

TURNING INSERTS · NEGATIVE INSERTS · WNMG - 80° TRIGON

WNMA

80° flat negative trigon insert, without chipbreaker, for turning cast iron with CVD grade IT6115.



KEY DATA

Product type	Turning Inserts
ISO materials	K cast iron
Operation	Roughing
Chipbreaker	Piano (senza rompitrucciolo)
INNOT grades	IT6115 ★ ★ recommended
Nose radii	R0.4 · R0.8 · R1.2 · R1.6
Online page	innot-it.com/en/prodotto/wnma

ISO specifications

ISO	RADIUS (RE)	AVAILABLE GRADES	CHIPBREAKER
WNMA0604	0.4 - 0.8	IT6115	Flat (no chipbreaker)
WNMA0804	0.4 - 0.8 - 1.2 - 1.6	IT6115	Flat (no chipbreaker)

Flat (no chipbreaker) data sheet

Operation	Roughing – unstable cuts
ISO material	K (grey cast iron)
Tolerance	M
Features	Inserto piano senza rompitrucciolo per i materiali ISO K. Ha un'elevata robustezza strutturale e un ottimo appoggio sul portautensile: è la scelta più sicura per i tagli instabili e interrotti sulla ghisa. 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
IT6115 ★	K	CVD	TiN + MT-TiCN + Al ₂ O ₃	First-choice grade for turning cast iron. Thicker black CVD coating with special post-coating treatment: excellent wear resistance and toughness. Also suitable for roughing high-strength steels.

★ Recommended grade for this chipbreaker. CVD = chemical vapour deposition coating. ISO K = cast irons.

Recommended cutting data

External turning of cast iron (ISO K)

Recommended cutting data for grey cast iron, strength ≤ 350 MPa.

Material	Condition	Vc (m/min) by grade	fn (mm/rev)	ap (mm)
Grey cast iron (GG20, GG30 - EN-GJL-200, EN-GJL-300)	Stable	IT6115: 155 - 285	0.20 - 0.60	2.50 - 6.00
Grey cast iron (GG20, GG30 - EN-GJL-200, EN-GJL-300)	Average	IT6115: 155 - 285	0.20 - 0.55	2.50 - 6.00
Grey cast iron (GG20, GG30 - EN-GJL-200, EN-GJL-300)	Difficult	IT6115: 155 - 285	0.20 - 0.50	2.50 - 6.00

Valori indicativi. L'inserto piano è indicato soprattutto per tagli instabili e interrotti.

Internal turning (boring) of cast iron (ISO K)

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)
Grey cast iron (GG20, GG30 - EN-GJL-200, EN-GJL-300)	Stable	IT6115: 130 - 240	0.16 - 0.48	2.50 - 3.60
Grey cast iron (GG20, GG30 - EN-GJL-200, EN-GJL-300)	Average	IT6115: 130 - 240	0.16 - 0.44	2.50 - 3.60
Grey cast iron (GG20, GG30 - EN-GJL-200, EN-GJL-300)	Difficult	IT6115: 130 - 240	0.16 - 0.40	2.50 - 3.60

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.

Profondità di passata e misura dell'inserto. The table shows the chipbreaker range (ap up to 6 mm), valid for all negative shapes. The trigon has a short cutting edge: with WNMA08 (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 WNMA06 (6.6 mm cutting edge). 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.