

Insert Nomenclature

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General Info
Negative Inserts
Positive Inserts
Ace-Fix Inserts
Threading, Grooving, & Cut-Off Inserts
Ceramic Inserts
PCBN & PCD Inserts
Toolholders
Swiss Toolholders
Boring Bars
Technical Info
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| | | | | | |
|----------|-------------------------|-------------------------|----------------------|-----------------|-----------------|
| A.N.S.I. | T | N | M | G | 4 |
| I.S.O. | T | N | M | G | 22 |
| | | | | | |
| | Insert Shape Chart 1 | Relief Angle Chart 2 | Tolerance Chart 3 | Type Chart 4 | I.C. Chart 5 |

| | | | | |
|----------------------|------------------------|---------------------------|---------------------------|--------------------------|
| 3 | 2 | E | N | Z |
| 04 | 08 | | N | UZ |
| | | | | |
| Thickness Chart 6 | Nose Radius Chart 7 | Edge Treatment Chart 8 | Feed Direction Chart 9 | Chip Breaker Chart 10 |

Chart 1 Insert Shape

| Symbol | Insert Shape |
|---------|---------------|
| V | 35° Diamond |
| D | 55° Diamond |
| T | 60° Triangle |
| C | 80° Diamond |
| W | 80° Trigon |
| S | 90° Square |
| R | Round |
| A, K, M | Parallelogram |

Chart 2 Relief Angle

| Symbol | Relief Angle |
|--------|--------------|
| N | 0° |
| B | 5° |
| C | 7° |
| P | 11° |
| D | 15° |
| E | 20° |
| F | 25° |

Chart 3 Tolerance

| | Insert I.C. | Thickness | Nose Position |
|---|---------------|-----------|---------------|
| A | ±.001 | ±.001 | ±.0002 |
| C | ±.001 | ±.001 | ±.0005 |
| E | ±.001 | ±.001 | ±.001 |
| F | ±.0005 | ±.001 | ±.0002 |
| G | ±.001 | ±.005 | ±.001 |
| J | ±.002 | ±.001 | ±.002 |
| M | See Chart 3.1 | | |
| U | See Chart 3.1 | | |

Chart 3.1 "M" and "U" Class Tolerance's

| Symbol | Inscribed Circle | | Nose Position Tolerance | | | Thickness |
|-------------|------------------|-------|-------------------------|-------|-------|-----------|
| | M | U | M | | U | |
| Shapes | All | All | S,T,C,R,W | D | V | All |
| I.C. Size | | | | | | ±.005 |
| 5/32 - 3/8 | ±.002 | ±.003 | ±.003 | ±.004 | ±.007 | |
| 7/16 - 9/16 | ±.003 | ±.005 | ±.005 | ±.006 | ±.010 | |
| 5/8 - 3/4 | ±.004 | ±.007 | ±.006 | ±.006 | - | |
| 7/8 | ±.006 | ±.010 | ±.006 | ±.006 | - | |
| 1 | ±.006 | ±.010 | ±.007 | ±.007 | - | |
| 1 1/4 | ±.006 | ±.010 | ±.008 | ±.008 | - | |

Chart 4 Type

| Symbol | Hole | Chipbreaker | Hole Style |
|--------|------|----------------|-------------------------|
| A | Yes | No | Straight |
| G | Yes | Double | Straight |
| M | Yes | Single | Straight |
| N | No | No | None |
| R | No | Single | None |
| D | Yes | No | Countersunk |
| T | Yes | Single | Countersunk |
| X | Yes | 10° Rake Angle | Straight or Countersunk |
| E | No | No | None |

Chart 5 Inscribed Circle

| Sumitomo Number | I.S.O. Number | | | | | | | |
|-----------------|---------------|----|----|----|----|----|----|---------|
| | R | S | T | C | D | V | W | I.C. |
| SHAPE SIZE | | | 06 | | | | 03 | 5/32" |
| | | | 08 | | | | | 3/16" |
| | | | 09 | | | | | 7/32" |
| | 06 | | | | | | | (.236) |
| 2 | | 06 | 11 | 06 | 07 | | 04 | 1/4" |
| 2.5 | | 07 | | 08 | 09 | | | 5/16" |
| | 08 | | | | | | | (.315) |
| 3 | 09 | 09 | 16 | 09 | 11 | 16 | 06 | 3/8" |
| | 10 | | | | | | | (.394) |
| | 12 | | | | | | | (.472) |
| 4 | 12 | 12 | 22 | 12 | 15 | 22 | 08 | 1/2" |
| 5 | 15 | 15 | 27 | 16 | | | 16 | 5/8" |
| | 16 | | | | | | | (.630) |
| 6 | 19 | 19 | 33 | 19 | | | | 3/4" |
| | 20 | | | | | | | (.787) |
| | 25 | | | | | | | (.984) |
| 8 | 25 | 25 | | | | | | 1 |
| | 31 | | | | | | | 1-1/4" |
| | 32 | | | | | | | (1.260) |

Chart 6 Thickness

| Sumitomo Number | I.S.O. Number | Thickness |
|-----------------|---------------|-----------|
| (2) | 01 | 1/16" |
| 1.5 | 02 | 3/32" |
| 2 | 03 | 1/8" |
| 2.5 | T3 | 5/32" |
| 3 | 04 | 3/16" |
| — | 05 | 7/32" |
| 4 | 06 | 1/4" |
| 5 | 07 | 5/16" |
| 5 | 08 | 5/16" |
| 6 | 09 | 3/8" |

Chart 7 Nose Radius

| Sumitomo Number | I.S.O. Number | Radius |
|-----------------|---------------|--------|
| v | 00 | .0019" |
| 0 | 01 | .0039" |
| 0.5 | 02 | .0079" |
| 1 | 04 | .0156" |
| — | 05 | .0197" |
| 2 | 08 | .0312" |
| — | 10 | .0394" |
| 3 | 12 | .0469" |
| — | 15 | .0591" |
| 4 | 16 | .0625" |
| 6 | 24 | .0938" |
| 8 | 32 | .1250" |
| — | 40 | .1575" |

Chart 8 Edge Treatment

| Symbol | Edge Preparation |
|--------|------------------|
| E | Honing |
| T | Chamfer (T-Land) |
| F | No Honing |

Chart 9 Feed Direction

| Symbol | Feed Direction |
|--------|----------------|
| R | Right Hand |
| L | Left Hand |
| N | Neutral |

Chart 10 Chip Breaker
See Pages 10-12 for chipbreaker information.