TURNING INSERTS · NEGATIVE INSERTS · VNMG - 35° RHOMBIC

VNMG cast iron

35° negative rhombic insert for turning cast iron, with universal double-sided chipbreaker and CVD grade IT6115.

KEY DATA	
Product type	Turning Inserts
ISO materials	K cast iron
Operation	Semi-finishing · Roughing
Chipbreaker	**Universale ghisa**
INNOT grades	**IT6115** ★ ★ recommended
Nose radii	R0.4 · R0.8
Online page	innot-it.com/en/prodotto/vnmg-ghisa

ISO specifications

ISO	RADIUS (RE)	AVAILABLE GRADES	CHIPBREAKER
VNMG1604	0.4 - 0.8	IT6115	Universal cast iron

Universal cast iron chipbreaker data sheet

Operation	Medium – roughing
ISO material	K (grey cast iron)
Tolerance	M
Features	Universal chipbreaker for machining ISO K materials. Double-sided insert, particularly suitable for turning grey cast iron, with a wide application range. 35° rhombic shape: the slimmest tip in the range, for copy turning and profiling of grooves, radii and shoulders where other shapes cannot reach.

Available INNOT grades

Grade	ISO	Coating	Composition	Application
IT6115 ★	**K**	**CVD**	TiN + MT-TiCN + Al_2O_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: 165 – 300	0.25 – 0.60	1.60 – 5.00
Grey cast iron (GG20, GG30 – EN-GJL-200, EN-GJL-300)	Average	IT6115: 165 – 300	0.25 – 0.55	1.60 – 5.00
Grey cast iron (GG20, GG30 – EN-GJL-200, EN-GJL-300)	Difficult	IT6115: 165 – 300	0.25 – 0.50	1.60 – 5.00

Guide values. IT6115 can also be used for roughing high-strength steels.

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: 140 – 255	0.20 – 0.48	1.60 – 3.00
Grey cast iron (GG20, GG30 – EN-GJL-200, EN-GJL-300)	Average	IT6115: 140 – 255	0.20 – 0.44	1.60 – 3.00
Grey cast iron (GG20, GG30 – EN-GJL-200, EN-GJL-300)	Difficult	IT6115: 140 – 255	0.20 – 0.40	1.60 – 3.00

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 5 mm), valid for all negative shapes. The 35° shape has the slimmest tip in the range: with VNMG1604 (16.6 mm cutting edge) keep the depth of cut within about 1/4 of the edge, i.e. about 4 mm. For deeper cuts choose a stronger shape (55° DNMG or 80° CNMG).

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 · 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.