



# High-Performance Roughing/ Finishing Carbide Square End Mills

**AITIN**  
4 Flutes  
45RM83



Milling Dia.	Length of Cut	Overall Length	Shank Dia.	Shank Type	Helix Angle	Brand	Item No.
<b>AITIN Finish</b>							
<b>4 Flutes</b>							
1/8 in	1/2 in	1 1/2 in	1/8 in	Straight	Variable	—	45XX47
1/8 in	3/4 in	2 1/4 in	1/8 in	Straight	Variable	—	45XX49
1/8 in	1 in	3 in	1/8 in	Straight	Variable	—	45XX51
3/16 in	1/2 in	2 in	3/16 in	Straight	Variable	—	45XX53
1/4 in	3/8 in	2 1/2 in	1/4 in	Straight	Variable	—	45XX59
1/4 in	1 1/4 in	3 in	1/4 in	Straight	Variable	—	45XX61
1/4 in	1 1/2 in	4 in	1/4 in	Straight	Variable	—	45XX63
5/16 in	13/16 in	2 1/2 in	5/16 in	Straight	Variable	—	45XX65
3/8 in	1 in	2 1/2 in	3/8 in	Straight	Variable	—	45XX71
3/8 in	1 3/4 in	4 in	3/8 in	Straight	Variable	—	45XX75
1/2 in	1 1/4 in	3 in	1/2 in	Straight	Variable	—	45XX85
1/2 in	1 in	3 in	1/2 in	Straight	Variable	—	45XX83
1/2 in	1 1/2 in	4 in	1/2 in	Straight	Variable	—	45XX87
1/2 in	2 in	4 in	1/2 in	Straight	Variable	—	45XX89
5/8 in	1 1/4 in	3 1/2 in	5/8 in	Straight	Variable	—	45XX93
5/8 in	2 1/4 in	5 in	5/8 in	Straight	Variable	—	45XX95
3/4 in	1 1/2 in	4 in	3/4 in	Straight	Variable	—	45XX99
3/4 in	2 1/4 in	5 in	3/4 in	Straight	Variable	—	45XY02
3/4 in	3 in	6 in	3/4 in	Straight	Variable	—	45XY04
3/4 in	4 in	7 in	3/4 in	Straight	Variable	—	45XY06
<b>AITIN Finish</b>							
1/8 in	1/4 in	1 1/2 in	1/8 in	Straight	38°	Widia Hanita	45RM88
1/8 in	1/2 in	2 in	1/8 in	Straight	38°	Widia Hanita	45RM83
3/16 in	5/8 in	2 1/4 in	3/16 in	Straight	38°	Widia Hanita	48HZ44
1/4 in	3/4 in	2 1/2 in	1/4 in	Straight	38°	Widia Hanita	45RM84
1/4 in	1 1/4 in	3 1/4 in	1/4 in	Straight	38°	Widia Hanita	48HZ93
5/16 in	3/4 in	2 1/2 in	5/16 in	Straight	38°	Widia Hanita	48HZ53
3/8 in	7/8 in	2 1/2 in	3/8 in	Straight	38°	Widia Hanita	48HZ58
3/8 in	1 1/8 in	2 1/2 in	3/8 in	Straight	38°	Widia Hanita	48HZ60
1/2 in	1 in	2 1/2 in	1/2 in	Weldon Flat	38°	Widia Hanita	48JAZ9
1/2 in	1 in	3 in	1/2 in	Weldon Flat	38°	Widia Hanita	48JZ61
1/2 in	1 1/4 in	3 in	1/2 in	Weldon Flat	38°	Widia Hanita	48JZ68
1/2 in	1 1/2 in	4 in	1/2 in	Weldon Flat	38°	Widia Hanita	48JJA41
1/2 in	2 in	4 in	1/2 in	Weldon Flat	38°	Widia Hanita	48JJA03
5/8 in	1 1/4 in	3 1/2 in	5/8 in	Straight	38°	Widia Hanita	28TRN5
5/8 in	1 3/4 in	3 1/2 in	5/8 in	Weldon Flat	38°	Widia Hanita	48HZ73
5/8 in	1 5/8 in	4 1/2 in	5/8 in	Straight	38°	Widia Hanita	28TRN6
1 in	1 1/2 in	4 in	1 in	Weldon Flat	38°	Widia Hanita	48JZ79
3/4 in	1 5/8 in	4 in	3/4 in	Weldon Flat	38°	Widia Hanita	48JAS53
3/4 in	1 5/8 in	4 in	3/4 in	Straight	38°	Widia Hanita	28TRN7
3/4 in	2 1/4 in	5 in	3/4 in	Straight	38°	Widia Hanita	28TRN8
3/4 in	3 in	6 in	3/4 in	Weldon Flat	38°	Widia Hanita	48JAS51
1 in	1 1/2 in	4 in	1 in	Weldon Flat	38°	Widia Hanita	48HZ86
1 1/4 in	2 1/4 in	5 in	1 1/4 in	Weldon Flat	38°	Widia Hanita	48HZ90
1 in	3 in	6 in	1 in	Straight	38°	Widia Hanita	28TRP1
1 in	4 in	7 in	1 in	Weldon Flat	38°	Widia Hanita	48JAS59
<b>5 Flutes</b>							
5/16 in	3/4 in	2 1/2 in	5/16 in	Straight	38°	Widia Hanita	48JG67
1/2 in	1 1/4 in	3 in	1/2 in	Weldon Flat	38°	Widia Hanita	48JG83
5/8 in	1 1/4 in	3 1/2 in	5/8 in	Weldon Flat	38°	Widia Hanita	48GV31
3/4 in	1 1/2 in	4 in	3/4 in	Straight	38°	Widia Hanita	48JH01
3/4 in	1 1/2 in	4 in	3/4 in	Weldon Flat	38°	Widia Hanita	48JH02
6.00 mm	13.00 mm	63.00 mm	6.00 mm	Straight	38°	Widia Hanita	48LC39
14.00 mm	26.00 mm	83.00 mm	14.00 mm	Straight	38°	Widia Hanita	48LC21
<b>Bright (Uncoated) Finish</b>							
<b>2 Flutes</b>							
1/2 in	1 in	3 in	1/2 in	Straight	30°	M.A. Ford	52ZG52
7.00 mm	16.00 mm	60.00 mm	8.00 mm	Straight	30°	OSG	35CG50
<b>3 Flutes</b>							
0.5000 in	1.2500 in	3.500 in	0.5000 in	Straight	30°	Widia Hanita	785VE9
0.3750 in	1.0000 in	3.000 in	0.3750 in	Straight	30°	Widia Hanita	785VE5
0.6250 in	1.5000 in	3.500 in	0.6250 in	Straight	30°	Widia Hanita	785VF4
0.7500 in	1.6250 in	4.000 in	0.7500 in	Straight	30°	Widia Hanita	785VF7
0.7500 in	1.0000 in	5.000 in	0.7500 in	Straight	30°	Widia Hanita	785VP6
1/8 in	3/8 in	1 1/2 in	1/8 in	Straight	45°	OSG	21WD07
1/4 in	3/8 in	2 1/2 in	1/4 in	Straight	45°	OSG	21WD09
3/8 in	1 in	2 1/2 in	3/8 in	Straight	45°	OSG	21WE1
1/2 in	3/8 in	3 in	1/2 in	Straight	45°	OSG	33PA52
1/2 in	3/8 in	4 in	1/2 in	Straight	40°	Onsrud	4XZU8
1/2 in	1 1/4 in	3 in	1/2 in	Straight	45°	OSG	21WE3
1/2 in	2 in	4 in	1/2 in	Straight	40°	Onsrud	4XZG9
1.0000 in	2.5000 in	5.500 in	1.0000 in	Straight	30°	Widia Hanita	785VG2
<b>4 Flutes</b>							
1/4 in	3/4 in	2 1/2 in	1/4 in	Straight	30°	M.A. Ford	52ZG24
3/16 in	1 1/8 in	3 in	3/16 in	Straight	Variable	—	45XX66
3/8 in	1 1/8 in	2 1/2 in	3/8 in	Straight	38°	Cleveland	322W33
3/8 in	1 1/4 in	3 in	3/8 in	Straight	Variable	—	45XX72
1/2 in	1 in	3 in	1/2 in	Straight	38°	Cleveland	322W47
1/2 in	1 in	3 in	1/2 in	Straight	Variable	—	45XX82
1/2 in	1 1/4 in	3 in	1/2 in	Straight	Variable	—	45XX84
1/2 in	2 in	4 in	1/2 in	Straight	Variable	—	45XX88
5/8 in	1 1/4 in	3 1/2 in	5/8 in	Straight	Variable	—	45XX92
3/4 in	2 1/4 in	5 in	3/4 in	Straight	38°	Cleveland	322W83
3/4 in	2 1/4 in	5 in	3/4 in	Straight	Variable	—	45XY01
3/4 in	4 in	7 in	3/4 in	Straight	Variable	—	45XY05
1 in	4 in	7 in	1 in	Straight	Variable	—	45XY13
<b>Diamond Finish</b>							
1/8 in	1 in	3 in	1/8 in	Straight	30°	OSG	35CD60
3/16 in	1 in	4 in	3/16 in	Straight	30°	OSG	35CD61
1/4 in	1 1/2 in	4 in	1/4 in	Straight	30°	OSG	35CD62
1/2 in	2 in	5 in	1/2 in	Straight	30°	OSG	35CD64
<b>nACRo</b>							
1/2 in	1 in	3 in	1/2 in	Straight	30°	—	54RM84
<b>5 Flutes</b>							
1/2 in	1 in	3 in	1/2 in	Straight	30°	—	54RN07
<b>TAIIN Finish</b>							
<b>2 Flutes</b>							
1/2 in	1 in	3 in	1/2 in	Straight	35°	OSG	30L370

Milling Dia.	Length of Cut	Overall Length	Shank Dia.	Shank Type	Helix Angle	Brand	Item No.
3 Flutes							
1/2 in	1 in	3 in	1/2 in	Straight	60 °	OSG	35CJ26
16.00 mm	26.00 mm	92.00 mm	16.00 mm	Weldon Flat	45 °	Widia Hanita	48LM64
4 Flutes							
3/4 in	3/4 in	1 1/2 in	1/2 in	Straight	35 °	OSG	30L376
1/16 in	3/16 in	1 1/2 in	1/16 in	Straight	35 °	OSG	30L377
1/8 in	1/8 in	1 1/2 in	1/8 in	Straight	35 °	OSG	30L457
1/8 in	1/2 in	1 1/2 in	1/8 in	Straight	35 °	OSG	30L382
1/8 in	3/4 in	2 1/4 in	1/8 in	Straight	50 °	OSG	35CJ73
3/16 in	7/16 in	2 in	3/16 in	Straight	35 °	OSG	30L458
3/16 in	3/8 in	2 in	3/16 in	Straight	35 °	OSG	30L386
1/4 in	3/4 in	2 1/2 in	1/4 in	Straight	30 °	OSG	30L746
1/4 in	3/4 in	2 1/2 in	1/4 in	Straight	35 °	OSG	30L460
1/4 in	3/4 in	2 1/2 in	1/4 in	Straight	35 °	OSG	30L389
1/4 in	3/4 in	2 1/2 in	1/4 in	Straight	38 °	Widia Hanita	48JA71
1/4 in	3/4 in	2 1/2 in	1/4 in	Straight	38 °	Cleveland	33GD74
1/4 in	1 1/4 in	3 1/4 in	1/4 in	Straight	35 °	OSG	30L461
3/8 in	3/4 in	2 1/2 in	3/8 in	Straight	38 °	Widia Hanita	48JA76
3/8 in	13/16 in	2 1/2 in	3/8 in	Straight	35 °	OSG	30L462
3/8 in	13/16 in	2 1/2 in	3/8 in	Straight	35 °	OSG	30L391
3/8 in	1 1/4 in	3 1/4 in	3/8 in	Straight	35 °	OSG	30L463
3/8 in	1 1/8 in	3 in	3/8 in	Straight	50 °	OSG	35CJ78
3/8 in	7/8 in	2 1/2 in	3/8 in	Weldon Flat	35 °	OSG	30L468
3/8 in	7/8 in	2 1/2 in	3/8 in	Straight	35 °	OSG	30L466
3/8 in	7/8 in	2 1/2 in	3/8 in	Straight	38 °	Cleveland	33GD88
3/8 in	7/8 in	2 1/2 in	3/8 in	Straight	38 °	Widia Hanita	48JA82
3/8 in	1 in	2 1/2 in	3/8 in	Straight	35 °	OSG	30L393
3/8 in	1 1/8 in	3 in	3/8 in	Straight	38 °	Cleveland	33GD90
3/8 in	1 1/2 in	4 in	3/8 in	Straight	35 °	OSG	30L469
3/8 in	1 1/2 in	4 in	3/8 in	Weldon Flat	35 °	OSG	30L470
3/8 in	2 1/2 in	4 in	3/8 in	Weldon Flat	35 °	OSG	30L472
3/8 in	2 1/2 in	4 in	3/8 in	Straight	35 °	OSG	30L471
3/8 in	2 in	4 in	3/8 in	Straight	38 °	Cleveland	33GD92
7/16 in	7/8 in	2 1/2 in	7/16 in	Straight	38 °	Widia Hanita	48JA84
7/16 in	1 in	2 3/4 in	7/16 in	Straight	35 °	OSG	30L395
7/16 in	1 in	2 3/4 in	7/16 in	Straight	35 °	OSG	30L473
7/16 in	1 in	3 in	7/16 in	Straight	38 °	Cleveland	33GD96
1/2 in	3/8 in	2 1/2 in	1/2 in	Weldon Flat	38 °	Widia Hanita	48JC79
1/2 in	1 1/4 in	3 in	1/2 in	Straight	30 °	OSG	30L749
1/2 in	1 in	3 in	1/2 in	Straight	35 °	OSG	30L396
1/2 in	1 in	3 in	1/2 in	Weldon Flat	35 °	OSG	30L476
1/2 in	1 1/4 in	3 1/2 in	1/2 in	Straight	35 °	OSG	30L484
1/2 in	1 in	3 in	1/2 in	Straight	35 °	OSG	30L483
1/2 in	1 1/4 in	3 in	1/2 in	Straight	38 °	Cleveland	33GE08
1/2 in	1 in	3 in	1/2 in	Straight	38 °	Cleveland	33GE03
1/2 in	1 in	3 in	1/2 in	Weldon Flat	38 °	Widia Hanita	48JA86
1/2 in	1 1/2 in	4 in	1/2 in	Weldon Flat	35 °	OSG	30L478
1/2 in	2 in	4 in	1/2 in	Weldon Flat	35 °	OSG	30L479
1/2 in	2 in	4 in	1/2 in	Straight	35 °	OSG	30L486
1/2 in	3 in	5 in	1/2 in	Weldon Flat	35 °	OSG	30L481
1/2 in	3 in	5 in	1/2 in	Straight	35 °	OSG	30L488
1/2 in	3 in	5 in	1/2 in	Weldon Flat	38 °	Widia Hanita	48JC52
5/8 in	1 1/8 in	3 1/2 in	5/8 in	Straight	35 °	OSG	30L397
5/8 in	1 1/4 in	3 1/2 in	5/8 in	Weldon Flat	35 °	OSG	30L490
5/8 in	1 1/4 in	3 1/2 in	5/8 in	Straight	35 °	OSG	30L398
5/8 in	1 1/4 in	3 1/2 in	5/8 in	Straight	38 °	Cleveland	33GE21
5/8 in	1 1/4 in	3 1/2 in	5/8 in	Weldon Flat	38 °	Widia Hanita	48JA99
5/8 in	1 1/8 in	4 1/8 in	5/8 in	Weldon Flat	38 °	Widia Hanita	48JC98
5/8 in	1 1/8 in	5 in	5/8 in	Weldon Flat	35 °	OSG	30L491
5/8 in	1 1/8 in	5 in	5/8 in	Straight	35 °	OSG	30L496
5/8 in	2 1/4 in	5 in	5/8 in	Straight	35 °	OSG	30L497
5/8 in	3 in	6 in	5/8 in	Weldon Flat	35 °	OSG	30L493
13/16 in	1 3/8 in	4 in	3/4 in	Straight	35 °	OSG	30L399
3/4 in	1 1/8 in	4 in	3/4 in	Straight	30 °	OSG	30L751
3/4 in	1 1/2 in	4 in	3/4 in	Weldon Flat	35 °	OSG	30L507
3/4 in	1 1/2 in	4 in	3/4 in	Straight	35 °	OSG	30L507
3/4 in	1 3/8 in	4 in	3/4 in	Weldon Flat	35 °	OSG	30L502
3/4 in	1 1/2 in	4 in	3/4 in	Straight	35 °	OSG	30L401
3/4 in	1 3/8 in	4 in	3/4 in	Straight	35 °	OSG	30L508
3/4 in	1 1/2 in	4 in	3/4 in	Weldon Flat	38 °	Widia Hanita	48JC06
3/4 in	1 3/8 in	4 in	3/4 in	Weldon Flat	38 °	Widia Hanita	48JD05
3/4 in	2 1/4 in	5 in	3/4 in	Weldon Flat	35 °	OSG	30L503
3/4 in	2 1/4 in	5 in	3/4 in	Straight	35 °	OSG	30L509
3/4 in	3 in	6 in	3/4 in	Straight	35 °	OSG	30L510
3/4 in	3 in	6 in	3/4 in	Weldon Flat	38 °	Widia Hanita	48JD03
3/4 in	4 in	6 1/4 in	3/4 in	Straight	35 °	OSG	30L511
3/4 in	4 in	6 1/4 in	3/4 in	Weldon Flat	35 °	OSG	30L505
3/4 in	4 in	6 1/4 in	3/4 in	Weldon Flat	38 °	Widia Hanita	48JC56
7/8 in	1 1/2 in	4 in	7/8 in	Straight	35 °	OSG	30L402
1 in	1 1/2 in	4 in	1 in	Weldon Flat	35 °	OSG	30L407
1 in	1 1/2 in	4 in	1 in	Straight	35 °	OSG	30L447
1 in	1 1/2 in	4 in	1 in	Weldon Flat	38 °	Widia Hanita	48JC13
1 in	2 1/2 in	5 in	1 in	Weldon Flat	35 °	OSG	30L449
1 in	2 in	5 in	1 in	Weldon Flat	35 °	OSG	30L448
1 in	2 in	5 in	1 in	Straight	35 °	OSG	30L453
1 in	2 in	5 in	1 in	Weldon Flat	38 °	Widia Hanita	48JD07
1 in	2 1/4 in	5 in	1 in	Weldon Flat	38 °	Widia Hanita	48JC40
1 in	3 in	6 in	1 in	Weldon Flat	35 °	OSG	30L500
1 in	4 in	7 in	1 in	Weldon Flat	38 °	Widia Hanita	48JD11
4.00 mm	14.00 mm	51.00 mm	4.00 mm	Straight	35 °	OSG	30L431
5.00 mm	16.00 mm	51.00 mm	5.00 mm	Straight	35 °	OSG	30L433
6.00 mm	19.00 mm	64.00 mm	6.00 mm	Straight	35 °	OSG	30L434
8.00 mm	21.00 mm	64.00 mm	8.00 mm	Straight	35 °	OSG	30L436
10.00 mm	25.00 mm	70.00 mm	10.00 mm	Straight	35 °	OSG	30L438
12.00 mm	25.00 mm	76.00 mm	12.00 mm	Straight	35 °	OSG	30L440
14.00 mm	30.00 mm	89.00 mm	14.00 mm	Straight	35 °	OSG	30L441