TURNING INSERTS · NEGATIVE INSERTS · WNMG - 80° TRIGON

WNMG-BR

80° negative trigon insert for roughing stainless steels, with BR chipbreaker and INNOT PVD grades.

KEY DATA	
Product type	Turning Inserts
ISO materials	M stainless
Operation	Roughing
Chipbreaker	**BR**
INNOT grades	IT7125 · **IT7225** ★ ★ recommended
Nose radii	R0.8 · R1.2
Online page	innot-it.com/en/prodotto/wnmg-br

ISO specifications

ISO	RADIUS (RE)	AVAILABLE GRADES	CHIPBREAKER
WNMG0804	0.8 - 1.2	IT7125 - IT7225	BR

BR chipbreaker data sheet

Operation	Roughing
ISO material	M (stainless steels)
Tolerance	M
Features	Rompitruciolo per la sgrossatura dell'acciaio inox. Il profilo ottimizzato ad alta robustezza lo rende adatto ai tagli interrotti e alla sgrossatura a carico leggero; profondità di passata e avanzamenti nella tabella dei parametri. 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	**M**	**PVD**	AlTiN	Universal grade for turning stainless steel in continuous and interrupted cuts. Smooth, low-friction coating, high nano-hardness and excellent oxidation resistance.
IT7225 ★	**M**	**PVD**	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) – BR 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: 80 – 150 IT7225: 80 – 150	0.18 – 0.66	1.70 – 7.00
Austenitic stainless steel ≤ 200 HB (AISI 304, 316...)	Average	IT7125: 80 – 150 IT7225: 80 – 150	0.18 – 0.61	1.70 – 7.00
Austenitic stainless steel ≤ 200 HB (AISI 304, 316...)	Difficult	IT7125: 80 – 150 IT7225: 80 – 150	0.18 – 0.56	1.70 – 7.00
Martensitic stainless steel > 200 HB (AISI 431, 420...)	Stable	IT7225: 70 – 140	0.18 – 0.66	1.70 – 7.00
Martensitic stainless steel > 200 HB (AISI 431, 420...)	Average	IT7225: 70 – 140	0.18 – 0.61	1.70 – 7.00
Martensitic stainless steel > 200 HB (AISI 431, 420...)	Difficult	IT7225: 70 – 140	0.18 – 0.56	1.70 – 7.00

Valori indicativi per il rompitruciolo BR. Sull'inox martensitico è consigliato il solo IT7225.

Internal turning (boring) of stainless steel (ISO M) – BR 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: 70 – 130 IT7225: 70 – 130	0.14 – 0.53	1.70 – 4.20
Austenitic stainless steel ≤ 200 HB (AISI 304, 316...)	Average	IT7125: 70 – 130 IT7225: 70 – 130	0.14 – 0.49	1.70 – 4.20
Austenitic stainless steel ≤ 200 HB (AISI 304, 316...)	Difficult	IT7125: 70 – 130 IT7225: 70 – 130	0.14 – 0.45	1.70 – 4.20
Martensitic stainless steel > 200 HB (AISI 431, 420...)	Stable	IT7225: 60 – 120	0.14 – 0.53	1.70 – 4.20
Martensitic stainless steel > 200 HB (AISI 431, 420...)	Average	IT7225: 60 – 120	0.14 – 0.49	1.70 – 4.20
Martensitic stainless steel > 200 HB (AISI 431, 420...)	Difficult	IT7225: 60 – 120	0.14 – 0.45	1.70 – 4.20

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 7 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. For deeper cuts choose an 80° CNMG, which has the same tip angle and a longer cutting edge.

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