1/2 in	6 in	1/4 in	Weldon Flat	—	45XK18
3/16 in	1 3/8 in	2.5 in	3/16 in	Weldon Flat	—	45XV38
7/16 in	1 in	2.7 in	7/16 in	Weldon Flat	—	45XV48
1/2 in	1 in	3 in	1/2 in	Weldon Flat	—	45XV53
1/2 in	2 in	4 in	1/2 in	Weldon Flat	—	45XW65
5/8 in	1 1/4 in	3.5 in	5/8 in	Weldon Flat	—	45XV58
7/8 in	1 1/2 in	4 in	7/8 in	Weldon Flat	—	45XV63
1 in	3 in	6 in	1 in	Weldon Flat	—	45XX43