

TURNING INSERTS · NEGATIVE INSERTS · WNMG - 80° TRIGON

## WNMG-BM

80° negative trigon insert for semi-finishing stainless steels, with BM chipbreaker and INNOT PVD grades.



### KEY DATA

**Product type** Turning Inserts

**ISO materials** **M** stainless

**Operation** Semi-finishing

**Chipbreaker** **BM**

**INNOT grades** IT7125 · **IT7225** ★  
★ recommended

**Nose radii** R0.4 · R0.8 · R1.2

**Online page** [innot-it.com/en/prodotto/wnmg-bm](https://innot-it.com/en/prodotto/wnmg-bm)

### ISO specifications

| ISO      | RADIUS (RE)     | AVAILABLE GRADES | CHIPBREAKER |
|----------|-----------------|------------------|-------------|
| WNMG06T3 | 1.2             | IT7125 - IT7225  | BM          |
| WNMG0604 | 1.2             | IT7125 - IT7225  | BM          |
| WNMG0804 | 0.4 - 0.8 - 1.2 | IT7125 - IT7225  | BM          |

### BM chipbreaker data sheet

|              |                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operation    | Semi-finishing                                                                                                                                                                                                                                                                                                                                                                           |
| ISO material | M (stainless steels)                                                                                                                                                                                                                                                                                                                                                                     |
| Tolerance    | M                                                                                                                                                                                                                                                                                                                                                                                        |
| Features     | Rompitruciolo per la semi-finitura dell'acciaio inox. La micro-lavorazione del tagliente garantisce allo stesso tempo affilatura ed elevata robustezza, per lavorare l'inox con alta produttività e lunga durata dell'inserto. Forma trigonale 80° (trigon): 6 taglienti utilizzabili (3 per faccia) con punta a 80°, per tornitura longitudinale e sfacciatura con portautensili a 95°. |

### Available INNOT grades

| Grade    | ISO      | Coating    | Composition     | Application                                                                                                                                                          |
|----------|----------|------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IT7125   | <b>M</b> | <b>PVD</b> | AlTiN           | Universal grade for turning stainless steel in continuous and interrupted cuts. Smooth, low-friction coating, high nano-hardness and excellent oxidation resistance. |
| IT7225 ★ | <b>M</b> | <b>PVD</b> | AlTiSiN + TiSiN | First-choice grade for turning stainless steel. Nano-gradient coating on a sub-micron grain substrate: excellent wear resistance and toughness.                      |

★ Recommended grade for this chipbreaker. PVD = physical vapour deposition coating. ISO M = stainless steels.

### Recommended cutting data

## External turning of stainless steel (ISO M) - BM chipbreaker

Recommended cutting data by material and cutting condition (stable, average, difficult).

| Material                                                | Condition | Vc (m/min) by grade                  | fn (mm/rev) | ap (mm)     |
|---------------------------------------------------------|-----------|--------------------------------------|-------------|-------------|
| Austenitic stainless steel ≤ 200 HB (AISI 304, 316...)  | Stable    | IT7125: 90 - 170<br>IT7225: 90 - 170 | 0.10 - 0.52 | 1.00 - 5.80 |
| Austenitic stainless steel ≤ 200 HB (AISI 304, 316...)  | Average   | IT7125: 90 - 170<br>IT7225: 90 - 170 | 0.10 - 0.47 | 1.00 - 5.80 |
| Austenitic stainless steel ≤ 200 HB (AISI 304, 316...)  | Difficult | IT7125: 90 - 170<br>IT7225: 90 - 170 | 0.10 - 0.42 | 1.00 - 5.80 |
| Martensitic stainless steel > 200 HB (AISI 431, 420...) | Stable    | IT7225: 80 - 160                     | 0.10 - 0.52 | 1.00 - 5.80 |
| Martensitic stainless steel > 200 HB (AISI 431, 420...) | Average   | IT7225: 80 - 160                     | 0.10 - 0.47 | 1.00 - 5.80 |
| Martensitic stainless steel > 200 HB (AISI 431, 420...) | Difficult | IT7225: 80 - 160                     | 0.10 - 0.42 | 1.00 - 5.80 |

Valori indicativi per il rompitriciolo BM. Sull'innox martensitico è consigliato il solo IT7225.

## Internal turning (boring) of stainless steel (ISO M) - BM chipbreaker

Starting values for internal turning with a boring bar, derived from this insert's external turning data: cutting speed -15%, feed -20%, maximum depth of cut -40%. Negative inserts are mounted on boring bars for bores from about Ø 25 mm upwards (Ø 32-40 mm for the larger sizes).

| Material                                                | Condition | Vc (m/min) by grade                  | fn (mm/rev) | ap (mm)     |
|---------------------------------------------------------|-----------|--------------------------------------|-------------|-------------|
| Austenitic stainless steel ≤ 200 HB (AISI 304, 316...)  | Stable    | IT7125: 75 - 145<br>IT7225: 75 - 145 | 0.08 - 0.42 | 1.00 - 3.50 |
| Austenitic stainless steel ≤ 200 HB (AISI 304, 316...)  | Average   | IT7125: 75 - 145<br>IT7225: 75 - 145 | 0.08 - 0.38 | 1.00 - 3.50 |
| Austenitic stainless steel ≤ 200 HB (AISI 304, 316...)  | Difficult | IT7125: 75 - 145<br>IT7225: 75 - 145 | 0.08 - 0.34 | 1.00 - 3.50 |
| Martensitic stainless steel > 200 HB (AISI 431, 420...) | Stable    | IT7225: 70 - 135                     | 0.08 - 0.42 | 1.00 - 3.50 |
| Martensitic stainless steel > 200 HB (AISI 431, 420...) | Average   | IT7225: 70 - 135                     | 0.08 - 0.38 | 1.00 - 3.50 |
| Martensitic stainless steel > 200 HB (AISI 431, 420...) | Difficult | IT7225: 70 - 135                     | 0.08 - 0.34 | 1.00 - 3.50 |

With a boring bar overhang above 3 times the diameter (steel bar) or 5 times (carbide or anti-vibration bar), reduce speed and feed further. Use the bar's internal coolant to clear the chips.

## Grade selection by cutting condition

| Cutting condition           | Recommended grade |
|-----------------------------|-------------------|
| Stable (continuous cut)     | IT7225            |
| Average                     | IT7225 / IT7125   |
| Difficult (interrupted cut) | IT7125            |

IT7225 allows higher cutting speeds; IT7125 offers greater toughness in interrupted cuts.

**Profondità di passata e misura dell'inserto.** The table shows the chipbreaker range (ap up to 5.8 mm), valid for all negative shapes. The trigon has a short cutting edge: with WNMG08 (8.7 mm cutting edge) keep the depth of cut within about half the edge, i.e. about 4 mm, and about 3 mm with WNMG06 (6.6 mm cutting edge). For deeper cuts choose an 80° CNMG, which has the same tip angle and a longer cutting

edge.

INNOT · CUTTING TOOLS FOR CNC MACHINE SHOPS

## Quote within 30 minutes

Send us the code or the drawing: we reply with price and availability. Free test inserts on request, 24/48h shipping.

**+39 375 786 1361 · [info@innot-it.com](mailto:info@innot-it.com) · [www.innot-it.com](http://www.innot-it.com)**



Scan to open the online page

Cutting data are indicative starting values: adjust them to machine, clamping, tool overhang and workpiece material. Data and images may change without notice.