

COMPREHENSIVE STANDARD GRADE DESCRIPTIONS AS OF 11/15/01

	New Grade Number	Old Grade Number	Industry Class	ISO Rating	Coating	Workpiece Materials	Grade Characteristics				Comments
							Mech. Shock	Thermal Shock	Wear Resist.	Crater Resist.	
UNCOATED	IN04S	110, 103	C-3	K10-K20	None	Cast iron, aluminum, non-ferrous alloys	VL	VL	EH	VL	Sub-micron
	IN10K	111	C-1/C-2	K20-K40	None	Cast iron, aluminum, non-ferrous alloys	L	L	H	VL	
	IN15K	205H	C-1/C-2	K20-K40	None	Cast iron, aluminum, non-ferrous alloys	H	L	M	VL	
	IN30M	205S, 131	C-1/C-2	M20-M40 K20-K50	None	Cast iron, aluminum, non-ferrous materials, high-temp alloys	H	L	M	VL	
	IN40P	213, 227, 235, 247	C-5/C-6	P20-P35	None	Steels	M-H	H	M-H	H	
IN45P	207	C-5	P25-P40	None	Steels	H	H	M	M		
CVD	IN5015	R47	C-2/C-6	P10-P30 K10-K30	CVD TiN-TiCN	Cast iron steels, stainless	M	M	M	M	High speed in cast iron
	IN5530	301, 308, 331	C-1/C-5	P30-P50 M30	MT-CVD TiCN-TiN	Steels, stainless, high-temp alloys	EH	L	L-M	M	
	IN6510	711, 714	C-2	K15-K20	MT-CVD Al ₂ O ₃	Cast iron	L	H	EH	M	
	IN6515	722, 723	C-2/C-3/C-6	K15-K35 P20-30	MT-CVD Al ₂ O ₃	Cast iron, steels	M	H	M-H	M	
	IN6530	708, 731	C-1/C-5/C-6	P25-P45 M25-M40 K20-K50	MT-CVD Al ₂ O ₃	Cast iron, steels, stainless, high-temp alloys	H	M-H	M-H	M-H	
	IN6542	732, 757, 762, 767	C-1/C-2	M20-M40 K20-K30	PVD TiCN-TiN	Cast iron, aluminum, stainless, titanium	H	L	H	L	
PVD	IN1004	J03	C-2	M20-M40 K10-K25	PVD TiCN	Cast iron, steel, stainless, titanium, high-temp alloys	H	L	EH	M	
	IN1030	J05	C-1/C-2	M20-M40 K20-K30	PVD TiCN	Cast iron, aluminum, stainless, titanium	H	L	H	L	
	IN1040	J47	C-5/C-6	P20-P40	PVD TiCN	Steels, stainless	H	H	H	H	
	IN1510	561	C-1/C-2/C-3	K20-K40	PVD TiCN-TiN	Gray cast iron, aluminum, non-ferrous alloys	L	L	EH	L	
	IN1515	555H	C-1/C-2	M20-M40 K20-K30	PVD TiCN-TiN	Cast iron, aluminum, stainless, titanium	H	L	H	L	
	IN1530	555S, 581	C-1/C-5	M30 K25-K40	PVD TiCN-TiN	Steels, stainless, titanium, high-temp alloys	EH	M	M	M	
	IN1540	557, 563, 570, 585, 597	C-5/C-6	P20-P40	PVD TiCN-TiN	Steels, stainless	H	H	H	H	
	IN2004	803	C-3/C-7	P15 K10	PVD TiAlN	Steels, cast iron	M-H	H	H	H	
	IN2005	804	C-2	M20-M40	PVD TiAlN	Titanium plate, stainless, alloyed steels, cast iron	H	M	H	M	Sub-micron
	IN2010	811, B11	C-1/C-2	K10-K40	PVD TiAlN	Cast iron	L	L-M	EH	L-M	
	IN2015	805H, 823	C-1/C-2	K10-K40	PVD TiAlN	Cast iron, steels, stainless, titanium, high temp alloys	H	M	H	M	
	IN2030	805S, 831	C-1/C-5	K25-K40 M30-M40	PVD TiAlN	Steels, stainless, titanium, high-temperature alloys	EH	H	M	M-H	
	IN2040	835, 847, B35	C-5/C-6	P20-P40	PVD TiAlN	Steels, stainless	H	H-EH	H	H-EH	
Non-Carbide	IN0560	S701A	C-7/C-8	P05-P15	PVD TiN	Steels, stainless, finishing	VL	EH	H	EH	Cermet
	IN60C	406, 430	C-7/C-8	P10-P20	None	Steels, stainless	VL	EH	H	EH	Cermet
	IN70N	405	C-1/C-2	K10-K20	None	Cast irons	VL	VL	EH	EH	SiN
	IN80B	421	CBN	K01-K20	None	Cast irons	EH	EH	EH	EH	CBN
	IN90D	411	PCD Diamond	PCD Diamond	None	Aluminum, non-ferrous alloys	VL	L	EH	L	PCD

*Degree of resistance to specified types of failure: EH=Extremely High H=High M=Moderate L=Low VL=Very Low