

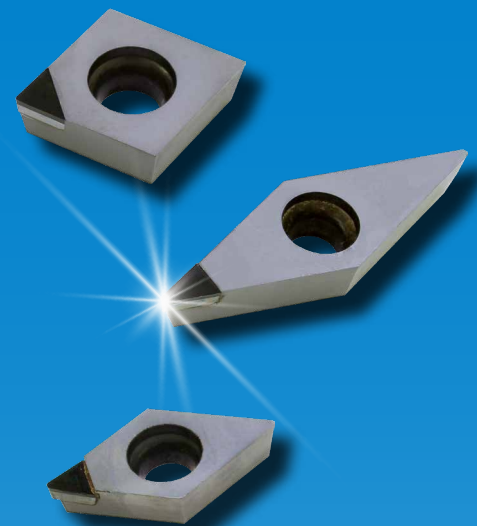
PCD & PCBN Turning Inserts

2023

PCD & PCBN 旋削用インサート

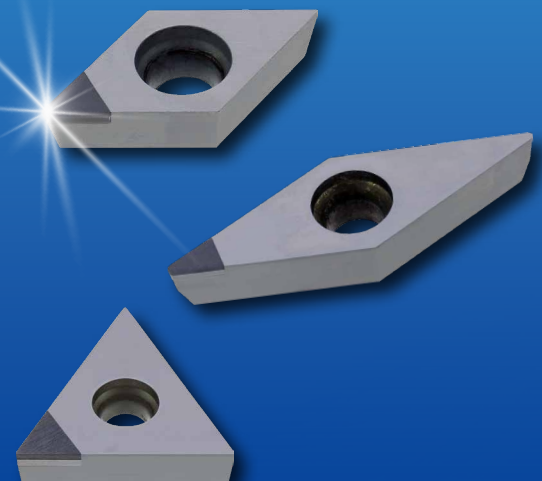
PCD Turning Insert 多結晶ダイヤモンド

- High speed cutting for aluminum alloy and brass.
- Outstanding brazing strength improves tool life.
- The positive rake angle design provides good cutting surface.
- アルミ合金、銅加工に最適
- 優れたろう付け強度により、工具寿命が向上します
- 正のすくい角設計により良い仕上げ面を実現



PCBN Turning Insert 多結晶立方晶窒化ホウ素

- For hardened steel (HRC 45 ~ 65).
- Wear resistance and heat resistance improves tool life.
- Special edge design improves stable and efficiency.
- HRC 45 ~ 65 の高硬度鋼の加工に最適
- 耐摩耗性、耐熱性に優れ、工具寿命を向上
- 特別なエッジ設計により、安定性と効率が向上

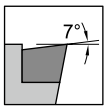
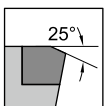


Grade and Chipbreaker 旋削用インサート材種 & ブレーカ

Grades 材種

Grade Type 材種	Application 特長	Working Material 被削材					
		P	M	K	N	S	H
DA3200	- Finishing and semi-finishing - Continuous cutting - Good wear resistance - 仕上～軽切削 - 連続加工用 - 良好な耐摩耗性				●		
BN4200	- Semi-finishing and roughing - Continuous to Light interrupted cutting - Good wear and fracture resistance - 軽～粗切削 - 連続～軽断続加工用 - 良好な耐摩耗性と耐欠損性						●

Insert Geometry インサート幾何

Chipbreaker ブレーカ	Application 特長
 DS	PCD Sharp geometry design for aluminum and brass cutting. PCD シャープな形状設計はアルミニウムと銅の加工に適用
 DR	PCBN Negative land cutting edge design for hardened steel semi-finishing to roughing. PCBN ネガティブランド刃先設計は焼入鋼の中仕上げから荒加工に適用

Recommended Cutting Conditions 推奨切削条件

N Aluminum alloy & Brass アルミニウム合金と真鍮

Work Material 被削材	Cutting Process 切削状態	Chipbreaker ブレーカ	Grade 材種	ap (mm)	fr (mm/rev)	Vc (m/min)
Aluminum alloys アルミニウム合金 (Si < 12%)	Continuous (Finishing) 連続 (仕上)	DS	DA3200	0.05-0.53-1.0	0.03-0.14-0.25	2700-1700-700
Aluminum alloys アルミニウム合金 (Si > 12%)	Continuous (Finishing) 連続 (仕上)	DS	DA3200	0.05-0.53-1.0	0.03-0.11-0.18	800-540-270
Brass 真鍮	Continuous (Finishing) 連続 (仕上)	DS	DA3200	0.05-0.53-1.0	0.05-0.21-0.36	1300-950-600

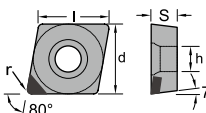
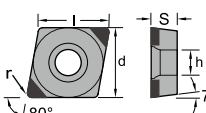
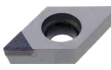
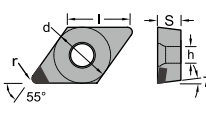
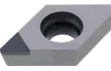
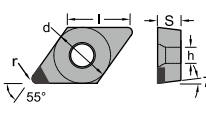
H Hardened Steel 焼入鋼

Work Material 加工材質	Cutting Process 加工方式	Chipbreaker 断屑槽	Grade 材質	ap (mm)	fr (mm/rev)	Vc (m/min)
Hardened Steel 焼入鋼 (SKT, SKD)	Continuous (Semi-finishing) 連続 (軽)	DR	BN4200	0.05-0.13-0.20	0.05-0.18-0.30	180-130-80

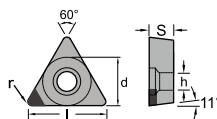
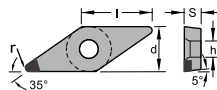
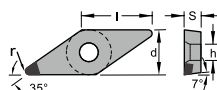
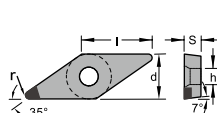
※ ap & fr value : Min. - Suggestion - Max.
下限值 - 推奨値 - 上限値

Vc : Max. - Suggestion - Min.
上限値 - 推奨値 - 下限値

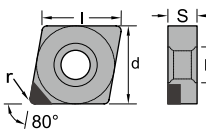
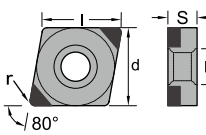
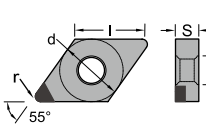
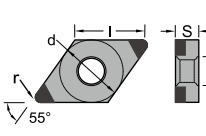
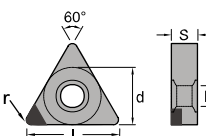
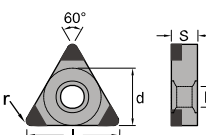
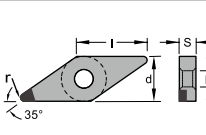
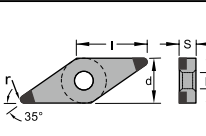
Positive Turning Inserts ポジティブインサート

Inserts		Designation	Grade No.						No. of Cutting Edges	Dimensions (mm)					Drawing
			PCD			PCBN				d	l	S	r	h	
			DA3200			BN4200									
	Finishing to semi-finishing 仕上・軽	CCGT 060201-DS	✓						1	6.35	6.4	2.38	0.1	2.8	
		060202-DS	✓						1	6.35	6.4	2.38	0.2	2.8	
		060204-DS	✓						1	6.35	6.4	2.38	0.4	2.8	
		09T301-DS	✓						1	9.525	9.7	3.97	0.1	4.4	
		09T302-DS	✓						1	9.525	9.7	3.97	0.2	4.4	
		09T304-DS	✓						1	9.525	9.7	3.97	0.4	4.4	
		09T308-DS	✓						1	9.525	9.7	3.97	0.8	4.4	
	Semi-finishing to roughing 軽・粗	CCGW 060202C2-DR				✓			2	6.35	6.4	2.38	0.2	2.8	
		060204C2-DR				✓			2	6.35	6.4	2.38	0.4	2.8	
		09T302C2-DR				✓			2	9.525	9.7	3.97	0.2	4.4	
		09T304C2-DR				✓			2	9.525	9.7	3.97	0.4	4.4	
		09T308C2-DR				✓			2	9.525	9.7	3.97	0.8	4.4	
	Finishing to semi-finishing 仕上・軽	DCGT 070201-DS	✓						1	6.35	7.7	2.38	0.1	2.8	
		070202-DS	✓						1	6.35	7.7	2.38	0.2	2.8	
		070204-DS	✓						1	6.35	7.7	2.38	0.4	2.8	
		11T301-DS	✓						1	9.525	11.6	3.97	0.1	4.4	
		11T302-DS	✓						1	9.525	11.6	3.97	0.2	4.4	
		11T304-DS	✓						1	9.525	11.6	3.97	0.4	4.4	
		11T308-DS	✓						1	9.525	11.6	3.97	0.8	4.4	
	Semi-finishing to roughing 軽・粗	DCGW 070202-DR				✓			1	6.35	7.7	2.38	0.2	2.8	
		070204-DR				✓			1	6.35	7.7	2.38	0.4	2.8	
		11T302-DR				✓			1	9.525	11.6	3.97	0.2	4.4	
		11T304-DR				✓			1	9.525	11.6	3.97	0.4	4.4	

Positive Turning Inserts ポジティブインサート

Inserts		Designation	Grade No.						No. of Cutting Edges	Dimensions (mm)					Drawing
			PCD			PCBN				d	l	S	r	h	
			DA3200			BN4200									
Semi-finishing to roughing 粗・粗		TPGW 080204-DR				✓			1	4.76	8.2	2.38	0.4	2.4	
		080208-DR				✓			1	4.76	8.2	2.38	0.8	2.4	
		090204-DR				✓			1	5.56	9.6	2.38	0.4	2.8	
		090208-DR				✓			1	5.56	9.6	2.38	0.8	2.8	
		110304-DR				✓			1	6.35	11	3.18	0.4	3.4	
		110308-DR				✓			1	6.35	11	3.18	0.8	3.4	
Semi-finishing to roughing 粗・粗		VBGW 110304-DR				✓			1	6.35	11.1	3.18	0.4	2.8	
		110308-DR				✓			1	6.35	11.1	3.18	0.8	2.8	
		160404-DR				✓			1	9.525	16.6	4.76	0.4	4.4	
		160408-DR				✓			1	9.525	16.6	4.76	0.8	4.4	
Finishing to semi-finishing 仕上・粗		VCGT 110301-DS	✓						1	6.35	11.1	3.18	0.1	2.8	
		110302-DS	✓						1	6.35	11.1	3.18	0.2	2.8	
		110304-DS	✓						1	6.35	11.1	3.18	0.4	2.8	
		160404-DS	✓						1	9.525	16.6	4.76	0.4	4.4	
		160408-DS	✓						1	9.525	16.6	4.76	0.8	4.4	
Semi-finishing to roughing 粗・粗		VCGW 110304-DR				✓			1	6.35	11.1	3.18	0.4	2.8	
		110308-DR				✓			1	6.35	11.1	3.18	0.8	2.8	
		160404-DR				✓			1	9.525	16.6	4.76	0.4	4.4	
		160408-DR				✓			1	9.525	16.6	4.76	0.8	4.4	

Negative Turning Inserts ネガティブインサート

Inserts		Designation	Grade No.				No. of Cutting Edges	Dimensions (mm)					Drawing
			PCD		PCBN			d	l	S	r	h	
			DA3200		BN4200								
Semi-finishing to roughing 輕・粗		CNMA 120404-DR			✓		1	12.7	12.9	4.76	0.4	5.16	
		120408-DR			✓		1	12.7	12.9	4.76	0.8	5.16	
		120412-DR			✓		1	12.7	12.9	4.76	1.2	5.16	
		CNMA 120404C2-DR			✓		2	12.7	12.9	4.76	0.4	5.16	
		120408C2-DR			✓		2	12.7	12.9	4.76	0.8	5.16	
		120412C2-DR			✓		2	12.7	12.9	4.76	1.2	5.16	
		DNMA 150404-DR			✓		1	12.7	15.5	4.76	0.4	5.16	
		150408-DR			✓		1	12.7	15.5	4.76	0.8	5.16	
		150412-DR			✓		1	12.7	15.5	4.76	1.2	5.16	
		DNMA 150404C2-DR			✓		2	12.7	15.5	4.76	0.4	5.16	
		150408C2-DR			✓		2	12.7	15.5	4.76	0.8	5.16	
		150412C2-DR			✓		2	12.7	15.5	4.76	1.2	5.16	
		TNMA 160404-DR			✓		1	9.525	16.5	4.76	0.4	3.81	
		160408-DR			✓		1	9.525	16.5	4.76	0.8	3.81	
		160412-DR			✓		1	9.525	16.5	4.76	1.2	3.81	
		TNMA 160404C3-DR			✓		3	9.525	16.5	4.76	0.4	3.81	
		160408C3-DR			✓		3	9.525	16.5	4.76	0.8	3.81	
		160412C3-DR			✓		3	9.525	16.5	4.76	1.2	3.81	
		VNMA 160404-DR			✓		1	9.525	16.6	4.76	0.4	3.81	
		160408-DR			✓		1	9.525	16.6	4.76	0.8	3.81	
		VNMA 160404C2-DR			✓		2	9.525	16.6	4.76	0.4	3.81	
		160408C2-DR			✓		2	9.525	16.6	4.76	0.8	3.81	