

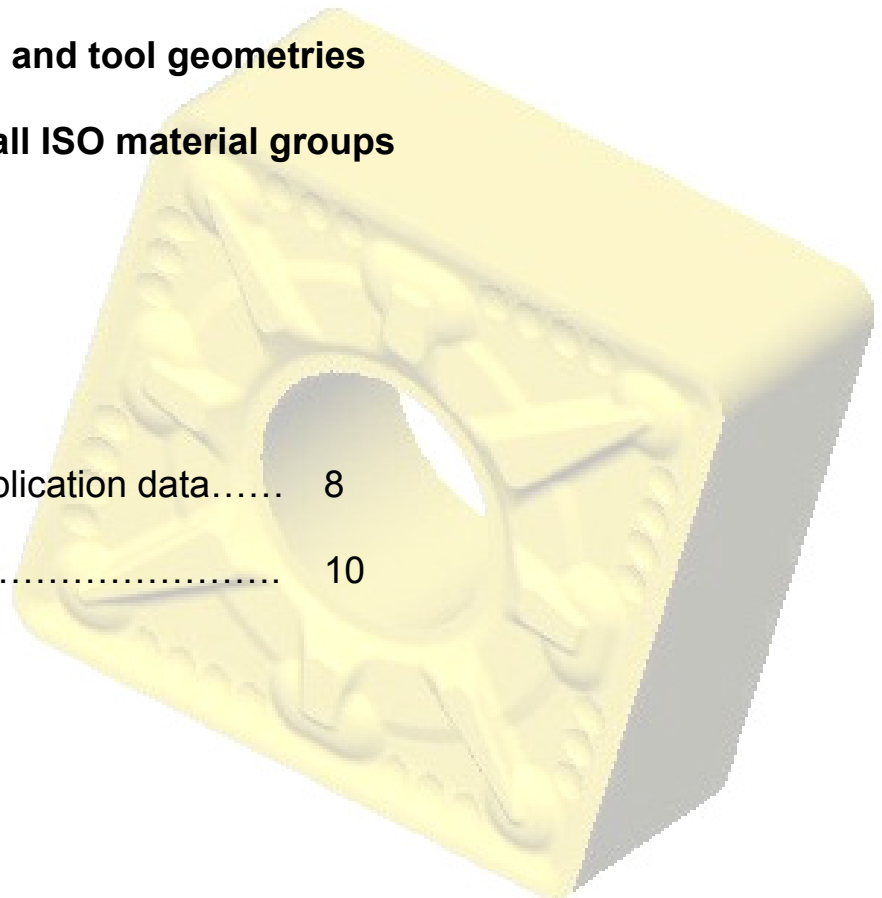
American Performance™ Inserts

A comprehensive line of high-performance inserts for modern CNC machines

State-of-the-art coating design and tool geometries





Three universal grades cover all ISO material groups




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American Performance™ Inserts Insert Geometries, Grade and Application Data

<p>xNMG-P2 Finishing</p> 	<p>Double-sided insert</p> <p>Small negative land with positive chipbreaker</p> <p>Good chip control with light depths of cut and feed rates</p> <p>Application Range Feed: .003" - .012" DOC: .010" - .125"</p>	<p>xNMG-P3 Medium Machining</p> 	<p>Double-sided insert</p> <p>Offers a wide range of chip control at medium feeds</p> <p>Can be used in most materials</p> <p>Application Range Feed: .005" - .020" DOC: .025" - .200"</p>
<p>xNMG-P4 Roughing</p> 	<p>Double-sided insert</p> <p>Tough cutting edge for interrupted cuts</p> <p>Good chip control at higher feed rates</p> <p>Application Range Feed: .008" - .027" DOC: .050" - .375"</p>	<p>xNMG-P5 Heavy Roughing</p> 	<p>Double-sided insert</p> <p>Very strong cutting edge with wider chip groove than P4</p> <p>Outstanding edge strength for high feed applications</p> <p>Application Range Feed: .010" - .030" DOC: .050" - .450"</p>

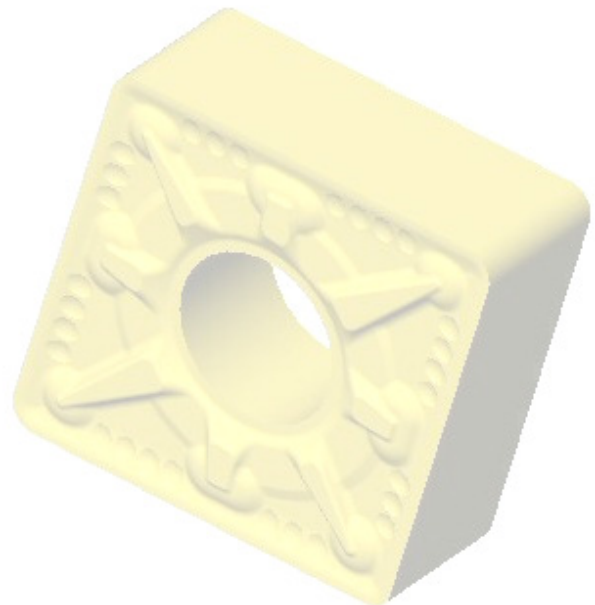
CVD COATED				
Grade	ISO Class	Industry Class	Description	Coating
AN3015 Semi-Finishing to Finishing	P05-P25 M05-M25 K05-K25 N01-N15 S05-S25	C2 C6	Offered exclusively for the American Performance™ Series, AN3015 is based on a hard, cobalt-enriched substrate with a thick CVD coating of TiCN, Al ₂ O ₃ , and TiN that provides excellent resistance to the flank wear and plastic deformation that result from high cutting data. Designed for finishing and light machining of a wide variety of workpiece materials, including most steels and irons.	 <p>TiN Al₂O₃ TiCN Substrate</p>
AN3025 Roughing to Semi-Finishing	P10-P35 M10-M35 K10-K25 S10-S30	C2 C5 C6	Offered only in American Performance™ inserts, AN3025 has a tougher substrate than AN3015 with a cobalt-enriched layer under a CVD coating of TiCN, Al ₂ O ₃ , and TiN. Excellent wear resistance. AN3025 is an excellent general purpose grade for most steels and irons.	 <p>TiN Al₂O₃ TiCN Substrate</p>
AN3035 Roughing, Interrupted Cuts	P20-P40 K15-K30 H10-H20	C2 C5	Offered exclusively in American Performance™ inserts, AN3035 has a very tough, cobalt-enriched substrate with a thick CVD coating of TiCN, Al ₂ O ₃ , and TiN. Preferred grade for machining in unfavorable conditions or with low speeds, high feeds, and heavy depths of cut. Suitable for steels and cast irons.	 <p>TiN Al₂O₃ TiCN Substrate</p>



American Performance™ Inserts Insert Geometries, Grade and Application Data

P Steel alloys, cast steels, ferritic and martensitic stainless steels, and long chipping malleable irons					M Austenitic stainless steel, free machining steel, manganese steel, alloy cast iron, and malleable iron					K Cast iron and short chipping malleable iron								
C8		C7		C6	C5							C4		C3		C2	C1	
P01	P10	P20	P30	P40	M01	M10	M20	M30	M40	K01	K10	K20	K30	K40				
	AN3015					AN3015					AN3015							
	AN3025					AN3025					AN3025							
		AN3035									AN3035							
More Wear ← → More Toughness					More Wear ← → More Toughness					More Wear ← → More Toughness								

N Non-ferrous metals, plastics, and wood					S High temperature alloys (nickel, iron, and cobalt based), titanium and titanium alloys					H Hard materials, such as chilled cast iron, hardened steel and hardened cast iron				
N01	N10	N20	N30	N40	S01	S10	S20	S30	S40	H01	H10	H20	H30	H40
AN3015						AN3015					AN3035			
						AN3025								
More Wear ← → More Toughness					More Wear ← → More Toughness					More Wear ← → More Toughness				





NEGATIVE TURNING

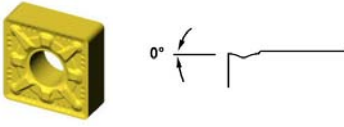
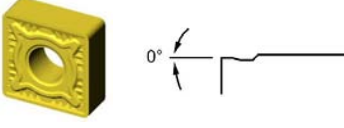
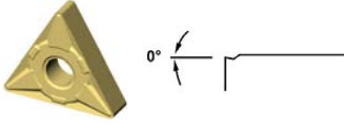
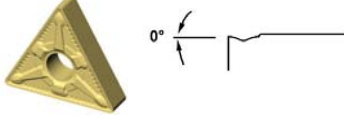
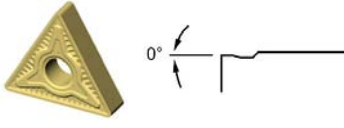
with chip control, for lock pin fastening systems

	Part Number	Coated			Dimensions (inches)				
		AN3015	AN3025	AN3035	IC	Thick.	Radius	Hole	
CNMG-P2 Finishing 	80° Diamond	CNMG 430.5-P2	•	•		1/2	3/16	.008	.203
		CNMG 431-P2	•	•		1/2	3/16	1/64	.203
		CNMG 432-P2	•	•		1/2	3/16	1/32	.203
		CNMG 542-P2	•	•		5/8	1/4	1/32	.250
CNMG-P3 Medium Machining 	80° Diamond	CNMG 431-P3	•	•		1/2	3/16	1/64	.203
		CNMG 432-P3	•	•	•	1/2	3/16	1/32	.203
		CNMG 433-P3		•	•	1/2	3/16	3/64	.203
		CNMG 434-P3		•	•	1/2	3/16	1/16	.203
		CNMG 542-P3	•	•	•	5/8	1/4	1/32	.250
		CNMG 543-P3		•	•	5/8	1/4	3/64	.250
		CNMG 544-P3		•	•	5/8	1/4	1/16	.250
		CNMG 643-P3		•	•	3/4	1/4	3/64	.312
		CNMG 644-P3		•	•	3/4	1/4	1/16	.312
CNMG-P4 Roughing 	80° Diamond	CNMG 432-P4		•	•	1/2	3/16	1/32	.203
		CNMG 433-P4		•	•	1/2	3/16	3/64	.203
		CNMG 434-P4		•	•	1/2	3/16	1/16	.203
		CNMG 543-P4		•	•	5/8	1/4	3/64	.250
		CNMG 544-P4		•	•	5/8	1/4	1/16	.250
		CNMG 643-P4		•	•	3/4	1/4	3/64	.312
DNMG-P2 Finishing 	55° Diamond	DNMG 431-P2	•	•		1/2	3/16	1/64	.203
		DNMG 432-P2	•	•		1/2	3/16	1/32	.203
		DNMG 442-P2	•	•		1/2	1/4	1/32	.203
DNMG-P3 Medium Machining 	55° Diamond	DNMG 431-P3	•	•		1/2	3/16	1/64	.203
		DNMG 432-P3	•	•	•	1/2	3/16	1/32	.203
		DNMG 433-P3		•	•	1/2	3/16	3/64	.203
		DNMG 434-P3		•	•	1/2	3/16	1/16	.203
		DNMG 442-P3	•	•	•	1/2	1/4	1/32	.203
		DNMG 443-P3		•	•	1/2	1/4	3/64	.203
		DNMG 444-P3		•	•	1/2	1/4	1/16	.203
DNMG-P4 Roughing 	55° Diamond	DNMG 432-P4		•	•	1/2	3/16	1/32	.203
		DNMG 433-P4		•	•	1/2	3/16	3/64	.203
		DNMG 434-P4		•	•	1/2	3/16	1/16	.203



NEGATIVE TURNING

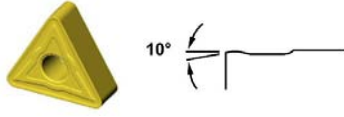

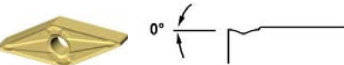
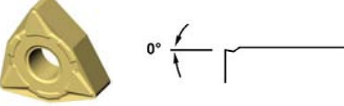
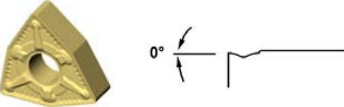
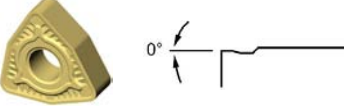
with chip control, for lock pin fastening systems

	Part Number	Coated			Dimensions (inches)			
		AN3015	AN3025	AN3035	IC	Thick.	Radius	Hole
SNMG-P3 Medium Machining Square 	SNMG 432-P3		•	•	1/2	3/16	1/32	.203
	SNMG 433-P3		•	•	1/2	3/16	3/64	.203
	SNMG 434-P3		•	•	1/2	3/16	1/16	.203
	SNMG 543-P3		•	•	5/8	1/4	3/64	.250
	SNMG 544-P3		•	•	5/8	1/4	1/16	.250
	SNMG 643-P3		•	•	3/4	1/4	3/64	.312
	SNMG 644-P3		•	•	3/4	1/4	1/16	.312
SNMG-P4 Roughing Square 	SNMG 432-P4		•	•	1/2	3/16	1/32	.203
	SNMG 433-P4		•	•	1/2	3/16	3/64	.203
	SNMG 434-P4		•	•	1/2	3/16	1/16	.203
	SNMG 543-P4		•	•	5/8	1/4	3/64	.250
	SNMG 544-P4		•	•	5/8	1/4	1/16	.250
	SNMG 643-P4		•	•	3/4	1/4	3/64	.312
	SNMG 644-P4		•	•	3/4	1/4	1/16	.312
	SNMG 866-P4		•	•	1	3/8	3/32	.358
TNMG-P2 Finishing Triangle 	TNMG 322-P2	•	•		3/8	1/8	1/32	.150
	TNMG 432-P2	•	•		1/2	3/16	1/32	.203
TNMG-P3 Medium Machining Triangle 	TNMG 321-P3	•	•		3/8	1/8	1/64	.150
	TNMG 322-P3	•	•		3/8	1/8	1/32	.150
	TNMG 323-P3		•		3/8	1/8	3/64	.150
	TNMG 324-P3		•		3/8	1/8	1/16	.150
	TNMG 331-P3	•	•		3/8	3/16	1/64	.150
	TNMG 332-P3	•	•		3/8	3/16	1/32	.150
	TNMG 333-P3		•		3/8	3/16	3/64	.150
	TNMG 334-P3		•		3/8	3/16	1/16	.150
	TNMG 431-P3	•	•		1/2	3/16	1/64	.203
	TNMG 432-P3	•	•	•	1/2	3/16	1/32	.203
	TNMG 433-P3		•	•	1/2	3/16	3/64	.203
	TNMG 434-P3		•	•	1/2	3/16	1/16	.203
	TNMG 436-P3		•	•	1/2	3/16	3/32	.203
	TNMG 542-P3		•	•	5/8	1/4	1/32	.250
	TNMG 543-P3		•	•	5/8	1/4	3/64	.250
	TNMG 544-P3		•	•	5/8	1/4	1/16	.250
TNMG-P4 Roughing Triangle 	TNMG 432-P4		•	•	1/2	3/16	1/32	.203
	TNMG 433-P4		•	•	1/2	3/16	3/64	.203
	TNMG 434-P4		•	•	1/2	3/16	1/16	.203
	TNMG 543-P4		•	•	5/8	1/4	3/64	.250
	TNMG 544-P4		•	•	5/8	1/4	1/16	.250
	TNMG 666-P4		•	•	3/4	3/8	3/32	.312



NEGATIVE TURNING

with chip control, for lock pin fastening systems

	Part Number	Coated			Dimensions (inches)			
		AN3015	AN3025	AN3035	IC	Thick.	Radius	Hole
<p>TNMG-P5 Triangle</p> <p>Heavy Roughing</p> 	TNMG 666-P5		•	•	3/4	3/8	3/32	.312
<p>VNMG-P2 35° Diamond</p> <p>Finishing</p> 	VNMG 331-P2	•	•		3/8	3/16	1/64	.150
	VNMG 332-P2	•	•		3/8	3/16	1/32	.150
	VNMG 431-P2	•	•		1/2	3/16	1/64	.203
	VNMG 432-P2	•	•		1/2	3/16	1/32	.203
<p>VNMG-P3 35° Diamond</p> <p>Medium Machining</p> 	VNMG 331-P3	•	•		3/8	3/16	1/64	.150
	VNMG 332-P3	•	•		3/8	3/16	1/32	.150
	VNMG 333-P3		•		3/8	3/16	3/64	.150
	VNMG 431-P3	•	•		1/2	3/16	1/64	.203
	VNMG 432-P3	•	•	•	1/2	3/16	1/32	.203
	VNMG 433-P3		•		1/2	3/16	3/64	.203
<p>WNMG-P2 80° Trigon</p> <p>Finishing</p> 	WNMG 331-P2	•	•		3/8	3/16	1/64	.150
	WNMG 431-P2	•	•		1/2	3/16	1/64	.203
	WNMG 432-P2	•	•		1/2	3/16	1/32	.203
<p>WNMG-P3 80° Trigon</p> <p>Medium Machining</p> 	WNMG 32.51-P3		•		3/8	5/32	1/64	.150
	WNMG 32.52-P3		•		3/8	5/32	1/32	.150
	WNMG 331-P3	•	•		3/8	3/16	1/64	.150
	WNMG 332-P3	•	•		3/8	3/16	1/32	.150
	WNMG 431-P3	•	•		1/2	3/16	1/64	.203
	WNMG 432-P3	•	•	•	1/2	3/16	1/32	.203
	WNMG 433-P3		•	•	1/2	3/16	3/64	.203
	WNMG 434-P3		•	•	1/2	3/16	1/16	.203
<p>WNMG-P4 80° Trigon</p> <p>Roughing</p> 	WNMG 434-P4		•	•	1/2	3/16	1/16	.203