

Advanced aluminum titanium nitride coating - ALTiN



Power. Precision. Performance.



SPECTOR®

GENERAL PURPOSE END MILLS

For profiling, slotting & contouring in:

- Cast iron
- Stainless steel
- Carbon & tool steels

Offer valid through 9/30/2010

Higher feed rates, faster cycle time, excellent surface finish, higher productivity, lower cost per part and longer tool life.

4 Flute

| d ₁ Cutter Dia | d ₂ Shank Dia | l ₂ Length of Cut | l ₁ Overall Length | R Corner Radius | EDP Number | List Price | Net Price |
|---------------------------------|--------------------------------|------------------------------------|-------------------------------------|-----------------------|---------------|---------------|--------------|
| 1 | 3 | 2 | 38 | Square | 39722 | 13.70 | 8.22 |
| 1 | 3 | 3 | 38 | Square | 32202 | 13.93 | 8.36 |
| 1,5 | 3 | 3 | 38 | Square | 39723 | 13.70 | 8.22 |
| 1,5 | 3 | 4,5 | 38 | Square | 32204 | 13.93 | 8.36 |
| 1,5 | 3 | 6 | 38 | Square | 30252 | 14.12 | 8.47 |
| 2 | 3 | 4 | 38 | Square | 39724 | 11.94 | 7.16 |
| 2 | 3 | 6,3 | 38 | Square | 32208 | 12.05 | 7.23 |
| 2 | 3 | 9 | 38 | Square | 30253 | 12.16 | 7.30 |
| 2,5 | 3 | 5 | 38 | Square | 39725 | 11.49 | 6.89 |
| 2,5 | 3 | 9,5 | 38 | Square | 32212 | 11.83 | 7.10 |
| 3 | 3 | 6 | 38 | Square | 39726 | 10.94 | 6.56 |
| 3 | 3 | 9 | 38 | Square | 99284 | 11.16 | 6.70 |
| 3 | 3 | 12 | 38 | Square | 32214 | 11.38 | 6.83 |
| 3 | 3 | 12 | 38 | 0,3 | 37478 | 16.88 | 10.13 |
| 3 | 3 | 19 | 57 | Square | 39804 | 17.42 | 10.45 |
| 3 | 3 | 25 | 75 | Square | 32301 | 23.26 | 13.96 |
| 3,5 | 4 | 7 | 50 | Square | 39728 | 15.80 | 9.48 |
| 3,5 | 4 | 14 | 50 | Square | 32216 | 16.35 | 9.81 |
| 4 | 4 | 8 | 50 | Square | 39731 | 15.24 | 9.14 |
| 4 | 4 | 11 | 50 | Square | 36585 | 15.80 | 9.48 |
| 4 | 4 | 11 | 50 | 0,4 | 37479 | 21.02 | 12.61 |
| 4 | 4 | 14 | 50 | Square | 32218 | 16.46 | 9.88 |
| 4 | 4 | 19 | 63 | Square | 39805 | 21.63 | 12.98 |
| 4 | 4 | 31 | 75 | Square | 32302 | 25.01 | 15.01 |
| 4,5 | 5 | 16 | 50 | Square | 32222 | 17.88 | 10.73 |
| 5 | 5 | 10 | 50 | Square | 39736 | 18.21 | 10.93 |
| 5 | 5 | 13 | 50 | Square | 36586 | 18.43 | 11.06 |
| 5 | 5 | 13 | 50 | 0,5 | 37480 | 23.38 | 14.03 |
| 5 | 5 | 16 | 50 | Square | 32224 | 18.76 | 11.26 |
| 5 | 5 | 19 | 63 | Square | 39806 | 25.17 | 15.10 |
| 5 | 5 | 31 | 100 | Square | 32304 | 33.74 | 20.24 |
| 6 | 6 | 12 | 54 | Square | 36839 | 18.63 | 11.18 |
| 6 | 6 | 13 | 57 | Square | 36587 | 19.12 | 11.47 |
| 6 | 6 | 13 | 57 | 0,3 | 37481 | 23.80 | 14.28 |
| 6 | 6 | 13 | 57 | 0,5 | 37482 | 23.80 | 14.28 |
| 6 | 6 | 19 | 63 | Square | 32226 | 20.36 | 12.22 |
| 6 | 6 | 29 | 75 | Square | 39807 | 27.14 | 16.28 |
| 6 | 6 | 38 | 100 | Square | 32306 | 34.17 | 20.50 |
| 7 | 7 | 16 | 60 | Square | 36588 | 25.78 | 15.47 |
| 7 | 8 | 19 | 63 | Square | 32227 | 29.00 | 17.40 |
| 8 | 8 | 14 | 58 | Square | 36849 | 26.14 | 15.68 |
| 8 | 8 | 19 | 63 | Square | 36589 | 27.52 | 16.51 |
| 8 | 8 | 19 | 63 | 0,5 | 37483 | 31.92 | 19.15 |
| 8 | 8 | 19 | 63 | 1,0 | 37484 | 31.92 | 19.15 |
| 8 | 8 | 19 | 63 | 1,5 | 37485 | 31.92 | 19.15 |



4 Flute

| d ₁ Cutter Dia | d ₂ Shank Dia | l ₂ Length of Cut | l ₁ Overall Length | R Corner Radius | EDP Number | List Price | Net Price |
|---------------------------------|--------------------------------|------------------------------------|-------------------------------------|-----------------------|---------------|---------------|--------------|
| 8 | 8 | 20 | 63 | Square | 32228 | 29.69 | 17.81 |
| 8 | 8 | 29 | 75 | Square | 39808 | 37.96 | 22.78 |
| 8 | 8 | 41 | 100 | Square | 32308 | 45.67 | 27.40 |
| 9 | 9 | 19 | 67 | Square | 36590 | 40.12 | 24.07 |
| 9 | 10 | 22 | 72 | Square | 32229 | 43.32 | 25.99 |
| 10 | 10 | 16 | 66 | Square | 36848 | 39.89 | 23.93 |
| 10 | 10 | 22 | 72 | Square | 36591 | 41.76 | 25.06 |
| 10 | 10 | 22 | 72 | 0,5 | 37486 | 45.88 | 27.53 |
| 10 | 10 | 22 | 72 | 1,0 | 37487 | 45.88 | 27.53 |
| 10 | 10 | 22 | 72 | 1,5 | 37488 | 45.88 | 27.53 |
| 10 | 10 | 25 | 72 | Square | 32230 | 44.27 | 26.56 |
| 10 | 10 | 25 | 100 | Square | 31891 | 60.18 | 36.11 |
| 10 | 10 | 40 | 88 | Square | 36838 | 53.57 | 32.14 |
| 10 | 10 | 45 | 100 | Square | 32310 | 61.36 | 36.82 |
| 11 | 11 | 26 | 83 | Square | 36592 | 50.40 | 30.24 |
| 12 | 12 | 19 | 73 | Square | 36847 | 51.64 | 30.98 |
| 12 | 12 | 25 | 76 | Square | 32231 | 55.03 | 33.02 |
| 12 | 12 | 26 | 83 | Square | 36593 | 53.94 | 32.36 |
| 12 | 12 | 26 | 83 | 0,5 | 37489 | 57.52 | 34.51 |
| 12 | 12 | 26 | 83 | 1,0 | 37490 | 57.52 | 34.51 |
| 12 | 12 | 26 | 83 | 1,5 | 37491 | 57.52 | 34.51 |
| 12 | 12 | 50 | 100 | Square | 39810 | 73.01 | 43.81 |
| 12 | 12 | 75 | 150 | Square | 32312 | 105.29 | 63.17 |
| 14 | 14 | 26 | 83 | Square | 36594 | 88.41 | 53.05 |
| 14 | 14 | 32 | 83 | Square | 32232 | 92.21 | 55.33 |
| 14 | 14 | 57 | 125 | Square | 39811 | 119.61 | 71.77 |
| 14 | 14 | 75 | 150 | Square | 32314 | 138.97 | 83.38 |
| 16 | 16 | 25 | 82 | Square | 39751 | 96.08 | 57.65 |
| 16 | 16 | 32 | 89 | Square | 32234 | 102.77 | 61.66 |
| 16 | 16 | 32 | 92 | Square | 36595 | 101.28 | 60.77 |
| 16 | 16 | 32 | 92 | 0,5 | 37492 | 104.86 | 62.92 |
| 16 | 16 | 32 | 92 | 1,0 | 37493 | 104.86 | 62.92 |
| 16 | 16 | 32 | 92 | 1,5 | 37494 | 104.86 | 62.92 |
| 16 | 16 | 32 | 92 | 2,0 | 37495 | 104.86 | 62.92 |
| 16 | 16 | 57 | 125 | Square | 39812 | 145.54 | 87.32 |
| 16 | 16 | 75 | 150 | Square | 32318 | 156.43 | 93.86 |
| 18 | 18 | 32 | 92 | Square | 36596 | 133.96 | 80.38 |
| 18 | 18 | 38 | 100 | Square | 32235 | 147.00 | 88.20 |
| 18 | 18 | 57 | 125 | Square | 39813 | 179.78 | 107.87 |
| 18 | 18 | 75 | 150 | Square | 32322 | 206.44 | 123.86 |
| 20 | 20 | 38 | 100 | Square | 32237 | 178.27 | 106.96 |
| 20 | 20 | 38 | 104 | Square | 36597 | 171.59 | 102.95 |
| 20 | 20 | 38 | 104 | 0,5 | 37496 | 174.89 | 104.93 |
| 20 | 20 | 38 | 104 | 1,0 | 37497 | 174.89 | 104.93 |
| 20 | 20 | 38 | 104 | 1,5 | 37498 | 174.89 | 104.93 |
| 20 | 20 | 38 | 104 | 2,0 | 37499 | 174.89 | 104.93 |
| 20 | 20 | 57 | 125 | Square | 39814 | 207.82 | 124.69 |
| 20 | 20 | 75 | 150 | Square | 32324 | 248.53 | 149.12 |
| 22 | 22 | 38 | 100 | Square | 30255 | 215.78 | 129.47 |
| 25 | 25 | 38 | 100 | Square | 32238 | 220.58 | 132.35 |
| 25 | 25 | 45 | 120 | Square | 36899 | 284.21 | 170.53 |
| 25 | 25 | 57 | 125 | Square | 39815 | 349.23 | 209.54 |
| 25 | 25 | 75 | 150 | Square | 32325 | 355.62 | 213.37 |



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Power. Precision. Performance.

POW•R•FEED®

HIGH PERFORMANCE END MILLS



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Smooth, silent machining at high feed rates, excellent surface finishes and significant savings achieved by extended tool life.



For maximum feed rates in:

- Titanium
- Cast iron
- Stainless steel
- Carbon & tool steels
- Inconel®
- High-temp alloys

4 Flute

| d ₁ Cutter Dia | d ₂ Shank Dia | l ₂ Length of Cut | l ₁ Overall Length | R Corner Radius | 4-Flute EDP Number | List Price | Net Price |
|---------------------------|--------------------------|------------------------------|-------------------------------|-----------------|--------------------|------------|-----------|
| 3 | 3 | 8 | 38 | 0,3 | 63102 | 16.22 | 10.54 |
| | | 8 | 38 | Ball | 63160 | 18.53 | 12.04 |
| | | 8 | 38 | Square | 63027 | 15.59 | 10.13 |
| 4 | 4 | 11 | 50 | 0,3 | 63103 | 17.96 | 11.67 |
| | | 11 | 50 | Ball | 63161 | 22.36 | 14.53 |
| | | 11 | 50 | Square | 63028 | 17.38 | 11.30 |
| 5 | 5 | 13 | 50 | 0,3 | 63104 | 25.20 | 16.38 |
| | | 13 | 50 | Ball | 63162 | 30.19 | 19.62 |
| | | 13 | 50 | Square | 63029 | 24.41 | 15.87 |
| 6 | 6 | 10 | 54 | 0,3 | 63108 | 25.52 | 16.59 |
| | | 10 | 54 | Square | 63123 | 24.41 | 15.87 |
| | | 13 | 57 | 0,3 | 63074 | 27.88 | 18.12 |
| | | 13 | 57 | 0,5 | 63434 | 27.88 | 18.12 |
| | | 13 | 57 | Ball | 63163 | 30.66 | 19.93 |
| | | 13 | 57 | Square | 63030 | 26.41 | 17.17 |
| | | 28 | 75 | 0,5 | 63455 | 32.39 | 21.05 |
| 8 | 8 | 12 | 58 | 0,5 | 63109 | 36.54 | 23.75 |
| | | 12 | 58 | Square | 63124 | 34.70 | 22.56 |
| | | 19 | 63 | 0,3 | 63435 | 38.48 | 25.01 |
| | | 19 | 63 | 0,5 | 63075 | 38.48 | 25.01 |
| | | 19 | 63 | Ball | 63165 | 44.89 | 29.18 |
| | | 19 | 63 | Square | 63032 | 36.64 | 23.82 |
| | | 29 | 75 | 0,5 | 63456 | 45.00 | 29.25 |
| 10 | 10 | 14 | 66 | 0,5 | 63110 | 51.96 | 33.77 |
| | | 14 | 66 | Square | 63125 | 48.91 | 31.79 |
| | | 22 | 72 | 0,3 | 63436 | 56.32 | 36.61 |
| | | 22 | 72 | 0,5 | 63076 | 56.32 | 36.61 |
| | | 22 | 72 | Ball | 63167 | 63.10 | 41.02 |
| | | 22 | 72 | Square | 63034 | 53.27 | 34.63 |
| | | 36 | 88 | 0,5 | 63457 | 66.04 | 42.93 |
| 12 | 12 | 45 | 100 | 0,75 | 63458 | 89.98 | 58.49 |
| | | 16 | 73 | 1,0 | 63111 | 65.15 | 42.35 |
| | | 16 | 73 | Square | 63126 | 63.10 | 41.02 |
| | | 26 | 83 | 0,5 | 63437 | 78.44 | 50.99 |
| | | 26 | 83 | 0,75 | 63438 | 78.44 | 50.99 |
| | | 26 | 83 | 1,0 | 63077 | 78.44 | 50.99 |
| | | 26 | 83 | Ball | 63169 | 90.04 | 58.53 |
| 16 | 16 | 26 | 83 | Square | 63036 | 74.39 | 48.35 |
| | | 56 | 125 | 1,0 | 63459 | 191.77 | 124.65 |
| | | 22 | 82 | 1,0 | 63113 | 140.75 | 91.49 |
| | | 22 | 82 | Square | 63128 | 133.25 | 86.61 |
| | | 32 | 92 | 0,75 | 63439 | 154.46 | 100.40 |
| | | 32 | 92 | 1,0 | 63079 | 154.46 | 100.40 |
| | | 32 | 92 | Ball | 63171 | 180.76 | 117.49 |
| 20 | 20 | 32 | 92 | Square | 63038 | 146.96 | 95.52 |
| | | 38 | 104 | 0,75 | 63440 | 246.31 | 160.10 |
| | | 38 | 104 | 1,0 | 63081 | 246.31 | 160.10 |
| | | 38 | 104 | Ball | 63173 | 279.62 | 181.75 |
| | | 38 | 104 | Square | 63040 | 238.81 | 155.23 |
| | | 56 | 125 | 1,0 | 63460 | 276.62 | 179.80 |
| | | 26 | 92 | 1,0 | 63115 | 241.54 | 157.00 |
| 26 | 92 | Square | 63130 | 234.04 | 152.13 | | |

5 Flute

| d ₁ Cutter Dia | d ₂ Shank Dia | l ₂ Length of Cut | l ₁ Overall Length | R Corner Radius | 5-Flute EDP Number | List Price | Net Price |
|---------------------------|--------------------------|------------------------------|-------------------------------|-----------------|--------------------|------------|-----------|
| 6 | 6 | 13 | 57 | 0,5 | 63295 | 27.88 | 18.12 |
| 6 | 6 | 13 | 57 | Square | 63346 | 26.41 | 17.17 |
| 8 | 8 | 19 | 63 | 0,5 | 63296 | 38.48 | 25.01 |
| 8 | 8 | 19 | 63 | Square | 63347 | 36.64 | 23.82 |
| 10 | 10 | 22 | 72 | 0,5 | 63297 | 56.32 | 36.61 |
| 10 | 10 | 22 | 72 | Square | 63348 | 53.27 | 34.63 |
| 12 | 12 | 26 | 83 | 0,75 | 63298 | 78.44 | 50.99 |
| 12 | 12 | 26 | 83 | Square | 63349 | 74.39 | 48.35 |
| 16 | 16 | 32 | 92 | 1,0 | 63299 | 154.46 | 100.40 |
| 16 | 16 | 32 | 92 | Square | 63350 | 146.96 | 95.52 |
| 20 | 20 | 38 | 104 | 1,0 | 63300 | 246.31 | 160.10 |
| 20 | 20 | 38 | 104 | Square | 63351 | 238.81 | 155.23 |



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