



palbit 
CUTTING TOOLS SOLUTIONS

Ceramic Inserts

Catalog



Index

Índice

Ceramic inserts

Pastilhas cerâmicas

Plaquitas ceramicas

2

Technical data

Dados técnicos

Datos técnicos

14



Ceramic Inserts

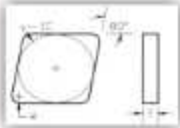
Pastilhas cerâmicas

Plaquitas cerâmicas

 Palbit Grades | Graus Palbit | Grados Palbit

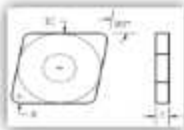
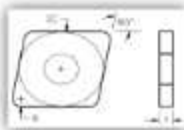
 Cutting Data | Dados de Corte | Datos de Corte

Ceramic Inserts

Insert Type Tipo de pastilha Tipo de plaqueta	ISO Code Codificação ISO Codificação ISO	ANSI Code Codificação ANSI Codificação ANSI	Grade Grau Grau	Dimensions Dimensões Dimensiones			Stock			
				I.C. (µ)	T (µ)	R (µ)		I.C. (mm)	T (mm)	R (mm)
CNGN 	CNGN 12 04 04	CNG 431	PCN310	0,500	0,188	0,016	12,70	4,76	0,40	⊗
	CNGN 12 04 08	CNG 432				0,031			0,80	⊗
	CNGN 12 04 12	CNG 433				0,047			1,20	⊗
	CNGN 12 04 16	CNG 434				0,063			1,60	⊗
	CNGN 12 06 04	CNG 441			0,016	0,40		○		
	CNGN 12 06 08	CNG 442			0,031	0,80		○		
	CNGN 12 06 12	CNG 443			0,047	1,20		○		
	CNGN 12 06 16	CNG 444			0,063	1,60		○		
	CNGN 12 07 04	CNG 451			0,016	0,40		⊗		
	CNGN 12 07 08	CNG 452			0,031	0,80		⊗		
	CNGN 12 07 12	CNG 453			0,047	1,20		⊗		
	CNGN 12 07 16	CNG 454			0,063	1,60		⊗		
	CNGN 16 04 04	CNG 531		0,625	0,188	15,88	4,76	0,40	○	
	CNGN 16 04 08	CNG 532						0,80	○	
	CNGN 16 04 12	CNG 533						1,20	○	
	CNGN 16 04 16	CNG 534						1,60	○	
	CNGN 16 06 04	CNG 541			0,016		0,40	○		
	CNGN 16 06 08	CNG 542			0,031		0,80	○		
	CNGN 16 06 12	CNG 543			0,047		1,20	○		
	CNGN 16 06 16	CNG 544			0,063		1,60	○		
	CNGN 16 07 04	CNG 551			0,016		0,40	○		
	CNGN 16 07 08	CNG 552			0,031		0,80	○		
	CNGN 16 07 12	CNG 553			0,047		1,20	○		
	CNGN 16 07 16	CNG 554			0,063		1,60	○		
	CNGN 19 04 04	CNG 631		0,750	0,188	19,05	4,76	0,40	○	
	CNGN 19 04 08	CNG 632						0,80	○	
	CNGN 19 04 12	CNG 633						1,20	○	
	CNGN 19 04 16	CNG 634						1,60	○	
	CNGN 19 06 04	CNG 641			0,016		0,40	○		
	CNGN 19 06 08	CNG 642			0,031		0,80	○		
	CNGN 19 06 12	CNG 643			0,047		1,20	○		
	CNGN 19 06 16	CNG 644			0,063		1,60	○		
	CNGN 19 07 04	CNG 651			0,016		0,40	○		
	CNGN 19 07 08	CNG 652			0,031		0,80	○		
	CNGN 19 07 12	CNG 653			0,047		1,20	○		
	CNGN 19 07 16	CNG 654			0,063		1,60	○		

⊗ Stock items - Delivery in 1 week / Itens de stock - Entrega em 1 semana / artículos de stock - Entrega en 1 semana

○ Available under request - Delivery in 7 weeks / Disponível sob consulta - Entrega em 7 semanas / Disponible bajo consulta - Entrega en 7 semanas

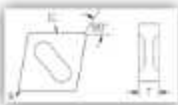

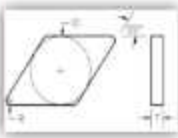
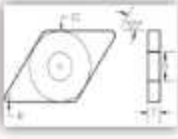
Insert Type Tipo de pastilha Tipo de plaquita	ISO Code Codificação ISO Codificación ISO	ANSI Code Codificação ANSI Codificación ANSI	Grade Grão Grado	Dimensions Dimensões Dimensiones						Stock			
				L.C. (in)	T (in)	R (in)	L.C. (mm)	T (mm)	R (mm)				
CNGA 	CNGA 12 04 04	CNGA 431	PCN310	0,500	0,188	0,016	12,70	4,76	0,40	●			
	CNGA 12 04 08	CNGA 432				0,031			0,80	●			
	CNGA 12 04 12	CNGA 433				0,047			1,20	●			
	CNGA 12 04 16	CNGA 434				0,063			1,60	●			
	CNGA 12 06 04	CNGA 441			0,016	6,35		0,40	○				
	CNGA 12 06 08	CNGA 442			0,031			0,80	○				
	CNGA 12 06 12	CNGA 443			0,047			1,20	○				
	CNGA 12 06 16	CNGA 444			0,063			1,60	○				
	CNGA 12 07 04	CNGA 451			0,016	7,94		0,40	○				
	CNGA 12 07 08	CNGA 452			0,031			0,80	○				
	CNGA 12 07 12	CNGA 453			0,047			1,20	○				
	CNGA 12 07 16	CNGA 454			0,063			1,60	○				
	CNGA 16 04 04	CNGA 531		0,625	0,188	15,88	4,76	0,40	○				
	CNGA 16 04 08	CNGA 532						0,80	○				
	CNGA 16 04 12	CNGA 533						1,20	○				
	CNGA 16 04 16	CNGA 534						1,60	○				
	CNGA 16 06 04	CNGA 541			0,016		6,35	0,40	●				
	CNGA 16 06 08	CNGA 542			0,031			0,80	●				
	CNGA 16 06 12	CNGA 543			0,047			1,20	●				
	CNGA 16 06 16	CNGA 544			0,063			1,60	●				
	CNGA 16 07 04	CNGA 551			0,312		7,94	0,40	○				
	CNGA 16 07 08	CNGA 552						0,80	○				
	CNGA 16 07 12	CNGA 553						1,20	○				
	CNGA 16 07 16	CNGA 554						1,60	○				
	CNGA 19 04 04	CNGA 631		0,750	0,188	19,05	4,76	0,40	○				
	CNGA 19 04 08	CNGA 632						0,80	○				
	CNGA 19 04 12	CNGA 633						1,20	○				
	CNGA 19 04 16	CNGA 634						1,60	○				
	CNGA 19 06 04	CNGA 641			0,016		6,35	0,40	○				
	CNGA 19 06 08	CNGA 642			0,031			0,80	○				
CNGA 19 06 12	CNGA 643	0,047	1,20		○								
CNGA 19 06 16	CNGA 644	0,063	1,60		○								
CNGA 19 07 04	CNGA 651	0,312	7,94		0,40		○						
CNGA 19 07 08	CNGA 652				0,80		○						
CNGA 19 07 12	CNGA 653				1,20		○						
CNGA 19 07 16	CNGA 654				1,60		○						
CNMA 	CNMA 12 04 16	CNMA 434	PCN310 MW43	0,500	0,188	0,063	12,70	4,76	1,60	●			
	CNMA 12 07 16	CNMA 454							0,312	0,063	7,94	1,60	●
	CNMA 16 06 16	CNMA 464							0,250	0,063	6,35	1,60	●



Stock items - Delivery in 1 week /Itens de stock - Entrega em 1 semana / artículos de stock - Entrega en 1 semana

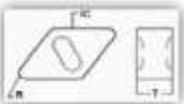


Available under request - Delivery in 7 weeks / Disponível sob consulta - Entrega em 7 semanas / Disponible bajo consulta - Entrega en 7 semanas



Insert Type Tipo de pastilha Tipo de plaqueta	ISO Code Codificação ISO Codificación ISO	ANSI Code Codificação ANSI Codificación ANSI	Grade Grau Grado	Dimensions Dimensões Dimensiones						Stock
				L.C. (in)	T (in)	R (in)	L.C. (mm)	T (mm)	R (mm)	
CNGX (Dimple Lock) 	CNGX 12 07 08	CNGX 452	PCN310	0,500	0,312	0,031	12,70	7,94	0,80	☉
	CNGX 12 07 12	CNGX 453				0,047			1,20	☉
	CNGX 12 07 16	CNGX 454				0,063			1,60	☉
CNMX (Dimple Lock) 	CNMX 12 07 12	CNMX 453	PCN310	0,500	0,312	0,047	12,70	7,94	1,20	☉
	CNMX 12 07 16	CNMX 454				0,063			1,60	☉
DNG 	DNGN 15 04 04	DNG 431	PCN310	0,500	0,188	0,016	12,70	4,76	0,40	☉
	DNGN 15 04 08	DNG 432				0,031			0,80	☉
	DNGN 15 04 12	DNG 433				0,047			1,20	☉
	DNGN 15 04 16	DNG 434				0,063			1,60	☉
	DNGN 15 06 04	DNG 441				0,016			0,40	☉
	DNGN 15 06 08	DNG 442				0,031			0,80	☉
	DNGN 15 06 12	DNG 443			0,047	1,20	☉			
	DNGN 15 06 16	DNG 444			0,063	1,60	☉			
	DNGN 15 07 04	DNG 451			0,016	0,40	☉			
	DNGN 15 07 08	DNG 452			0,031	0,80	☉			
	DNGN 15 07 12	DNG 453			0,047	1,20	☉			
	DNGN 15 07 16	DNG 454			0,063	1,60	☉			
DNGA 	DNGA 15 04 04	DNGA 431	PCN310	0,500	0,188	0,016	12,70	4,76	0,40	☉
	DNGA 15 04 08	DNGA 432				0,031			0,80	☉
	DNGA 15 04 12	DNGA 433				0,047			1,20	☉
	DNGA 15 04 16	DNGA 434				0,063			1,60	☉
	DNGA 15 06 04	DNGA 441				0,016			0,40	☉
	DNGA 15 06 08	DNGA 442				0,031			0,80	☉
	DNGA 15 06 12	DNGA 443			0,047	1,20	☉			
	DNGA 15 06 16	DNGA 444			0,063	1,60	☉			
	DNGA 15 07 04	DNGA 451			0,016	0,40	☉			
	DNGA 15 07 08	DNGA 452			0,031	0,80	☉			
	DNGA 15 07 12	DNGA 453			0,047	1,20	☉			
	DNGA 15 07 16	DNGA 454			0,063	1,60	☉			

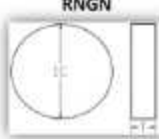
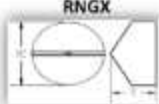
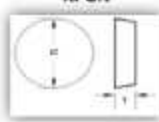
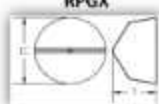
☉ Stock items - Delivery in 1 week / Items de stock - Entrega em 1 semana / artículos de stock - Entrega en 1 semana

○ Available under request - Delivery in 7 weeks / Disponível sob consulta - Entrega em 7 semanas / Disponible bajo consulta - Entrega en 7 semanas

Insert Type Tipo de pastilha Tipo de plaqueta	ISO Code Certificação ISO Certificación ISO	ANSI Code Certificação ANSI Certificación ANSI	Grade Grac Resista	Dimensions Dimensões Dimensiones						Stock
				t.C. (in)	T (in)	R (in)	t.C. (mm)	T (mm)	R (mm)	
DNGX (Dimple Lock) 	DNGX 11 07 04	DNGX 352	PCN310	0,375	0,312	0,016	9,53	7,94	0,40	○
	DNGX 11 07 08	DNGX 352				0,031			0,90	○
	DNGX 11 07 12	DNGX 353				0,047			1,20	●
	DNGX 11 07 16	DNGX 354		0,063	1,60	●				
	DNGX 15 07 04	DNGX451		0,500	0,312	0,016	12,70	7,94	0,40	●
	DNGX 15 07 08	DNGX 452				0,031			0,80	●
	DNGX 15 07 12	DNGX 453				0,047			1,20	●
DNGX 15 07 16	DNGX 454	0,063	1,60			●				
DNMX (Dimple Lock) 	DNMX 11 07 12	DNMX 353	PCN310	0,375	0,312	0,047	9,53	7,94	1,20	○
	DNMX 11 07 16	DNMX 354				0,063			1,60	○
	DNMX 15 07 16	DNMX 454		0,500	0,312	0,063	12,70	7,94	1,60	○
RCGX 	RCGX 09 07 00	RCGX 35	PCN310	0,375	0,312	120°	9,53	7,94	130°	●
	RCGX 12 07 00	RCGX 45		0,500	0,312	120°			12,70	7,94
	RCGX 15 07 00	RCGX 55	PCN515	0,625	0,312	120°	15,88	7,94	120°	○
	RCGX 18 09 00	RCGX 66		0,750	0,375	120°	19,05	9,52	130°	○

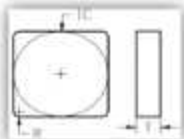
● Stock items - Delivery in 1 week / Itens de stock - Entrega em 1 semana / artículos de stock - Entrega en 1 semana

○ Available under request - Delivery in 7 weeks / Disponível sob consulta - Entrega em 7 semanas / Disponible bajo consulta - Entrega en 7 semanas

Insert Type Tipo de pastilha Tipo de plaqueta	ISO Code Codificação ISO Codificación ISO	ANSI Code Codificação ANSI Codificación ANSI	Grade Grau Grado	Dimensions Dimensões Dimensiones						Stock
				L.C. (in)	T (in)	R (in)	L.C. (mm)	T (mm)	R (mm)	
RNGN 	RNGN 09 03 00	RNG 32	PCN310 PCN515	0,375	0,125	-	9,53	3,18	-	○
	RNGN 09 04 00	RNG 33			0,188	-		4,76	-	○
	RNGN 09 07 00	RNG 35			0,312	-		7,94	-	○
	RNGN 12 03 00	RNG 42		0,500	0,125	-	12,70	3,18	-	○
	RNGN 12 04 00	RNG 43			0,188	-		4,76	-	⊗
	RNGN 12 06 00	RNG 44			0,250	-		6,35	-	○
	RNGN 12 07 00	RNG 45		0,312	-	7,94	-	⊗		
	RNGN 15 06 00	RNG 54		0,625	0,250	-	15,88	6,35	-	○
	RNGN 15 07 00	RNG 55			0,312	-		7,94	-	⊗
	RNGN 19 06 00	RNG 64			0,250	-		6,35	-	○
RNGN 19 07 00	RNG 65	0,750	0,312	-	19,05	7,94	-	○		
RNGN 25 09 00	RNG 86		1,000	0,375		-	25,40	9,52	-	○
RNGX 	RNGX 12 04 00	RNGX 43	PCN310	0,500	0,188	-	12,70	4,76	-	○
	RNGX 12 07 00	RNG445			0,312	-		7,94	-	○
RPGN 	RPGN 09 03 00	RPG 32	PCN310	0,375	0,125	-	9,53	3,18	-	○
	RPGN 09 04 00	RPG 33			0,188	-		4,76	-	○
	RPGN 12 04 00	RPG 43		0,500	0,188	-	12,70	4,76	-	⊗
	RPGN 12 06 00	RPG 44			0,250	-		6,35	-	○
	RPGN 12 07 00	RPG 45			0,312	-		7,94	-	○
	RPGN 15 06 00	RPG 54		0,625	0,250	-	15,88	6,35	-	○
	RPGN 15 07 00	RPG 55			0,312	-		7,94	-	○
	RPGN 19 06 00	RPG 64		0,750	0,250	-	19,05	6,35	-	○
	RPGN 19 07 00	RPG 65			0,312	-		7,94	-	○
RPGN 25 07 00	RPG 85	0,100	0,312	-	25,40	7,94	-	○		
RPGN 25 09 00	RPG 86		0,375	-		9,52	-	○		
RPGX 	RPGX 09 07 00	RPGX 35	PCN310	0,375	0,312	-	9,53	7,94	-	○
	RPGX 12 07 00	RPGX 45		0,500	0,312	-	12,70	7,94	-	○
	RPGX 15 07 00	RPGX 55		0,625	0,312	-	15,88	7,94	-	○

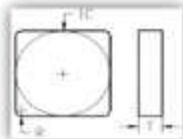
○ Stock items - Delivery in 1 week / Itens de stock - Entrega em 1 semana / artículos de stock - Entrega en 1 semana

⊗ Available under request - Delivery in 7 weeks / Disponível sob consulta - Entrega em 7 semanas / Disponible bajo consulta - Entrega en 7 semanas

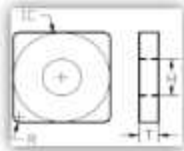
Insert Type Tipo de pastilha Tipo de plaquita	ISO Code Codificação ISO Codificación ISO	ANSI Code Codificação ANSI Codificación ANSI	Grade Grau Grado	Dimensions Dimensões Dimensiones						Stock
				I.C. (in)	T (in)	R (in)	I.C. (mm)	T (mm)	R (mm)	
 <p>SNGN</p>	SNGN 09 03 04	SNG 321	PCN310	0,375	0,125	0,016	9,53	3,18	0,40	○
	SNGN 09 03 08	SNG 322				0,031			0,80	○
	SNGN 09 03 12	SNG 323				0,047			1,20	○
	SNGN 09 03 16	SNG 324				0,063			1,60	○
	SNGN 09 04 04	SNG 331			0,016	4,76		0,40	○	
	SNGN 09 04 08	SNG 332			0,031			0,80	○	
	SNGN 09 04 12	SNG 333			0,047			1,20	○	
	SNGN 09 04 16	SNG 334			0,063			1,60	○	
	SNGN 12 03 04	SNG 421		0,016	0,500	0,125	12,70	3,18	0,40	○
	SNGN 12 03 08	SNG 422		0,031					0,80	○
	SNGN 12 03 12	SNG 423		0,047					1,20	○
	SNGN 12 03 16	SNG 424		0,063					1,60	○
	SNGN 12 04 04	SNG 431		0,016		4,76		0,40	⊗	
	SNGN 12 04 08	SNG 432		0,031				0,80	⊗	
	SNGN 12 04 12	SNG 433		0,047				1,20	⊗	
	SNGN 12 04 16	SNG 434		0,063				1,60	⊗	
	SNGN 12 04 24	SNG 436		0,094	2,40	⊗				
	SNGN 12 04 32	SNG 438		0,125	3,18	⊗				
	SNGN 12 06 04	SNG 441		0,016	0,250	6,35	0,40	○		
	SNGN 12 06 08	SNG 442		0,031			0,80	○		
	SNGN 12 06 12	SNG 443		0,047			1,20	○		
	SNGN 12 06 16	SNG 444		0,063			1,60	○		
	SNGN 12 07 04	SNG 451		0,016	0,312	7,94	0,40	⊗		
	SNGN 12 07 08	SNG 452		0,031			0,80	⊗		
	SNGN 12 07 12	SNG 453		0,047			1,20	⊗		
	SNGN 12 07 16	SNG 454		0,063			1,60	⊗		
	SNGN 15 04 04	SNG 531		0,016	0,625	0,188	15,88	4,76	0,40	○
	SNGN 15 04 08	SNG 532		0,031					0,80	○
	SNGN 15 04 12	SNG 533		0,047					1,20	○
	SNGN 15 04 16	SNG 534		0,063					1,60	○
	SNGN 15 06 04	SNG 541		0,016		0,250		6,35	0,40	○
	SNGN 15 06 08	SNG 542		0,031					0,80	○
	SNGN 15 06 12	SNG 543		0,047					1,20	○
	SNGN 15 06 16	SNG 544		0,063					1,60	○
	SNGN 15 07 04	SNG 551		0,016	0,312	7,94	0,40	○		
	SNGN 15 07 08	SNG 552		0,031			0,80	○		
	SNGN 15 07 12	SNG 553		0,047			1,20	○		
	SNGN 15 07 16	SNG 554		0,063			1,60	○		
	SNGN 15 08 04	SNG 561		0,016	0,375	9,52	0,40	○		
	SNGN 15 08 08	SNG 562		0,031			0,80	○		
SNGN 15 08 12	SNG 563	0,047	1,20	○						
SNGN 15 08 16	SNG 564	0,063	1,60	○						

⊗ Stock items - Delivery in 1 week / Itens de stock - Entrega em 1 semana / artículos de stock - Entrega en 1 semana

○ Available under request - Delivery in 7 weeks / Disponível sob consulta - Entrega em 7 semanas / Disponible bajo consulta - Entrega en 7 semanas

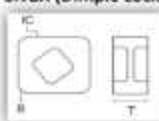
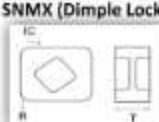
Insert Type Tipo de pastilha Tipo de plaqueta	ISO Code Codificação ISO Codificación ISO	ANSI Code Codificação ANSI Codificación ANSI	Grade Grau Grado	Dimensions Dimensões Dimensiones						Stock
				I.C. (in)	T (in)	R (in)	I.C. (mm)	T (mm)	R (mm)	
 <p>SNGN</p>	SNGN 19 04 04	SNG 631	PCN310	0,750	0,188	0,016	19,05	4,76	0,40	<input type="checkbox"/>
	SNGN 19 04 08	SNG 632				0,031			0,80	<input type="checkbox"/>
	SNGN 19 04 12	SNG 633				0,047			1,20	<input type="checkbox"/>
	SNGN 19 04 16	SNG 634				0,063			1,60	<input type="checkbox"/>
	SNGN 19 06 04	SNG 641				0,016			0,40	<input type="checkbox"/>
	SNGN 19 06 08	SNG 642				0,031			0,80	<input type="checkbox"/>
	SNGN 19 06 12	SNG 643			0,047	1,20		<input type="checkbox"/>		
	SNGN 19 06 16	SNG 644			0,063	1,60		<input type="checkbox"/>		
	SNGN 19 07 04	SNG 651			0,016	0,40		<input type="checkbox"/>		
	SNGN 19 07 08	SNG 652			0,031	0,80		<input type="checkbox"/>		
	SNGN 19 07 12	SNG 653			0,047	1,20		<input type="checkbox"/>		
	SNGN 19 07 16	SNG 654			0,063	1,60		<input type="checkbox"/>		
	SNGN 19 07 24	SNG 656			0,094	2,40		<input type="checkbox"/>		
	SNGN 19 08 04	SNG 661			0,016	0,40		<input type="checkbox"/>		
	SNGN 19 08 08	SNG 662			0,031	0,80		<input type="checkbox"/>		
	SNGN 19 08 12	SNG 663			0,047	1,20		<input type="checkbox"/>		
	SNGN 19 08 16	SNG 664			0,063	1,60		<input type="checkbox"/>		

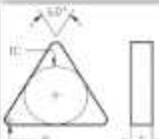
- Stock items - Delivery in 1 week / Itens de stock - Entrega em 1 semana / artículos de stock - Entrega en 1 semana
 Available under request - Delivery in 7 weeks / Disponível sob consulta - Entrega em 7 semanas / Disponible bajo consulta - Entrega en 7 semanas

Insert Type Tipo de pastilha Tipo de plaqueta	ISO Code Codificação ISO Codificación ISO	ANM Code Codificação ANM Certificación ANM	Grade Classe Grado	Dimensions Dimensões Dimensiones						Stock	
				I.C. (in)	T (in)	R (in)	I.C. (mm)	T (mm)	R (mm)		
SNGA 	SNGA 09 03 04	SNGA 321	PCN310	0,375	0,125	0,016	9,53	3,38	0,40	○	
	SNGA 09 03 08	SNGA 322				0,031			0,80	○	
	SNGA 09 03 12	SNGA 323				0,047			1,20	○	
	SNGA 09 03 16	SNGA 324				0,063			1,60	○	
	SNGA 12 04 04	SNGA 431		0,500	0,188		0,016	4,76	0,40	●	
	SNGA 12 04 08	SNGA 432					0,031		0,80	●	
	SNGA 12 04 12	SNGA 433					0,047		1,20	●	
	SNGA 12 04 16	SNGA 434					0,063		1,60	●	
	SNGA 12 04 24	SNGA 436			0,094	2,40	●				
	SNGA 12 06 04	SNGA 441			0,250		12,70	6,35	0,40	○	
	SNGA 12 06 08	SNGA 442							0,031	0,80	○
	SNGA 12 06 12	SNGA 443							0,047	1,20	○
	SNGA 12 06 16	SNGA 444							0,063	1,60	○
	SNGA 12 07 04	SNGA 451			0,312			7,94	0,40	○	
	SNGA 12 07 08	SNGA 452							0,031	0,80	○
	SNGA 12 07 12	SNGA 453							0,047	1,20	○
	SNGA 12 07 16	SNGA 454		0,063					1,60	○	
	SNGA 15 04 04	SNGA 531		0,625	0,188		15,88	6,35	0,40	○	
	SNGA 15 04 08	SNGA 532							0,031	0,80	○
	SNGA 15 04 12	SNGA 533							0,047	1,20	○
	SNGA 15 04 16	SNGA 534							0,063	1,60	○
	SNGA 15 04 24	SNGA 536			0,094	2,40	○				
	SNGA 15 06 04	SNGA 541			0,250			6,35	0,40	○	
	SNGA 15 06 08	SNGA 542							0,031	0,80	○
	SNGA 15 06 12	SNGA 543							0,047	1,20	○
	SNGA 15 06 16	SNGA 544							0,063	1,60	○
	SNGA 15 07 04	SNGA 551			0,312			7,94	0,40	○	
	SNGA 15 07 08	SNGA 552							0,031	0,80	○
	SNGA 15 07 12	SNGA 553							0,047	1,20	○
	SNGA 15 07 16	SNGA 554		0,063					1,60	○	
	SNGA 19 04 04	SNGA 631		0,750	0,188		19,05	6,35	0,40	○	
	SNGA 19 04 08	SNGA 632							0,031	0,80	○
SNGA 19 04 12	SNGA 633	0,047	1,20						○		
SNGA 19 04 16	SNGA 634	0,063	1,60						○		
SNGA 19 06 04	SNGA 641	0,250				6,35	0,40	○			
SNGA 19 06 08	SNGA 642						0,031	0,80	○		
SNGA 19 06 12	SNGA 643						0,047	1,20	○		
SNGA 19 06 16	SNGA 644						0,063	1,60	○		
SNGA 19 07 04	SNGA 651	0,312				7,94	0,40	○			
SNGA 19 07 08	SNGA 652						0,031	0,80	○		
SNGA 19 07 12	SNGA 653						0,047	1,20	○		
SNGA 19 07 16	SNGA 654						0,063	1,60	○		

● Stock items - Delivery in 1 week / Itens de stock - Entrega em 1 semana / artículos de stock - Entrega en 1 semana

○ Available under request - Delivery in 7 weeks / Disponível sob consulta - Entrega em 7 semanas / Disponible bajo consulta - Entrega en 7 semanas

Insert Type Tipo de pastilha Tipo de plaqueta	ISO Code Codificação ISO Codificación ISO	ANSI Code Codificação ANSI Codificación ANSI	Grade Grupo Grado	Dimensions Dimensões Dimensiones						Stock
				L.C. (in)	T (in)	R (in)	L.C. (mm)	T (mm)	R (mm)	
SNGX (Dimple Lock) 	SNGX 12 07 04	SNGX 451	PCN310	0,500	0,312	0,016	12,70	7,94	0,40	⊗
	SNGX 12 07 08	SNGX 452				0,031			0,80	⊗
	SNGX 12 07 12	SNGX 453				0,047			1,20	⊗
	SNGX 12 07 16	SNGX 454				0,063			1,60	⊗
SNMX (Dimple Lock) 	SNMX 12 07 12	SNMX 453	PCN310	0,500	0,312	0,047	12,70	7,94	1,20	⊗
	SNMX 12 07 16	SNMX 454				0,063			1,60	⊗
	SNMX 15 07 16	SNMX 554	0,625	0,312	0,063	15,88	7,94	1,60	○	


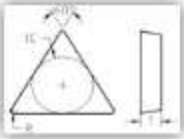
Insert Type Tipo de pastilha Tipo de plaqueta	ISO Code Codificação ISO Codificación ISO	ANSI Code Codificação ANSI Codificación ANSI	Grade Grupo Grado	Dimensions Dimensões Dimensiones						Stock				
				L.C. (in)	T (in)	R (in)	L.C. (mm)	T (mm)	R (mm)					
TNGN 	TNGN 11 03 04	TNG 221	PCN310	0,250	0,125	0,016	6,35	3,18	0,40	○				
	TNGN 11 03 08	TNG 222				0,031			0,80	○				
	TNGN 11 03 12	TNG 223				0,047			1,20	○				
	TNGN 11 03 16	TNG 224				0,063			1,60	○				
	TNGN 16 03 04	TNG 321				0,375			0,188	9,53	4,76	0,016	0,40	○
	TNGN 16 03 08	TNG 322										0,031	0,80	○
	TNGN 16 03 12	TNG 323										0,047	1,20	○
	TNGN 16 03 16	TNG 324										0,063	1,60	○
	TNGN 16 04 04	TNG 331										0,016	0,40	○
	TNGN 16 04 08	TNG 332										0,031	0,80	○
	TNGN 16 04 12	TNG 333				0,250			0,250	6,35	6,35	0,047	1,20	○
	TNGN 16 04 16	TNG 334										0,063	1,60	○
	TNGN 16 06 04	TNG 341		0,016	0,40		○							
	TNGN 16 06 08	TNG 342		0,031	0,80		○							
	TNGN 16 06 12	TNG 343		0,500	0,250	12,70	6,35	0,047	1,20	○				
	TNGN 16 06 16	TNG 344						0,063	1,60	○				
	TNGN 22 04 04	TNG 431						0,188	0,188	4,76	4,76	0,016	0,40	○
	TNGN 22 04 08	TNG 432										0,031	0,80	○
	TNGN 22 04 12	TNG 433										0,047	1,20	○
	TNGN 22 04 16	TNG 434										0,063	1,60	○
	TNGN 22 06 04	TNG 441						0,312	0,250	12,70	6,35	0,016	0,40	○
	TNGN 22 06 08	TNG 442										0,031	0,80	○
	TNGN 22 06 12	TNG 443										0,047	1,20	○
	TNGN 22 06 16	TNG 444										0,063	1,60	○
	TNGN 22 07 04	TNG 451						0,625	0,188	15,88	4,76	0,016	0,40	○
	TNGN 22 07 08	TNG 452										0,031	0,80	○
	TNGN 22 07 12	TNG 453		0,047	1,20	○								
	TNGN 22 07 16	TNG 454		0,063	1,60	○								
	TNGN 27 04 04	TNG 531		0,625	0,188	15,88	4,76	0,016	0,40	○				
	TNGN 27 04 08	TNG 532						0,031	0,80	○				
	TNGN 27 04 12	TNG 533						0,047	1,20	○				
	TNGN 27 04 16	TNG 534						0,063	1,60	○				



Stock items - Delivery in 1 week / Item de stock - Entrega em 1 semana / artículos de stock - Entrega en 1 semana



Available under request - Delivery in 7 weeks / Disponível sob consulta - Entrega em 7 semanas / Disponible bajo consulta - Entrega en 7 semanas

Insert Type Tipo de pastilha Tipo de plaqueta	ISO Code Codificação ISO Codificação ISO	ANSI Code Codificação ANSI Codificação ANSI	Grade Grau Grado	Dimensions Dimensões Dimensiones						Stock		
				I.C. (in)	T (in)	R (in)	I.C. (mm)	T (mm)	R (mm)			
TNGA 	TNGA 16 01 04	TNGA 321	PCN310	0,375	0,125	0,016	9,53	3,18	0,40	○		
	TNGA 16 01 08	TNGA 322				0,031			0,80	○		
	TNGA 16 05 12	TNGA 323				0,047			1,20	○		
	TNGA 16 01 16	TNGA 324				0,063			1,60	○		
	TNGA 16 01 24	TNGA 326				0,094			2,40	○		
	TNGA 16 04 04	TNGA 331			0,016	4,76	4,76	0,40	○			
	TNGA 16 04 08	TNGA 332			0,031			0,80	○			
	TNGA 16 04 12	TNGA 333			0,047			1,20	○			
	TNGA 16 04 16	TNGA 334			0,063			1,60	○			
	TNGA 16 04 24	TNGA 336			0,094			2,40	○			
	TNGA 16 04 32	TNGA 338		0,125	3,18	○						
	TNGA 22 04 04	TNGA 431		0,500	0,188	11,70	0,016	4,76	4,76	0,40	○	
	TNGA 22 04 08	TNGA 432					0,031			0,80	○	
	TNGA 22 04 12	TNGA 433					0,047			1,20	○	
	TNGA 22 04 16	TNGA 434					0,063			1,60	○	
	TNGA 22 04 32	TNGA 438					0,125			3,18	○	
	TNGA 22 06 04	TNGA 441			0,250	6,35	6,35	0,016	6,35	6,35	0,40	○
	TNGA 22 06 08	TNGA 442						0,031			0,80	○
	TNGA 22 06 12	TNGA 443						0,047			1,20	○
	TNGA 22 06 16	TNGA 444						0,063			1,60	○
TPGN 	TPGN 11 03 04	TPG 221	PCN310	0,250	0,125	0,016	6,35	3,18	0,40	○		
	TPGN 11 03 08	TPG 222				0,031			0,80	○		
	TPGN 11 03 12	TPG 223				0,047			1,20	○		
	TPGN 11 03 16	TPG 224				0,063			1,60	○		
	TPGN 16 03 04	TPG 321				0,375			9,53	4,76	0,016	4,76
	TPGN 16 03 08	TPG 322			0,031		0,80	○				
	TPGN 16 03 12	TPG 323			0,047		1,20	○				
	TPGN 16 03 16	TPG 324			0,063		1,60	○				
	TPGN 16 04 04	TPG 331			0,016		6,35	6,35			0,40	
	TPGN 16 04 08	TPG 332			0,031	0,80			○			
	TPGN 16 04 12	TPG 333		0,047	1,20	○						
	TPGN 16 04 16	TPG 334		0,063	1,60	○						
	TPGN 16 06 04	TPG 341		0,500	11,70	6,35			0,016	6,35	6,35	0,40
	TPGN 16 06 08	TPG 342					0,031	0,80	○			
	TPGN 16 06 12	TPG 343					0,047	1,20	○			
	TPGN 16 06 16	TPG 344					0,063	1,60	○			
	TPGN 22 04 04	TPG 431					0,188	4,76	4,76			0,016
	TPGN 22 04 08	TPG 432		0,031	0,80	○						
	TPGN 22 04 12	TPG 433		0,047	1,20	○						
	TPGN 22 04 16	TPG 434		0,063	1,60	○						
TPGN 22 06 04	TPG 441	0,250	6,35	6,35	0,016	6,35				6,35	0,40	○
TPGN 22 06 08	TPG 442				0,031			0,80	○			
TPGN 22 06 12	TPG 443				0,047			1,20	○			
TPGN 22 06 16	TPG 444				0,063			1,60	○			

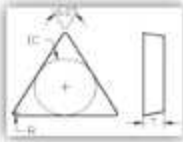



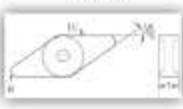
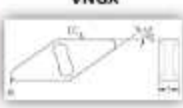
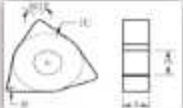
Stock items - Delivery in 1 week / Itens de stock - Entrega em 1 semana / artículos de stock - Entrega en 1 semana



Available under request - Delivery in 7 weeks / Disponível sob consulta - Entrega em 7 semanas / Disponible bajo consulta - Entrega en 7 semanas



Insert Type Tipo de pastilha Tipo de plaqueta	ISO Code Codificação ISO Codificación ISO	ANSI Code Codificação ANSI Codificación ANSI	Grade Grau Grado	Dimensions Dimensões Dimensiones						Stock	
				L.C. (in)	T (in)	R (in)	L.C. (mm)	T (mm)	R (mm)		
TPGN 	TPGN 22 07 04	TPG 431	PCN310	0,312	7,94	0,016	15,88	4,70	0,40	○	
	TPGN 22 07 08	TPG 452				0,031			0,80	○	
	TPGN 22 07 12	TPG 453				0,047			1,20	○	
	TPGN 22 07 16	TPG 454				0,063			1,60	○	
	TPGN 27 04 04	TPG 531		0,625	0,188	4,70	0,016	15,88	4,70	0,40	○
	TPGN 27 04 08	TPG 532					0,031			0,80	○
	TPGN 27 04 12	TPG 533					0,047			1,20	○
	TPGN 27 04 16	TPG 534					0,063			1,60	○

Insert Type Tipo de pastilha Tipo de plaqueta	ISO Code Codificação ISO Codificación ISO	ANSI Code Codificação ANSI Codificación ANSI	Grade Grau Grado	Dimensions Dimensões Dimensiones						Stock				
				L.C. (in)	T (in)	R (in)	L.C. (mm)	T (mm)	R (mm)					
TPGA 	TPGA 16 03 04	TPGA 321	PCN310	0,375	3,18	0,016	9,53	4,76	0,40	○				
	TPGA 16 03 08	TPGA 322				0,031			0,80	○				
	TPGA 16 03 12	TPGA 323				0,047			1,20	○				
	TPGA 16 03 16	TPGA 324				0,063			1,60	○				
	TPGA 16 04 04	TPGA 331				0,188			4,76	0,016	12,70	6,35	0,40	○
	TPGA 16 04 08	TPGA 332								0,031			0,80	○
	TPGA 16 04 12	TPGA 333								0,047			1,20	○
	TPGA 16 04 16	TPGA 334								0,063			1,60	○
	TPGA 22 04 04	TPGA 431		0,500	4,76	12,70	6,35	1,60	0,40	○				
	TPGA 22 04 08	TPGA 432							0,031	0,80	○			
	TPGA 22 04 12	TPGA 433							0,047	1,20	○			
	TPGA 22 04 16	TPGA 434							0,063	1,60	○			
	TPGA 22 06 04	TPGA 441							0,250	4,76	6,35	1,60	0,40	○
	TPGA 22 06 08	TPGA 442											0,031	0,80
TPGA 22 06 12	TPGA 443	0,047	1,20	○										
TPGA 22 06 16	TPGA 444	0,063	1,60	○										
VNGA 	VNGA 16 04 04	VNGA 331	PCN310	0,375	4,76	0,016	9,53	4,76	0,40	○				
	VNGA 16 04 08	VNGA 332				0,031			0,80	○				
	VNGA 16 04 12	VNGA 333				0,047			1,20	○				
	VNGA 16 04 16	VNGA 334				0,063			1,60	○				
	VNGA 22 04 04	VNGA 431		0,500	4,76	12,70	4,76	0,40	○					
	VNGA 22 04 08	VNGA 432						0,031	0,80	○				
	VNGA 22 04 12	VNGA 433						0,047	1,20	○				
VNGA 22 04 16	VNGA 434	0,063	1,60	○										
VNGX 	VNGX 16 07 08	VNGX 352	PCN310	0,375	7,94	0,031	9,53	4,76	0,80	○				
	VNGX 16 07 12	VNGX 353				0,047			1,20	○				
	VNGX 16 07 16	VNGX 354				0,063			1,60	○				
WNGA 	WNGA 08 04 04	WNGA 431	PCN310	0,500	4,76	0,016	12,70	4,76	0,40	○				
	WNGA 08 04 08	WNGA 432				0,031			0,80	○				
	WNGA 08 04 12	WNGA 433				0,047			1,20	○				
	WNGA 08 04 16	WNGA 433				0,063			1,60	○				



Stock items - Delivery in 1 week / Itens de stock - Entrega em 1 semana / artículos de stock - Entrega en 1 semana

Available under request - Delivery in 7 weeks / Disponível sob consulta - Entrega em 7 semanas / Disponible bajo consulta - Entrega en 7 semanas



Technical Data
Datos Técnicos
Datos Técnicos

Technical Data

Grade Applications | Aplicações de graus | Aplicaciones de grados

Grade Graus Grados	TRS (psi)	Hardness* Dureza* Dureza*	Toughness Tenacidade Tenacidad	Characteristics Características Características	General Applications Aplicações gerais Aplicaciones generales
PCA901	105,00	93,5	-	<ul style="list-style-type: none"> Toughened by ZrO₂ High chemical stability 	<ul style="list-style-type: none"> Finish/semi-finish/roughing of cast irons Finish/semi-finish cutting of steels
PCM905	130,00	94,5	-	<ul style="list-style-type: none"> Excellent wear resistance High thermal shock resistance 	<ul style="list-style-type: none"> Hardened steels Finish & semi-finish machining of steels and cast iron
PCN310	-	94,4	7,8	<ul style="list-style-type: none"> Thermal shock resistance Exceptionally tough Excellent wear resistance 	<ul style="list-style-type: none"> Roughing and semi-finishing of cast iron Can run with coolant Excellent milling grade Increased range of application
PCN511	145,00	92,6	7,6	<ul style="list-style-type: none"> Excellent thermal shock High fracture strength resistance 	<ul style="list-style-type: none"> Suited for nickel based alloy material High velocity rough machining
PCN110	150,00	95,0	6,3	<ul style="list-style-type: none"> Exceptionally high resistance to fracture and thermal cracking Excellent wear resistance 	<ul style="list-style-type: none"> Used only for cast irons at high surface speeds Excellent finishing grade

*Hardness is measured in HRA unless otherwise noted | A dureza é medida em HRA | La dureza se mide en HRA.

Grade Grau Grado	Information Informação Información
PCA901	PCA901 is an Al ₂ O ₃ grade, which is enhanced with Zirconia. This is a very stable grade and can be used for general machining and finish cutting of cast iron with normal interruption.
PCM905	Shows excellent thermal shock and wear resistance. A general purpose machining grade for hardened steel and difficult cutting. It can be used for finish and semi-finish cutting of soft cast iron without interruption.
PCN310	Designed for high speed milling and rough turning of cast irons. Like PCN310, PCN310 is made using a proprietary microwave sintering process that produces a very fine grained micro structure.
PCN511	Developed specifically for the high speed machining of nickel based alloys. It is capable of machining materials such as Inconel 718 (45HRC) at speeds up to 10 times faster than carbide.
PCN110	Specifically for high speed general and finishing turning, PCN110 offers enhanced hardness, toughness and high temperature strength. PCN110 has very high wear resistance, promoting longer tool life. This grade also displays increased chipping resistance as well as higher speeds and feeds.

Work material	Operation	Grades				
		PCA901	PCMG05	PCM310	PCN515	PCN310
Steels (<35 Rc)	Turning	•				
	Milling		•			
Steels (>35 Rc)	Turning		•			
	Milling		•			
High Temperature Alloys	Turning		•		•	
	Milling				•	•
Cast Irons (<300 BHN)	Turning	•	•	•		•
	Milling		•			
Cast Irons (>300 BHN)	Turning		•	•		•
	Milling		•			
Brass, Bronze Carbon, Plastics	Turning	•				
	Milling				•	
Is coolant recommended?		No	No	No	No	No

Grade comparison chart | Lista de equivalências de graus | Lista de equivalencias de grados

Manufacturer	Grades				
	PCA901	PCMG05	PCM310	PCN515	PCN310
Ceratip	-	-	-	-	KS-6000
Greenleaf	GEM 9	GEM 6	-	-	GSN
Iscar	-	-	IS8	-	IS8
Kennametal	K060	K090	-	KYON 2000, 2100,1540	KYON 3000, 3500,3400
Kyocera	AZ5000	A65	KS6000	-	-
Mitsubishi	-	XD202	XD515	-	-
Nippon Tungsten	NPC-H1	NPC-A2	-	-	-
NTK	CX3, HC1	HC2	SP1, SP2	SX5	SX8
Sandvik	CC620	CC650	CC1690	CC670	CC690, CC1690, CC6090
SPK	SN60	SH1	SL500 SL200	-	SL-100,SL-150, SL- 200, SL-250, SL- 500, SL-250-C
Steinram	HC90	C55	CSN6	-	CSN6
Sunibomo	W80	NB90M, NB90S	NS130C	-	NS260, NS260C
Toshiba	LXA	LX11, XL21	FX-950	FX-960	FX-105
Valenite	-	Q-32	Q-6,Q-60	Q8	Q-6,Q-7,Q-65
VR/Wesson	VR97	VR100	VR200	-	-

Recommended cutting conditions for turning and milling

Condições de corte recomendadas para Torneamento e fresagem

Recomendaciones de condiciones de corte para el torneado y fresado

Material	Hardness	Depth of Cut (mm)	Recommended Cutting Speed (m/min)				
			PCA901	PCM605	PCM310	PCN515	PCN310
Carbon Steels AISI Series 1000 1100 1200	150-200 BHN	0,75	610-920	550-770	-	-	-
		2,00	550-680	460-610	-	-	-
		4,00	-	370-490	-	-	-
	200-250 BHN	0,75	490-740	370-550	-	-	-
		2,00	370-550	310-460	-	-	-
		4,00	-	250-370	-	-	-
	250-350 BHN	0,75	310-460	310-460	-	-	-
		1,75	250-370	250-370	-	-	-
		3,25	-	220-310	-	-	-
	40-50 HRC	0,50	-	160-310	-	-	-
		1,00	-	130-250	-	-	-
		1,75	-	110-190	-	-	-
	50-60 HRC	0,50	-	110-190	-	-	-
		0,75	-	100-160	-	-	-
		1,25	-	80-130	-	-	-
Alloy Steels AISI Series 1300 4000 5000 6000 8000 9000	130-200 BHN	0,75	490-680	460-610	-	-	-
		2,00	430-550	370-550	-	-	-
		4,00	-	310-460	-	-	-
	200-250 BHN	0,75	370-490	310-460	-	-	-
		2,00	310-430	280-400	-	-	-
		4,00	-	250-370	-	-	-
	250-350 BHN	0,75	280-400	250-370	-	-	-
		1,75	250-370	220-310	-	-	-
		3,25	-	190-280	-	-	-
	40-50 HRC	0,50	-	160-250	-	-	-
		1,00	-	130-190	-	-	-
		1,75	-	100-160	-	-	-
	50-60 HRC	0,50	-	100-160	-	-	-
		0,75	-	80-140	-	-	-
		1,25	-	70-130	-	-	-
Tool Steels Bearing Steels	250-350 BHN	0,75	-	310-460	-	-	-
		2,00	-	250-370	-	-	-
		4,00	-	190-280	-	-	-
	45-50 HRC	0,75	-	190-280	-	-	-
		1,25	-	160-250	-	-	-
		2,25	-	130-220	-	-	-
	50-55 HRC	0,50	-	130-190	-	-	-
		0,75	-	110-170	-	-	-
		1,25	-	100-160	-	-	-
	55-60 HRC	0,50	-	100-160	-	-	-
		0,75	-	80-140	-	-	-
			1,25	-	70-130	-	-

Recommended cutting conditions for turning and milling

Condições de corte recomendadas para Torneamento e fresagem

Recomendaciones de condiciones de corte para el torneado y fresado

Material	Hardness	Depth of Cut (mm)	Recommended Cutting Speed (m/min)				
			PCA901	PCM605	PCM310	PCN515	PCV310
Stainless Steels Austenitic Series 200 300	130-180 BHN	0,75	-	310-460	-	-	-
		2,00	-	250-370	-	-	-
		4,00	-	220-310	-	-	-
	180-250 BHN	0,75	-	220-310	-	-	-
		1,75	-	190-280	-	-	-
		3,25	-	160-250	-	-	-
Stainless Steels Martensitic and Ferritic Series 400 500 Precipitation Hardened (PH) Stainless Steels	130-180 BHN	0,75	-	310-1530	-	-	-
		2,00	-	280-400	-	-	-
		4,00	-	250-370	-	-	-
	180-250 BHN	0,75	-	250-370	-	-	-
		2,00	-	220-310	-	-	-
		3,25	-	190-280	-	-	-
	40-50 HRC	0,50	-	160-220	-	-	-
		1,00	-	130-190	-	-	-
		1,75	-	100-160	-	-	-
	50-55 HRC	0,50	-	100-160	-	-	-
		0,75	-	80-110	-	-	-
		1,25	-	70-100	-	-	-
Gray Cast Iron	150-200 BHN	0,75	740-980	610-920	770-1160	-	920-1290
		2,25	610-860	550-740	680-1010	-	770-1070
		0,25	550-740	490-610	610-980	-	710-1010
	200-250 BHN	0,75	490-740	430-550	550-860	-	610-920
		1,25	370-550	370-490	490-800	-	550-860
		2,75	310-460	310-430	430-740	-	460-770
Alloy Cast Irons	200-250 BHN	0,75	490-740	490-740	490-860	-	610-920
		1,75	370-550	370-550	430-860	-	610-920
		0,08	310-430	310-430	430-860	-	610-920
	250-300 BHN	0,75	370-550	310-460	370-740	-	460-770
		1,75	310-430	280-400	310-740	-	460-770
		0,08	280-400	250-370	310-740	-	460-770
Chilled Irons	400-500 BHN	0,75	-	160-250	-	-	-
		1,75	-	160-250	160-160	160	160-160
		3,25	-	130-190	160-160	160	160-160
	500-600 BHN	0,50	-	100-140	-	-	-
		1,00	-	80-130	130-130	-	-
		1,75	-	70-100	100-100	100	100-100

Recommended cutting conditions for turning and milling

Condições de corte recomendadas para Torneamento e fresagem

Recomendaciones de condiciones de corte para el torneado y fresado

Material	Hardness	Depth of Cut (mm)	Recommended Cutting Speed (m/min)				
			PCA901	PCM605	PCM310	PCNS15	PCNS10
Ni-resist Iron	130-200 BHN	0,75	460-610	460-610	-	-	-
		1,50	370-550	370-550	550-550	-	610-610
		2,00	-	-	460-460	-	460-460
Nickel and Iron Base Alloys Inconel Waspaloy Hastelloy	35-40 HRC	0,75	-	250-310	-	250-310	-
		1,75	-	220-280	-	220-310	-
		3,25	-	-	-	250	-
	40-45 HRC	0,75	-	220-280	-	200-310	-
		1,25	-	190-250	-	190-250	-
		2,25	-	-	-	190-220	-
	50-60 HRC	0,50	-	190-250	-	-	-
		1,00	-	130-190	-	-	-
		1,75	-	-	-	-	-

Edge preparations | Preparação de aresta | Preparación de arista

Selecting the proper edge preparation is often the most important factor affecting the performance of ceramic inserts. The size and type of the edge preparation required are related primarily to the feed rate and the severity of the operation. Light feed rates demand small T-lands and/or hones. The application of edge chamfers (T-Lands), hones or both is generally required to increase the strength of ceramic cutting edges. Negative edge chamfers redirect the cutting forces into the body of the insert, thereby reducing the tensile stresses on the cutting edge. Honing or edge rounding eliminates the sharp edges at which chipping can occur in the early stages of the use. Heavy feed rates require larger T-lands and hones. Palbit edge preparations are the smallest which consistently provides adequate edge strength and resistance to chipping providing a high degree of edge security over a wide range of applications and machining conditions. As a general rule, the feed rate (in inches/revolution) should be 1 - 1,5 times the width of the T-land. These standards and corresponding general application guidelines are listed in the table below.

General application guidelines of edge preparation








Designation	Land	Operation
T1	0,05 mm X 30°	Precision Finishing Operations
T2	0,10 mm X 30°	Finishing Operations
T3	0,15 mm X 30°	Milling Operations
T4	0,20 mm X 30°	Roughing & Finishing Operations
T5	0,30 mm X 30°	High Speed Roughing
T6	0,10 mm X 20°	Light Finishing
T7	0,20 mm X 20°	Roughing & Finishing
T8	0,30 mm X 20°	High Speed Roughing
T9	1,50 mm X 10°	Steel Roll Applications
T10	1,50 mm X 20°	Steel Roll Applications
T11	1,50 mm X 30°	Steel Roll Applications
Designation	Hone Radius	Operation
A	0,03 mm - 0,07 mm	Light Hone
B	0,07 mm - 0,12 mm	Medium Hone
C	0,15 mm - 0,20 mm	Heavy Hone

* To add a hone size to the above edge preparations, the above letter should be used.

SHAPE	TOLERANCE												
	ANSI		ISO										
A - Parallelogram 85° B - Parallelogram 82° C - Diamond 80° D - Diamond 55° E - Diamond 75° F - Diamond 50° H - Hexagon K - Parallelogram 55° L - Rectangle M - Diamond 86° O - Octagon P - Pentagon R - Round S - Square T - Triangle V - Diamond 35°	Cutting point Thickness						Triangular insert with secondary cutting edge						
			SYM.	m	d	s	L.C.				m		
			A	±.005	±.025	±.025		Δ	\square	∇	∇	∇	
			F	±.005	±.013	±.025	6.35	±.06	-	-	-	-	
			C	±.013	±.025	±.025	9.525	±.08	±.08	±.08	±.11	±.13	
			H	±.013	±.013	±.025	12.7	±.13	±.13	±.13	±.15	-	
			E	±.025	±.025	±.025	15.875	±.16	±.15	±.15	±.18	-	
			J	±.025	±.025	±.13	19.05	±.15	±.15	±.15	±.18	-	
			G	±.025	±.05	±.13	25.4	-	±.18	-	-	-	
			K*	±.013	±.05	±.13	31.75	-	±.23	-	-	-	
			L*	±.025	±.05	±.13	TOLERANCE ON THE CIRCUMSCRIBED CIRCLE						
			M*	±.06-±.18	±.05-±.13	±.13	L.C.	Δ	\square	∇	∇	∇	
			N*	±.06-±.18	±.05-±.13	±.025	6.35	±.06	-	-	-	-	
			U*	±.13-±.38	±.08-±.25	±.13	9.525	±.05	±.05	±.05	±.05	±.05	
			*Exact tolerances determined by size of insert.					12.7	±.08	±.08	±.08	±.08	-
			FOR CLASS M INSERTS SEE TABLE TO RIGHT					15.88	±.10	±.10	±.10	±.10	-
							19.05	±.10	±.10	±.10	-	-	
							25.4	-	±.13	-	-	-	
							31.75	-	±.20	-	-	-	

T SHAPE	N CLEARANCE	G TOLERANCE	N TYPE
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CLEARANCE	TYPE(ANSI)	TYPE(ISO)
N - 0°	A - With hole	A - With hole
A - 3°	B - With hole and one countersink	B - With hole and one 70°-90° countersink
B - 5°	C - With hole and two countersinks	C - With hole and two 70°-90° countersinks
C - 7°	D - Smaller than 1/4" I.C. with hole	F - Chipbreaker both sides
P - 11°	E - Smaller than 1/4" I.C.	G - With hole, chipbreaker on both sides
D - 15°	F - Chip grooves on top rake surfaces, without hole	H - With hole, one 70°-90° countersink and chipbreaker on one side
E - 20°	G - Chip grooves on top rake surfaces, with hole	J - With hole, two 70°-90° countersinks and chipbreaker on both sides
F - 25°	H - With hole, one countersink and chip grooves on one top rake surface	M - With hole and chipbreaker on one side
G - 30°	J - With hole, two countersinks and chip grooves on top rake surfaces	N - No hole, no chipbreaker
	M - With hole and chip grooves on one top rake surface	Q - With hole, one 40°-60° countersink
	P - With hole and 10° positive chip-breaker both sides	R - Chipbreaker one side
	S - With hole and 20° chip-breaker one side	T - With hole, one 40°-60° countersink, chipbreaker one side
	X - Dimple Lock (interchangeable with competitors notch lock style inserts)	W - With hole, one 40°-60° countersink
	X - V-Bottom	X - Dimple Lock (interchangeable with competitors notch lock style inserts)
		X - V-Bottom

SIZE									
							MM	INCH	ANSI SYMBOL
03		04	03	03	06	03	3,97	0.156	1.25
04	08	05	04	04	08	04	4,76	0.188	1.5
05	09	06	05	05	09	05	5,56	0.219	1.8
06	11*	06					6,00	0.236	
06*	11	07	06	06	11	06	6,35	0.250	2
07	13	09	08	07	13	07	7,94	0.313	2.5
08*							8,00	0.315	
09	16	11	09	09	16	09	9,525	0.375	3
10*							10,00	0.394	
12*							12,00	0.472	
12	22	15	12	12	22	12	12,70	0.500	4
15		19	16	15	27	15	15,875	0.625	5
16							16,00		
19	33	23	19	19	33	19	19,05	0.750	6
20*							20,00	0.787	
	38	27	22	22	38	22	22,225		
25*							25,00	0.984	
25	44	31	25	25	44	25	25,40	1.000	8
31		38	32	31	53	31	31,75	1.250	10
32							32,00		

THICKNESS			
ISO	MM	ANSI	INCH
01	1,59	1	0.062
T1	1,98	1.2	0.078
02	2,38	1.5	0.094
03	3,18	2	0.125
T3	3,97	2.5	0.156
04	4,76	3	0.188
05	5,56	3.5	0.219
06	6,35	4	0.250
07	7,94	5	0.313
09	9,52	6	0.375
12	12,70	8	0.500

Rectangles and parallelograms use a 2 digits to size:
 1st digit-Number of 1/8ths inch in width
 2nd digit-Number of 1/4 inches in length

22	04	08	E
SIZE	THICKNESS	RADIUS	OTHER CONDITIONS
4	3	2	E

RADIUS			
ISO	MM	ANSI	INCH
00	SHARP EDGE	0	SHARP EDGE
02	0,20	0.5	0.008
04	0,40	1	0.016
08	0,80	2	0.031
12	1,20	3	0.047
16	1,60	4	0.062
20	2,00	5	0.078
2	2,40	6	0.094
28	2,78	7	0.109
32	3,18	8	0.125
00	ROUND INSERT	0	ROUND INSERT

OTHER CONDITIONS
A -Light hone
B -Medium hone
C -Heavy hone
D -Ground top and bottom only- Heavy hone
E -Unground insert honed
F -Unground insert not honed
J -Polished(rake face only)
T - Land or chamfer
FA -Finishing application
SA -Standard application

SEE ALSO:



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