

MILLING INSERTS · 90° SQUARE SHOULDER

APMT-HM / APGT-AK

Insert for 90° square shoulder milling: APMT-HM in coated carbide, APGT-AK polished for aluminium.



KEY DATA

Product type	Milling Inserts
ISO materials	P steel M stainless K cast iron N aluminium S superalloys H hardened
Operation	Semi-finishing
INNOT grades	IT530 · IT5110 · IT5120 ★ · IT5130 ★ · IT5210 ★ · IT5220 ★ · IT6130 ★ · IT7240 · ITK10 ★ recommended
Nose radii	R0.8 · R1.6 · R2 · R3
Online page	innot-it.com/en/prodotto/apmt-hm-apgt-ak

Specifications

Code	L	W1	S	D1	RE	APMX
APMT1135PDER-HM	11.3	6.25	3.5	2.8	0.8	9.5
APMT113516PDER-HM	11.3	6.25	3.5	2.8	1.6	9.5
APMT1605PDER-HM	17.25	9.25	5.22	4.4	0.8	14.5
APMT160520PDER-HM	17.25	9.25	5.22	4.4	2	14.5
APMT160530PDER-HM	17.25	9.25	5.22	4.4	3	14.5
APGT1135PDFR-AK	11.3	6.25	3.5	2.8	0.8	9.5
APGT1604PDFR-AK	17.25	9.25	4.76	4.4	0.8	14.5

Dimensions in mm. IC = inscribed circle, S = thickness, D1 = hole, BS = wiper flat, RE = corner radius, AN = clearance angle, APMX = maximum depth of cut.

Technical data

Operation	Milling – 90° square shoulder
Shape	Rectangular
ISO material	P (steels), M (stainless steels), K (cast irons), N (aluminium and non-ferrous metals), S (superalloys and titanium), H (hardened steels)
Features	APMT-HM for steels, stainless steels and cast irons; APGT-AK ground and polished (ITK10) for aluminium and light alloys.
Compatible cutters	Indexable cutters with APMT-HM seat: send us your cutter code and we will check compatibility.

Available INNOT grades

Grade	ISO	Coating	Composition	Application
IT6130 ★	P • K	CVD	TiN + MT-TiCN + Al ₂ O ₃	Semi-finishing and roughing of steels and cast irons. High-strength composite coating that balances wear and toughness; post-coating treatment increases insert toughness.
IT5210 ★	P • H	PVD	AlTiN + TiSiN	Milling of hardened steels 50-65 HRC. Coating with high thermal stability and oxidation resistance: withstands the most severe cutting temperatures.
IT5120 ★	P • M • K	PVD	TiAlN + CrAlN + TiSiN	Universal grade for steels, stainless steels and cast irons, also ideal on materials of 35-50 HRC. Excellent wear resistance and toughness, high hot hardness.
IT5220 ★	P • M • K	PVD	AlTiN + TiSiN	Universal grade for steels, stainless steels and cast irons up to 40-50 HRC. Double-layer coating: strength, toughness and protection against edge chipping.
IT5130 ★	P • M	PVD	AlTiN	High-efficiency milling of steels and stainless steels below 30 HRC. Specially formulated substrate that reduces the risk of chipping, with a latest-generation nano coating.
IT5110	P • H	PVD	TiAlN + CrAlN + TiSiN	Milling of hardened steels 45-55 HRC. Nano-composite coating on an ultra-fine grain substrate: smooth surface, low friction, high nano-hardness and excellent oxidation resistance.
IT530	P • M	PVD	AlTiN / AlCrN	Specific for mild steel and stainless steel. Nano-multilayer coating and high-toughness substrate: higher speeds and feeds with lower risk of breakage.
IT7240	M • S	PVD	AlCrN	Milling of difficult materials: stainless steels, superalloys and titanium. High hot hardness, high toughness and resistance to fatigue fracture.
ITK10	N	Uncoated	Fine-grain carbide	First-choice grade for turning aluminium alloys. Uncoated carbide with a fine, uniform grain matrix: high transverse rupture strength and good wear resistance.

★ Recommended grade. Other grades are available on request.

Recommended cutting data

Milling - cutting speed and feed per tooth

Material	Hardness HB	Grade	Vc (m/min)	fz (mm/tooth)
P Low-carbon / mild steel	≤ 180	IT5120 IT5130 IT530	280 (220-340) 180 (120-250) 180 (120-250)	0.2 (0.1-0.3)
P High-carbon / alloy steel	180-280	IT5110 IT5120 IT5220 IT5130	240 (180-300) 200 (140-260) 200 (140-260) 160 (100-220)	0.2 (0.1-0.3)
P Alloy tool steel	280-350	IT5110 IT5210 IT5120 IT5220	220 (140-280) 160 (100-220) 160 (100-220) 120 (80-180)	0.15 (0.1-0.25)
M Stainless steel	≤ 270	IT5120 IT5130 IT530	180 (100-260) 140 (80-200) 140 (80-200)	0.2 (0.1-0.3)
K Cast iron	180-250	IT6130 IT5210 IT5220	250 (150-320) 180 (150-250) 180 (150-250)	0.2 (0.1-0.3)
H Hardened steels	45-55 HRC / ≥ 55 HRC	IT5220 IT5210	150 (100-250) 120 (80-200)	0.2 (0.1-0.3)

Guide values: recommended (min-max range). Reduce by 20-30% with long overhangs, weak clamping or dry machining.

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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.