

## General turning inserts code key

General turning

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| Insert shape/Code |   |          |
|-------------------|---|----------|
| A                 | B | C        |
| D                 | E | H        |
| K                 | L | M        |
| O                 | P | R        |
| S                 | T | T        |
| V                 | W | Others Z |

**Insert shape**

| Metric |                   |                          |                         |      |                   |                          |                         |
|--------|-------------------|--------------------------|-------------------------|------|-------------------|--------------------------|-------------------------|
| Code   | With/Without hole | With/Without chipbreaker | Section plane of insert | Code | With/Without hole | With/Without chipbreaker | Section plane of insert |
| B      | With              | Without                  |                         | N    | Without           | Without                  |                         |
| H      | With              | Single-side              |                         | R    | Without           | Single-side              |                         |
| C      | With              | Without                  |                         | F    | Without           | Double-side              |                         |
| J      | With              | Double-side              |                         | A    | With              | Without                  |                         |
| W      | With              | Without                  |                         | M    | With              | Single-side              |                         |
| T      | With              | Single-side              |                         | G    | With              | Double-side              |                         |
| Q      | With              | Without                  |                         | X    | ---               | ---                      | Special                 |
| U      | With              | Double-side              |                         |      |                   |                          |                         |

**Chipbreaker and clamping system**

# T N M G

| Clearance angle of main cutting edge |                 |      |                        |
|--------------------------------------|-----------------|------|------------------------|
| Code                                 | Clearance angle | Code | Clearance angle        |
| A                                    | 3°              | B    | 5°                     |
| C                                    | 7°              | D    | 15°                    |
| E                                    | 20°             | F    | 25°                    |
| G                                    | 30°             | N    | 0°                     |
| P                                    | 11°             | O    | Other clearance angles |

| Tolerance |                             |                                     |                           |  |                  |        |                  |                  |                  |       |
|-----------|-----------------------------|-------------------------------------|---------------------------|--|------------------|--------|------------------|------------------|------------------|-------|
| Code      | Nose height m Tolerance(mm) | Inscribed circle ØI.C Tolerance(mm) | Thickness S Tolerance(mm) | (Reference) Details of M-level tolerance (Identified by shape) |                  |        |                  |                  |                  |       |
|           |                             |                                     |                           | Inscribed circle   | Regular triangle | Square | Diamond with 80° | Diamond with 55° | Diamond with 35° | Round |
| A         | ±0.005                      | ±0.025                              | ±0.025                    | 6.35   | ±0.08            | ±0.08  | ±0.08            | ±0.11            | ±0.16            | ---   |
| F         | ±0.005                      | ±0.013                              | ±0.025                    | 9.525  | ±0.08            | ±0.08  | ±0.08            | ±0.11            | ±0.16            | ---   |
| C         | ±0.013                      | ±0.025                              | ±0.025                    | 12.7   | ±0.13            | ±0.13  | ±0.13            | ±0.15            | ---              | ---   |
| H         | ±0.013                      | ±0.013                              | ±0.025                    | 15.875   | ±0.15            | ±0.15  | ±0.15            | ±0.18            | ---              | ---   |
| E         | ±0.025                      | ±0.025                              | ±0.025                    | 19.05  | ±0.15            | ±0.15  | ±0.15            | ±0.18            | ---              | ---   |
| G         | ±0.025                      | ±0.025                              | ±0.13                     | 25.4   | ---              | ±0.18  | ---              | ---              | ---              | ---   |
| J         | ±0.005                      | ±0.05±0.13                          | ±0.025                    | ● Tolerance of inscribed circle ØI.C(mm)                       |                  |        |                  |                  |                  |       |
| K         | ±0.013                      | ±0.05±0.13                          | ±0.025                    | Inscribed circle   | Regular triangle | Square | Diamond with 80° | Diamond with 55° | Diamond with 35° | Round |
|           |                             |                                     |                           | 6.35   | ±0.05            | ±0.05  | ±0.05            | ±0.05            | ±0.05            | ---   |
| L         | ±0.025                      | ±0.05±0.13                          | ±0.025                    | 9.525  | ±0.05            | ±0.05  | ±0.05            | ±0.05            | ±0.05            | ±0.05 |
|           |                             |                                     |                           | 12.7   | ±0.08            | ±0.08  | ±0.08            | ±0.08            | ---              | ±0.08 |
| M         | ±0.08±0.18                  | ±0.05±0.13                          | ±0.13                     | 15.875   | ±0.10            | ±0.10  | ±0.10            | ±0.10            | ---              | ±0.10 |
|           |                             |                                     |                           | 19.05  | ±0.10            | ±0.10  | ±0.10            | ±0.10            | ---              | ±0.10 |
| N         | ±0.08±0.18                  | ±0.05±0.13                          | ±0.025                    | 25.4   | ---              | ±0.13  | ---              | ---              | ---              | ±0.13 |
|           |                             |                                     |                           | ---  | ---              | ---    | ---              | ---              | ---              | ---   |
| U         | ±0.13±0.38                  | ±0.08±0.25                          | ±0.13                     | ● Nose height tolerance(mm)                                    |                  |        |                  |                  |                  |       |
|           |                             |                                     |                           | Inscribed circle   | Regular triangle | Square | Diamond with 80° | Diamond with 55° | Diamond with 35° | Round |
|           |                             |                                     |                           | 6.35   | ±0.08            | ±0.08  | ±0.08            | ±0.11            | ±0.16            | ---   |
|           |                             |                                     |                           | 9.525  | ±0.08            | ±0.08  | ±0.08            | ±0.11            | ±0.16            | ---   |
|           |                             |                                     |                           | 12.7   | ±0.13            | ±0.13  | ±0.13            | ±0.15            | ---              | ---   |
|           |                             |                                     |                           | 15.875   | ±0.15            | ±0.15  | ±0.15            | ±0.18            | ---              | ---   |
|           |                             |                                     |                           | 19.05  | ±0.15            | ±0.15  | ±0.15            | ±0.18            | ---              | ---   |
|           |                             |                                     |                           | 25.4   | ---              | ±0.18  | ---              | ---              | ---              | ---   |

| Diameter of IC | Insert shape |    |    |    |    |    |    |    |
|----------------|--------------|----|----|----|----|----|----|----|
|                | C            | D  | R  | S  | T  | V  | W  | K  |
| 3.97           |              |    |    |    | 06 |    |    |    |
| 5.0            |              |    | 05 |    |    |    |    |    |
| 5.56           |              |    |    |    | 09 |    |    |    |
| 6.0            |              |    | 06 |    |    |    |    |    |
| 6.35           | 06           | 07 |    |    | 11 | 11 |    |    |
| 8.0            |              |    | 08 |    |    |    |    |    |
| 9.525          | 09           | 11 | 09 | 09 | 16 | 16 | 06 | 16 |
| 10.0           |              |    | 10 |    |    |    |    |    |
| 12.0           |              |    | 12 |    |    |    |    |    |
| 12.7           | 12           | 15 | 12 | 12 | 22 | 22 | 08 |    |
| 15.875         | 16           |    | 15 | 15 | 27 |    |    |    |
| 16.0           |              | 19 | 16 |    |    |    |    |    |
| 19.05          | 19           |    | 19 | 19 | 33 |    |    |    |
| 20.0           |              |    | 20 |    |    |    |    |    |
| 25.0           | 25           | 25 | 25 |    |    |    |    |    |
| 25.4           |              |    | 25 | 25 |    |    |    |    |
| 31.75          |              |    | 31 |    |    |    |    |    |
| 32             |              |    | 32 |    |    |    |    |    |

**Length of cutting edge**

| Code | Insert thickness(mm) |
|------|----------------------|
| 00   | 0.79                 |
| T0   | 0.99                 |
| 01   | 1.59                 |
| T1   | 1.98                 |
| 02   | 2.38                 |
| T2   | 2.58                 |
| 03   | 3.18                 |
| T3   | 3.97                 |
| 04   | 4.76                 |
| T4   | 4.96                 |
| 05   | 5.96                 |
| T5   | 5.95                 |
| 06   | 6.35                 |
| T6   | 6.75                 |
| 07   | 7.94                 |
| 09   | 9.52                 |
| T9   | 9.72                 |
| 11   | 11.11                |
| 12   | 12.70                |

**Insert thickness**

**22 04 08 - DM (ISO)**  
**4 3 2 (inch)**

| Inscribed circle |                    |
|------------------|--------------------|
| Code             | Diameter of IC(mm) |
| 2                | 6.35               |
| 3                | 9.525              |
| 4                | 12.7               |
| 5                | 15.875             |
| 6                | 19.05              |
| 8                | 25.4               |

| Thickness |                |
|-----------|----------------|
| Code      | Thickness (mm) |
| 2         | 3.18           |
| 3         | 4.76           |
| 4         | 6.35           |
| 5         | 7.94           |
| 6         | 9.52           |

| Nose radius |                  |
|-------------|------------------|
| Code        | Nose radius (mm) |
| 0           | 0.2              |
| 1           | 0.4              |
| 2           | 0.8              |
| 3           | 1.2              |
| 4           | 1.6              |
| 5           | 2.0              |
| 6           | 2.4              |

| Nose radius code |                  |
|------------------|------------------|
| Code             | Nose radius (mm) |
| 00               | No radius        |
| 02               | 0.2              |
| 04               | 0.4              |
| 08               | 0.8              |
| 12               | 1.2              |
| 16               | 1.6              |
| 20               | 2.0              |
| 24               | 2.4              |
| 32               | 3.2              |
| X                | Others           |

Diameter of insert (Metric) Round insert

| Chipbreaker code |           |            |
|------------------|-----------|------------|
| DF               | DM        | DR         |
|                  |           |            |
| <b>HF</b>        | <b>HM</b> | <b>HR</b>  |
|                  |           |            |
| <b>EF</b>        | <b>EM</b> | <b>ER</b>  |
|                  |           |            |
| <b>NF</b>        | <b>NM</b> | <b>SF</b>  |
|                  |           |            |
| <b>PM</b>        | <b>HR</b> | <b>WGF</b> |
|                  |           |            |

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