



High Speed Specialties

List Prices
Effective February 15, 2010

Tool Bits, Tool Bits, Tool Bits & More.....



Tool Bit Squares



Tool Bit Flats



Hardened & Ground Rounds



Cut-Off Blades

Price List Effective February 15, 2010

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Square Tool Bits

Standard square tool bits are available in M2, M3, M43, M34 and T15. Square tool bits are heat treated to provide cutting ability as well as the long service life necessary to machine the full spectrum of materials used by the metalworking industry. Ground tool bits are precision ground on all four sides, after heat treatment, for accuracy of size, shape, and surface finish. Square tool bits have a tolerance on the width and thickness of +/- .002 with 10 degree beveled ends and are etched for easy grade identification and coated with rust preventative.

Tool Bits - Square

AISI TYPE M-2

| --- Size --- | | | | | --- Size --- | | | | | |
|--------------|-------|--------|---------|------------|--------------|-------|--------|---------|------------|--|
| Thickness | Width | Length | UPC No. | List Price | Inches | Width | Length | UPC No. | List Price | |
| 1/8 | 1/8 | 2-1/2 | 800007 | 8.76 | 7/16 | 7/16 | 3-1/2 | 800062 | 9.33 | |
| 3/16 | 3/16 | 2-1/2 | 800018 | 4.68 | 1/2 | 1/2 | 4 | 800073 | 12.87 | |
| 1/4 | 1/4 | 2-1/2 | 800029 | 5.07 | 5/8 | 5/8 | 4-1/2 | 800084 | 19.38 | |
| 5/16 | 5/16 | 2-1/2 | 800040 | 5.62 | 3/4 | 3/16 | 5 | 800095 | 30.58 | |
| 3/8 | 3/8 | 3 | 800051 | 7.44 | 1 | 1 | 7 | 800120 | 71.05 | |

AISI TYPE M-3

| --- Size --- | | | | | --- Size --- | | | | | |
|--------------|-------|--------|---------|------------|--------------|-------|--------|---------|------------|--|
| Thickness | Width | Length | UPC No. | List Price | Inches | Width | Length | UPC No. | List Price | |
| 1/8 | 1/8 | 2-1/2 | 800153 | 9.26 | 7/16 | 7/16 | 3-1/2 | 800200 | 10.28 | |
| 3/16 | 3/16 | 2-1/2 | 800164 | 4.96 | 1/2 | 1/2 | 4 | 800211 | 14.26 | |
| 1/4 | 1/4 | 2-1/2 | 800175 | 5.41 | 5/8 | 5/8 | 4-1/2 | 800222 | 21.71 | |
| 5/16 | 5/16 | 2-1/2 | 800186 | 6.05 | 3/4 | 3/16 | 5 | 800223 | 34.24 | |
| 3/8 | 3/8 | 3 | 800197 | 8.06 | 1 | 1 | 7 | 800255 | 79.86 | |

AISI TYPE M-43

| --- Size --- | | | | | --- Size --- | | | | | |
|--------------|-------|--------|---------|------------|--------------|-------|--------|---------|------------|--|
| Thickness | Width | Length | UPC No. | List Price | Inches | Width | Length | UPC No. | List Price | |
| 1/8 | 1/8 | 2-1/2 | 800288 | 9.05 | 7/16 | 7/16 | 3-1/2 | 800335 | 12.12 | |
| 3/16 | 3/16 | 2-1/2 | 800299 | 5.04 | 1/2 | 1/2 | 4 | 800346 | 16.96 | |
| 1/4 | 1/4 | 2-1/2 | 800302 | 5.69 | 5/8 | 5/8 | 4-1/2 | 800357 | 26.20 | |
| 5/16 | 5/16 | 2-1/2 | 800313 | 6.57 | 3/4 | 3/16 | 5 | 800368 | 41.77 | |
| 3/8 | 3/8 | 3 | 800324 | 9.14 | 1 | 1 | 7 | 800390 | 98.60 | |

Tool Bits – Square, (continued)

AISI TYPE M-34

| --- Size --- | | | | | --- Size --- | | | | | |
|--------------|-------------|--------------|---------|-------------|--------------|-------------|--------------|---------|--------------|--|
| Thickness | Width | Length | UPC No. | List Price | Inches | Width | Length | UPC No. | List Price | |
| 1/8 | 1/8 | 2-1/2 | 834326 | 8.98 | 7/16 | 7/16 | 3-1/2 | 834381 | 11.96 | |
| 3/16 | 3/16 | 2-1/2 | 834337 | 5.03 | 1/2 | 1/2 | 4 | 834392 | 16.74 | |
| 1/4 | 1/4 | 2-1/2 | 834348 | 5.66 | 5/8 | 5/8 | 4-1/2 | 834406 | 25.77 | |
| 5/16 | 5/16 | 2-1/2 | 834359 | 6.54 | 3/4 | 3/16 | 5 | 834417 | 41.12 | |
| 3/8 | 3/8 | 3 | 834370 | 9.04 | 1 | 1 | 7 | 834439 | 97.01 | |

AISI TYPE T-15 PM (Powder)

| --- Size --- | | | | | --- Size --- | | | | | |
|--------------|-------------|--------------|---------|---------------|--------------|-------------|----------|---------|--------------|--|
| Thickness | Width | Length | UPC No. | List Price | Inches | Width | Length | UPC No. | List Price | |
| 1/8 | 1/8 | 2-1/2 | 807720 | 12.06 | 1/4 | 1/4 | 6 | 800002 | 18.01 | |
| 3/16 | 3/16 | 2-1/2 | 807742 | 6.79 | 1/4 | 1/4 | 8 | 800003 | 24.00 | |
| 1/4 | 1/4 | 2-1/2 | 807753 | 7.50 | 5/16 | 5/16 | 6 | 800004 | 21.15 | |
| 5/16 | 5/16 | 2-1/2 | 807764 | 8.81 | 3/8 | 3/8 | 6 | 800005 | 24.17 | |
| 3/8 | 3/8 | 3 | 807786 | 12.09 | 3/8 | 3/8 | 8 | 800006 | 32.23 | |
| 7/16 | 7/16 | 3-1/2 | 807833 | 15.93 | 7/16 | 7/16 | 6 | 800008 | 27.31 | |
| 1/2 | 1/2 | 4 | 807844 | 22.44 | 1/2 | 1/2 | 6 | 800009 | 33.66 | |
| 5/8 | 5/8 | 4-1/2 | 807855 | 35.04 | 1/2 | 1/2 | 8 | 800010 | 44.87 | |
| 3/4 | 3/4 | 5 | 807866 | 55.44 | 5/8 | 5/8 | 6 | 800011 | 46.70 | |
| 1 | 1 | 7 | 807888 | 131.32 | 5/8 | 5/8 | 8 | 800012 | 62.28 | |
| 3/16 | 3/16 | 6 | 800001 | 16.28 | | | | | | |

Flat Tool Bits

Flat tool bits are available in M2, M43, and T15. Flat tool bits are heat treated to provide cutting ability as well as the long service life necessary to machine the full spectrum of materials used by the metalworking industry. Ground tool bits are precision ground on all four sides, after heat treatment, for accuracy of size, shape, and surface finish.. Flat tool bits have a tolerance on the wide and thickness of +/- .002 with square ends and are etched for easy grade identification and coated with rust preventative.

Tool Bits - Flat

AISI TYPE M-2

| --- Size --- | | | | | --- Size --- | | | | | |
|--------------|-------------|--------------|---------|--------------|--------------|--------------|--------------|---------|---------------|--|
| Thickness | Width | Length | UPC No. | List Price | Inches | Width | Length | UPC No. | List Price | |
| 1/4 | 3/8 | 2-1/2 | 836117 | 6.86 | 1/2 | 5/8 | 4-1/2 | 800823 | 19.00 | |
| 1/4 | 3/8 | 3 | 800721 | 8.27 | 1/2 | 3/4 | 4 | 836241 | 21.40 | |
| 1/4 | 1/2 | 3 | 836128 | 8.84 | 1/2 | 3/4 | 5 | 800834 | 23.92 | |
| 1/4 | 1/2 | 4 | 800732 | 10.95 | 1/2 | 3/4 | 6 | 836252 | 28.70 | |
| 1/4 | 1/2 | 6 | 836139 | 16.34 | 1/2 | 1 | 7 | 800845 | 48.74 | |
| 1/4 | 3/4 | 5 | 800743 | 15.89 | 1/2 | 1 | 8 | 836263 | 55.65 | |
| 1/4 | 1 | 6 | 800754 | 25.17 | 5/8 | 3/4 | 5 | 800856 | 32.08 | |
| 5/16 | 7/16 | 3 | 836150 | 9.43 | 5/8 | 7/8 | 6 | 800867 | 44.63 | |
| 5/16 | 7/16 | 3-1/2 | 800765 | 10.99 | 5/8 | 1 | 7 | 800878 | 59.47 | |
| 5/16 | 1/2 | 3 | 836161 | 10.75 | 5/8 | 1-1/4 | 7 | 800889 | 74.28 | |
| 5/16 | 5/8 | 4 | 800776 | 14.47 | 5/8 | 1-1/2 | 7 | 800903 | 86.85 | |
| 3/8 | 1/2 | 3 | 836172 | 10.43 | 3/4 | 1 | 6 | 836724 | 59.23 | |
| 3/8 | 1/2 | 4 | 800787 | 13.96 | 3/4 | 1 | 7 | 800914 | 69.13 | |
| 3/8 | 1/2 | 6 | 836183 | 20.85 | 3/4 | 1-1/4 | 7 | 800925 | 86.85 | |
| 3/8 | 5/8 | 4 | 836194 | 15.18 | 3/4 | 1-1/2 | 7 | 800936 | 96.71 | |
| 3/8 | 5/8 | 4-1/2 | 800798 | 17.08 | 7/8 | 1-1/8 | 7 | 836285 | 91.47 | |
| 3/8 | 5/8 | 6 | 836208 | 22.80 | 7/8 | 1-1/4 | 7 | 800947 | 101.65 | |
| 3/8 | 3/4 | 4 | 836219 | 17.16 | 1 | 1-1/4 | 6 | 800958 | 92.14 | |
| 3/8 | 3/4 | 5 | 800801 | 21.46 | | | | | | |
| 3/8 | 3/4 | 6 | 836230 | 25.73 | | | | | | |
| 3/8 | x 1 | 6 | 800812 | 31.81 | | | | | | |

Tool Bits – Flat, (continued)

AISI TYPE M-43

| --- Size --- | | | | | --- Size --- | | | | | |
|--------------|-------|--------|---------|------------|--------------|-------|--------|---------|------------|--|
| Thickness | Width | Length | UPC No. | List Price | Inches | Width | Length | UPC No. | List Price | |
| 1/4 | 3/8 | 3 | 801225 | 9.64 | 1/2 | 3/4 | 5 | 801349 | 31.69 | |
| 1/4 | 1/2 | 4 | 801236 | 13.40 | 1/2 | 1 | 7 | 801360 | 63.21 | |
| 1/4 | 3/4 | 5 | 801247 | 20.21 | 5/8 | 3/4 | 5 | 801371 | 42.76 | |
| 1/4 | 1 | 6 | 801258 | 32.16 | 5/8 | 7/8 | 6 | 801382 | 59.82 | |
| 5/16 | 7/16 | 3-1/2 | 801269 | 13.29 | 5/8 | 1 | 7 | 801393 | 78.90 | |
| 5/16 | 5/8 | 4 | 801280 | 18.10 | 5/8 | 1-1/4 | 7 | 801407 | 98.31 | |
| 3/8 | 1/2 | 4 | 801291 | 17.46 | 5/8 | 1-1/2 | 7 | 801418 | 115.52 | |
| 3/8 | 5/8 | 4-1/2 | 801305 | 21.91 | 3/4 | 1 | 7 | 801429 | 92.57 | |
| 3/8 | 3/4 | 5 | 801316 | 27.70 | 3/4 | 1-1/4 | 7 | 801440 | 115.44 | |
| 3/8 | 1 | 6 | 801327 | 42.10 | 3/4 | 1-1/2 | 7 | 801451 | 130.85 | |
| 1/2 | 5/8 | 4-1/2 | 801338 | 25.52 | 7/8 | 1-1/4 | 7 | 801462 | 136.64 | |
| | | | | | 1 | 1-1/4 | 6 | 801473 | 124.90 | |

AISI TYPE T-15 (Powder)

| --- Size --- | | | | | --- Size --- | | | | | |
|--------------|-------|--------|---------|------------|--------------|-------|--------|---------|------------|--|
| Thickness | Width | Length | UPC No. | List Price | Inches | Width | Length | UPC No. | List Price | |
| 1/4 | 3/8 | 3 | 801484 | 11.45 | 5/8 | 3/4 | 5 | 801622 | 52.18 | |
| 1/4 | 1/2 | 4 | 801495 | 16.04 | 5/8 | 7/8 | 6 | 801633 | 72.89 | |
| 1/4 | 3/4 | 5 | 801509 | 24.45 | 5/8 | 1 | 7 | 801644 | 96.47 | |
| 1/4 | 1 | 6 | 801520 | 38.97 | 5/8 | 1-1/4 | 7 | 801655 | 120.33 | |
| 5/16 | 7/16 | 3-1/2 | 801531 | 15.81 | 5/8 | 1-1/2 | 7 | 801666 | 141.61 | |
| 5/16 | 5/8 | 4 | 801542 | 21.75 | 3/4 | 1 | 7 | 801677 | 113.47 | |
| 3/8 | 1/2 | 4 | 801553 | 21.12 | 3/4 | 1-1/4 | 7 | 801688 | 141.66 | |
| 3/8 | 5/8 | 4-1/2 | 801564 | 26.69 | 3/4 | 1-1/2 | 7 | 801699 | 161.06 | |
| 3/8 | 3/4 | 5 | 801575 | 33.82 | 7/8 | 1-1/4 | 7 | 801702 | 165.30 | |
| 3/8 | 1 | 6 | 801586 | 51.47 | 1 | 1-1/4 | 6 | 801713 | 154.02 | |
| 1/2 | 5/8 | 4-1/2 | 801597 | 31.23 | | | | | | |
| 1/2 | 3/4 | 5 | 801600 | 39.85 | | | | | | |
| 1/2 | 1 | 7 | 801611 | 78.87 | | | | | | |

Hardened and Ground Rounds

Precision heat-treated and centerless ground rounds are available in three different grades for applications ranging from punches to special cutters to mandrels. Hardened and ground rounds are available in M2 and M43 high-speed grades and also available in A2 tool and die steel.

H & G Rounds

AISI TYPE M-2

| --- Size --- | | | | | --- Size --- | | | | |
|--------------|-------|-----------|---------|--------------|--------------|-------|-----------|---------|---------------|
| Thickness | Width | Length | UPC No. | List Price | Inches | Width | Length | UPC No. | List Price |
| | | | | | | | | | |
| 1/8 | | 12 | 824774 | 11.31 | 5/8 | | 12 | 824923 | 49.03 |
| 3/16 | | 12 | 824796 | 13.94 | 11/16 | | 12 | 824934 | 57.20 |
| 1/4 | | 12 | 824821 | 16.34 | 3/4 | | 12 | 824945 | 65.02 |
| 5/16 | | 12 | 824843 | 22.71 | 13/16 | | 12 | 824956 | 76.84 |
| 3/8 | | 12 | 824865 | 26.67 | 7/8 | | 12 | 824967 | 88.72 |
| 7/16 | | 12 | 824887 | 27.95 | 15/16 | | 12 | 824978 | 101.80 |
| 1/2 | | 12 | 824901 | 34.36 | 1 | | 12 | 824989 | 114.86 |
| 9/16 | | 12 | 824912 | 39.86 | | | | | |

AISI TYPE A-2

| --- Size --- | | | | | --- Size --- | | | | |
|--------------|-------|-----------|---------|--------------|--------------|-------|-----------|---------|--------------|
| Thickness | Width | Length | UPC No. | List Price | Inches | Width | Length | UPC No. | List Price |
| | | | | | | | | | |
| 1/8 | | 12 | 825551 | 10.55 | 3/8 | | 12 | 825642 | 24.37 |
| 3/16 | | 12 | 825573 | 12.52 | 7/16 | | 12 | 825664 | 25.14 |
| 1/4 | | 12 | 825595 | 14.52 | 1/2 | | 12 | 825686 | 30.67 |
| 5/16 | | 12 | 825620 | 20.80 | | | | | |

AISI TYPE M-43

| --- Size --- | | | | | --- Size --- | | | | |
|--------------|-------|-----------|---------|--------------|--------------|-------|-----------|---------|---------------|
| Thickness | Width | Length | UPC No. | List Price | Inches | Width | Length | UPC No. | List Price |
| | | | | | | | | | |
| 1/8 | | 12 | 825278 | 14.15 | 1/2 | | 12 | 825416 | 48.18 |
| 3/16 | | 12 | 825303 | 17.93 | 9/16 | | 12 | 825427 | 56.43 |
| 1/4 | | 12 | 825325 | 21.49 | 5/8 | | 12 | 825438 | 69.51 |
| 5/16 | | 12 | 825347 | 30.24 | 3/4 | | 12 | 825460 | 93.19 |
| 3/8 | | 12 | 825369 | 36.11 | 7/8 | | 12 | 825482 | 127.01 |
| 7/16 | | 12 | 825391 | 38.84 | 1 | | 12 | 825507 | 164.58 |

Ground Bevel Cut-Off Blades

Bevel cut-off blades are available from stock in M2, T-15 and M34 grades. Bevel cut-off blades are furnished with a 10-degree bevel on one end and have a 1 degree 30' side clearance. Blades are etched for easy grade identification and coated with a rust preventative.

Ground Bevel C/O Blades

AISI TYPE M-2

| --- Size --- | | | | | --- Size --- | | | | | |
|--------------|--------------|--------------|---------|--------------|--------------|--------------|--------------|---------|--------------|--|
| Thickness | Width | Length | UPC No. | List Price | Inches | Width | Length | UPC No. | List Price | |
| 1/16 | 1/2 | 4-1/2 | 826033 | 18.05 | 5/32 | 13/16 | 6 | 826113 | 33.24 | |
| 3/32 | 1/2 | 4-1/2 | 826044 | 17.24 | 3/16 | 13/16 | 6 | 826124 | 39.13 | |
| 1/16 | 11/16 | 5 | 826055 | 22.08 | 3/32 | 1 | 6-1/2 | 826157 | 31.93 | |
| 3/32 | 11/16 | 5 | 826066 | 22.44 | 1/8 | 1 | 6-1/2 | 826168 | 32.65 | |
| 1/8 | 11/16 | 5 | 826077 | 23.09 | 3/16 | 1 | 6-1/2 | 826179 | 48.47 | |
| 1/16 | 13/16 | 6 | 826088 | 27.14 | 1/4 | 1 | 6-1/2 | 826190 | 49.52 | |
| 1/8 | 13/16 | 6 | 826102 | 28.02 | 5/16 | 1 | 6-1/2 | 826204 | 50.75 | |

AISI TYPE T-15 (Powder)

| --- Size --- | | | | | --- Size --- | | | | | |
|--------------|--------------|--------------|---------|--------------|--------------|--------------|--------------|---------|--------------|--|
| Thickness | Width | Length | UPC No. | List Price | Inches | Width | Length | UPC No. | List Price | |
| 1/16 | 1/2 | 4-1/2 | 826408 | 25.38 | 5/32 | 13/16 | 6 | 830143 | 44.66 | |
| 3/32 | 1/2 | 4-1/2 | 826419 | 32.97 | 3/16 | 13/16 | 6 | 826510 | 52.85 | |
| 1/16 | 11/16 | 5 | 826430 | 33.28 | 7/32 | 13/16 | 6 | 826521 | 61.45 | |
| 3/32 | 11/16 | 5 | 826441 | 28.50 | 1/4 | 13/16 | 6 | 826532 | 52.80 | |
| 1/8 | 11/16 | 5 | 826452 | 31.33 | 3/32 | 1 | 6-1/2 | 826543 | 43.83 | |
| 1/16 | 13/16 | 6 | 826463 | 42.79 | 1/8 | 1 | 6-1/2 | 826554 | 45.83 | |
| 3/32 | 13/16 | 6 | 826474 | 37.55 | 3/16 | 1 | 6-1/2 | 826565 | 65.95 | |
| 1/8 | 13/16 | 6 | 826485 | 38.67 | 1/4 | 1 | 6-1/2 | 826576 | 67.86 | |
| | | | | | 5/16 | 1 | 6-1/2 | 826587 | 74.01 | |

Ground Bevel C/O Blades, (continued)

AISI TYPE M-34

| --- Size --- | | | | | --- Size --- | | | | |
|--------------|-------|--------|---------|------------|--------------|-------|--------|---------|------------|
| Thickness | Width | Length | UPC No. | List Price | Inches | Width | Length | UPC No. | List Price |
| 1/16 | 1/2 | 4-1/2 | 835362 | 21.44 | 1/8 | 13/16 | 6 | 835442 | 38.06 |
| 3/32 | 1/2 | 4-1/2 | 835373 | 26.51 | 3/16 | 13/16 | 6 | 835464 | 42.15 |
| 1/16 | 11/16 | 5 | 835384 | 28.18 | 3/32 | 1 | 6-1/2 | 835497 | 37.15 |
| 3/32 | 11/16 | 5 | 835395 | 28.90 | 1/8 | 1 | 6-1/2 | 835500 | 38.67 |
| 1/8 | 11/16 | 5 | 835409 | 29.77 | 3/16 | 1 | 6-1/2 | 835511 | 52.23 |
| 1/16 | 13/16 | 6 | 835420 | 36.25 | 1/4 | 1 | 6-1/2 | 835522 | 53.60 |
| 3/32 | 13/16 | 6 | 835431 | 37.02 | 5/16 | 1 | 6-1/2 | 835533 | 60.54 |

Armstrong & Williams Cut-Off Blades

Cut-off blades to fit Armstrong and Williams holders are available in M2 and M34 grades. Blades are etched for easy grade identification and coated with a rust preventative.

A & W C/O Blades

AISI TYPE M-2

| --- Size --- | | | | | --- Size --- | | | | |
|--------------|-------|--------|---------|------------|--------------|-------|--------|---------|------------|
| Thickness | Width | Length | UPC No. | List Price | Inches | Width | Length | UPC No. | List Price |
| 3/32 | 1/2 | 4-1/2 | 836310 | 23.04 | 1/8 | 7/8 | 6 | 836343 | 34.17 |
| 3/32 | 5/8 | 5 | 836321 | 23.71 | 3/16 | 1 | 6-1/2 | 836354 | 38.39 |
| 1/8 | 3/4 | 5 | 836332 | 28.38 | 3/16 | 1-1/8 | 7 | 836365 | 47.64 |

AISI TYPE M-34

| --- Size --- | | | | | --- Size --- | | | | |
|--------------|-------|--------|---------|------------|--------------|-------|--------|---------|------------|
| Thickness | Width | Length | UPC No. | List Price | Inches | Width | Length | UPC No. | List Price |
| 5/64 | 1/2 | 4-1/2 | 836401 | 37.42 | 1/8 | 7/8 | 6 | 836445 | 50.98 |
| 3/32 | 1/2 | 4-1/2 | 836412 | 38.59 | 3/16 | 1 | 6-1/2 | 836456 | 64.51 |
| 3/32 | 5/8 | 5 | 836423 | 39.90 | 3/16 | 1-1/8 | 7 | 836467 | 81.14 |
| 1/8 | 3/4 | 5 | 836434 | 41.38 | | | | | |

Specialty Sizes

Precision Marshall Steel offers all of the products from our standard product lines in special sizes on a special order basis. Contact our customer service team today for all of your needs.

High Speed Grades

M2

M2 is used for general-purpose applications. Bits are manufactured from this grade for routine roughing and/or finishing operations in which conventional feeds and speeds are used. Because it is the most shock resistant of the popular high-speed steels, M2 can withstand interrupted cuts. It is one of the easiest of the high-speed steels to grind. These characteristics, plus relatively good heat and abrasion resistance, make M2 a good choice for all-around shop use on ferrous or nonferrous alloys.

Typical Chemistry:

| C | Si | Mn | Cr | Mo | V | W |
|------------|------------|------------|-------------|-------------|------------|------------|
| .85 | .30 | .30 | 4.00 | 5.00 | 1.9 | 6.4 |

M3

M3 is used for more difficult applications. M3 offers significantly better wear resistance than M2, without sacrificing all shock resistance needed for some types of interrupted cuts. Higher alloy content provides better heat resistance than M2 but M3 is more difficult to grind. This grade is an excellent choice for machining abrasive materials such as cast or heavily scaled ferrous alloys, nonferrous metals, and plastics.

Typical Chemistry:

| C | Si | Mn | S | P | Cr | Mo | V | W |
|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1.2 | .25 | .25 | .030 | .030 | 4.10 | 5.00 | 3.00 | 6.00 |

M43 (M42)

M43 (M42) is used for high-performance applications. This grade features the greatest heat resistance (red hardness) of the molybdenum type high speed grades. The cutting edges will not soften at the elevated temperatures generated by high surface speeds and light feeds. M43 (M42) can be heat treated to the highest hardness available in high-speed steel. This grade can be ground nearly as easily as M2 and is the best choice for machining stainless steels, super alloys, or other high strength heat-treated materials.

Typical Chemistry:

| C | Si | Mn | S | P | Cr | Mo | V | Co | W |
|-------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1.08 | .45 | .25 | .030 | .030 | 3.85 | 9.50 | 1.20 | 8.00 | 1.50 |

M34

M34 is used for heavy-duty applications. M34 combines the good wear resistance and excellent heat resistance (red hardness) needed for heavy-duty cutting. In applications where tool chatter and shock loads can be avoided, M34 is ideal for hogging tough materials or for machining gummy, ductile metals.

Typical Chemistry:

| C | Si | Mn | S | P | Cr | Mo | V | Co | W |
|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| .90 | .30 | .25 | .030 | .030 | 3.75 | 8.00 | 2.05 | 8.25 | 1.50 |

T-15 (Powdered Metal)

T15 is designed for difficult applications. This grade offers the best wear resistance of all high speed steels and still has adequate toughness for a wide range of applications as long as rigid setup is used. T15 has excellent red hardness but is difficult to grind. All types of metals and alloys can be machined using this grade. Common applications include those in which long runs or light cuts at high surface speeds are required.

Typical Chemistry:

| C | Si | Mn | S | P | Cr | Mo | V | Co | W |
|-------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| 1.57 | .25 | .25 | .030 | .030 | 4.00 | 1.00 | 5.00 | 5.00 | 12.25 |

| Standard Hardness Range (Rockwell C) | |
|---------------------------------------------|-----------------------------|
| AISI Designation | Hardness Range (HRC) |
| M2 | 64.5 – 66 |
| M3 | 65 – 66.5 |
| M43 (M42) | 67 – 69 |
| M34 | 65-67 |
| T15 | 66-67 |

| Grade Name Cross Reference | |
|-----------------------------------|--------------------------|
| AISI Designation | Former Trade Name |
| M2 | Double Six |
| M3 | Crusader |
| M43 (M42) | Dynacut |
| M34 | Tatmo Cobalt |
| T15 | Duratech |



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