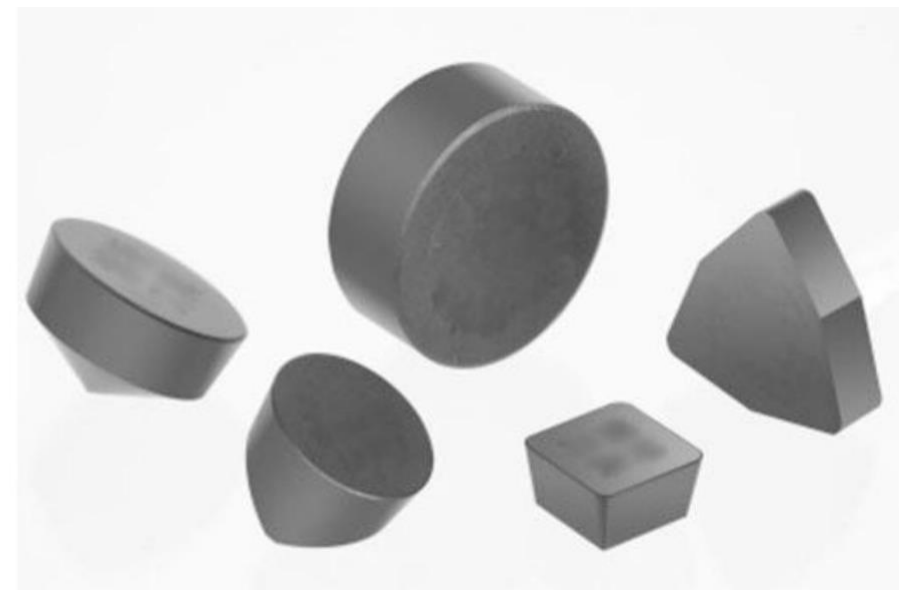
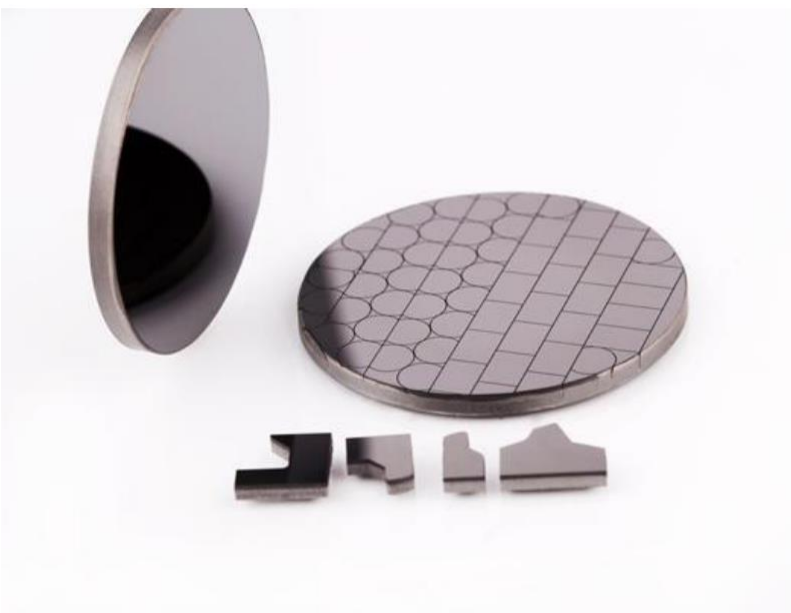
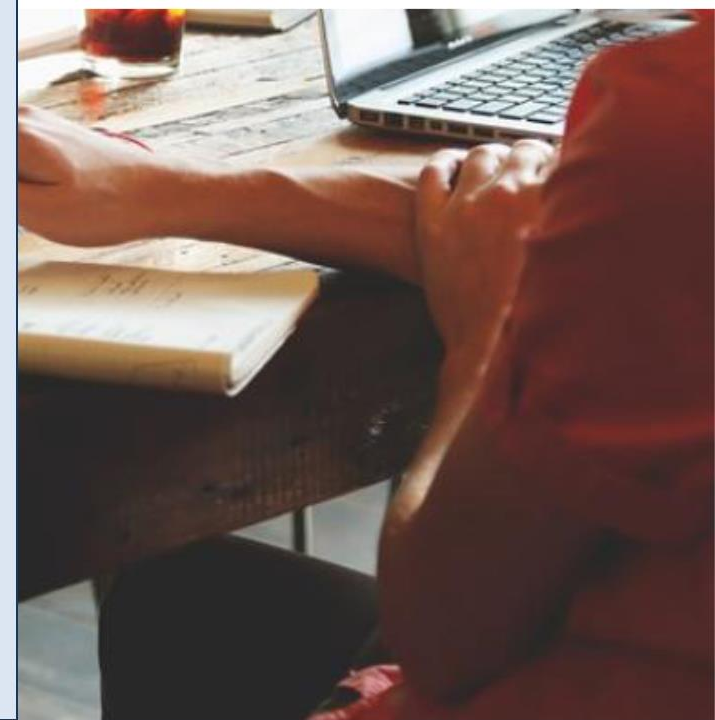




PCD & PCBN Blanks



PCD

INNOGRIND™ offers below PCD products

- **PCD blanks, with Diameter ϕ 45mm and 55mm. ϕ 59mm is also available for some**
- **Laser cut pieces of PCD, for cutting tools application.**

PCD Blank specifications

Standard specifications with diamond layer 0.5mm, total thickness can be 1.6mm, 2.0mm or 3.2mm.

Grain size (μm)	Characteristics	Grade	Diameter (mm)	Woodworking	Metalworking	Conductive
0.85	Ultra-fine micron structure for excellent surface	ET085	45	√		
	finish requirements		55	√		
2	For good surface finishing	ET02	45	√	√	√
			55			√
5	General purpose, balance cutting efficiency and life	ET05	45	√	√	√
10		ET10	45	√	√	√
			55	√	√	
25		ET25	45	√	√	√
302			55	√	√	
35		Good wear resistance production,for high Si% Al alloy.	ET302	45	√	√
	55			√	√	
	ET35		45	√	√	
			55	√		

PCD Blank specification

Standard specification with diamond layer 0.5mm, total thickness can be 1.6mm, 2.0mm or 3.2mm.

Grade	Diamond Content (Vol%)	Characteristics	Application
ET02	≥92	Very good electrical discharge machining ability, general life, better heat resistance and better impact resistance.	Superfinishing, excellent surface processing quality for copper, bronze, aluminum, magnesium, magnesium aluminum alloy, plastic, precious metals, etc.
ET05	≥92	Very good electrical discharge machining ability, general life, better heat resistance and better impact resistance.	Superfinishing, excellent surface processing quality for copper, bronze, aluminum, magnesium, magnesium aluminum alloy, plastic, plexiglass, etc.
ET10	≥95	Good electrical discharge machining ability, long life, better heat resistance and impact resistance.	Fine machining, very good surface processing quality, for aluminum alloy (Si content < 12%), copper alloy, composite wood processing, high-precision wear-resistant corbelled device, etc.
ET25	≥95	Good electrical discharge machining, long life, better heat resistance and better impact resistance.	Used for composite, laminate flooring, nonmetal hard and brittle materials, carbide alloy, graphite and graphite composites, aluminum silicon alloy (Si content > 12%), the other high wear-resistant materials, such as ceramics, carbide, etc.
ET35	≥95	Good electrical discharge machining, very long life, good heat resistance and better impact resistance.	Used for resin, composite materials, fiber reinforced plastics, high density reinforced board, silicon aluminum alloy and other high wear-resistant materials.
ET302	≥95	Good electrical discharge machining, long life, better heat resistance and better impact resistance.	Used for composite, laminate flooring, nonmetal hard and brittle materials, carbide alloy, graphite and graphite composites, aluminum silicon alloy (Si content > 12%), the other high wear-resistant materials, such as ceramics, carbide, etc.

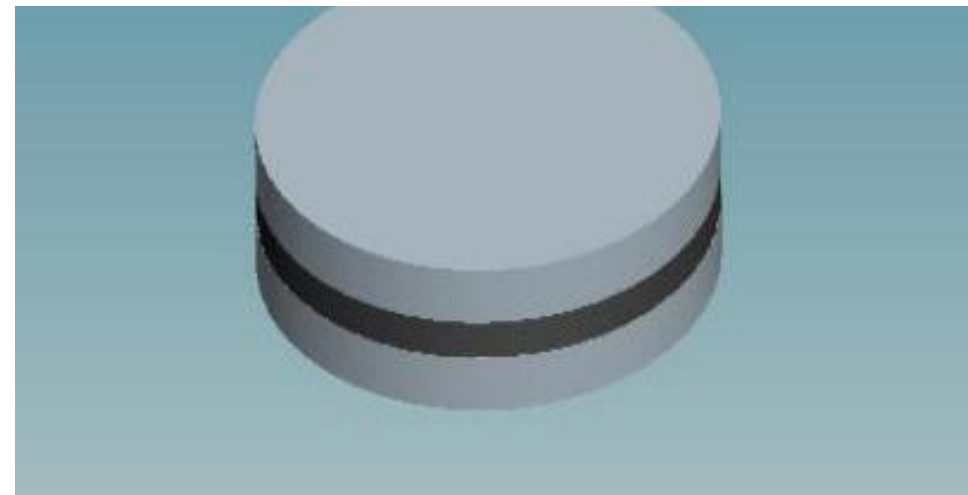
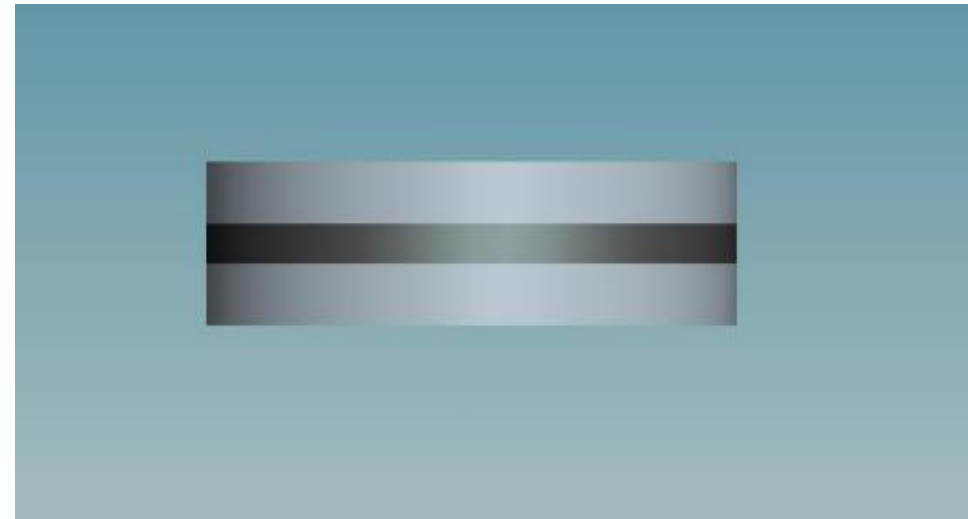
Sandwich PCD

Standard specification

0.5mm diamond layer in middle
0.5mm Carbide layer on each side

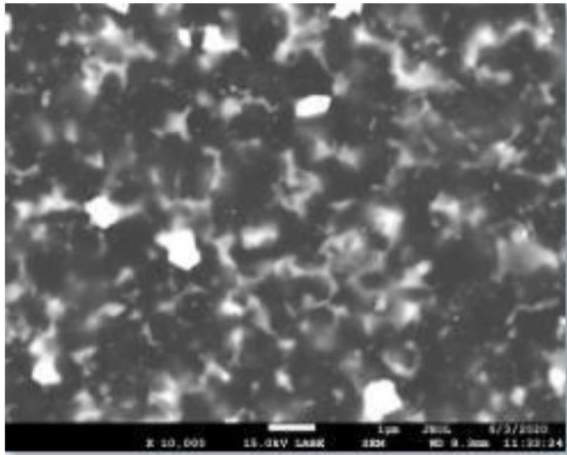
Application

Gem processing
Drill industry

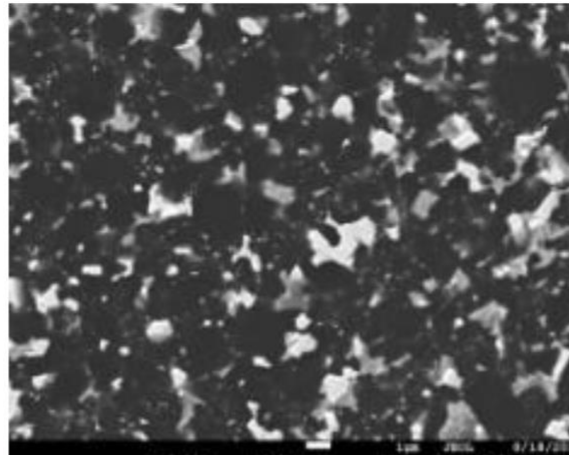


SEM of Each Grade

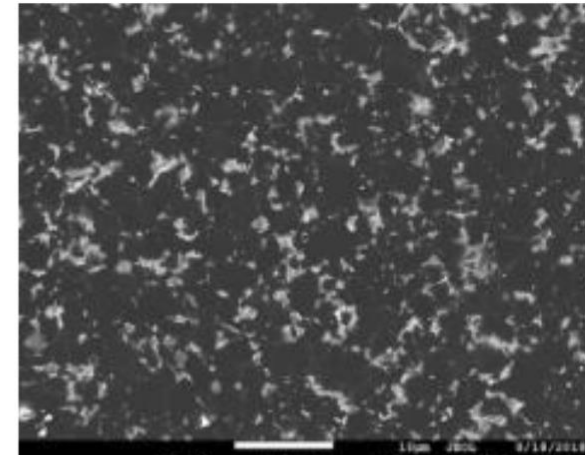
ET085



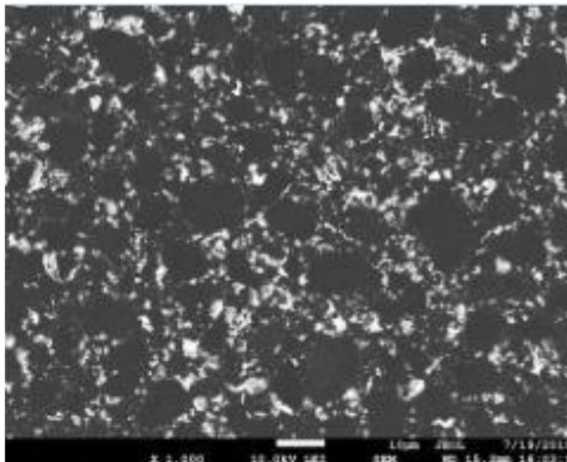
ET02



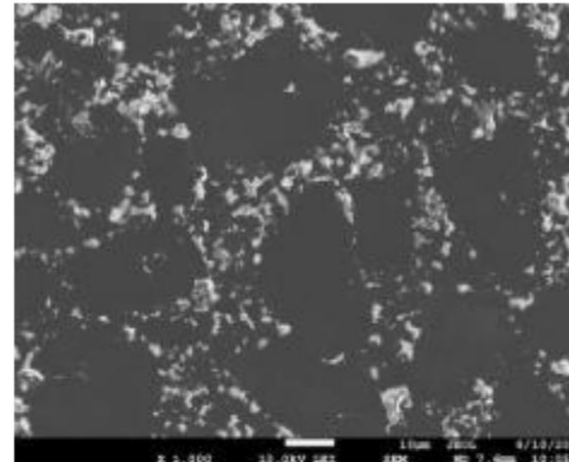
ET05



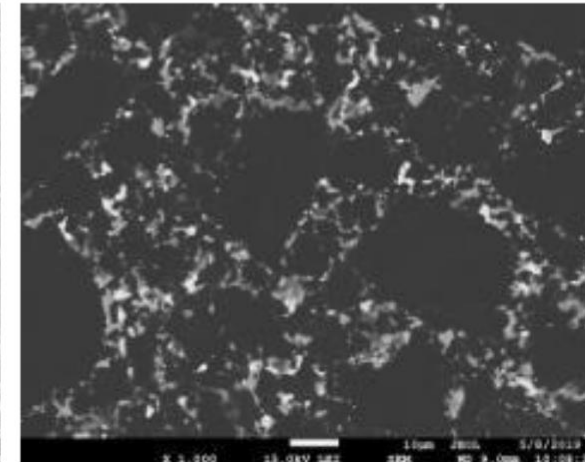
ET10



ET302



ET35



PCBN

INNOGRIND™ offers below PCBN products:

- PCBN blanks, with Diameter $\phi 45\text{mm}$
- Laser cut pieces of PCBN

- SBN (solid PCBN) with ISO standard

PCBN and SBN Grade

Grade	CBN grit (μm)	CBN content (Vol%)	Processing way	Application
SBN95Z1 PCBN95Z1	20、30	95%	Continuous cutting with large stock removal	For Rough processing Grey Cast Iron, Chilled Cast Iron, Powder Sintered Alloy.
SBN90Z PCBN90Z	10、15	90%	Continuous cutting with large stock removal	For Rough process and semi-finishing processing the wear resistant cast iron, nodular cast iron etc.
SBN90Z2 PCBN90Z2	10、15	90%	Continuous cutting with large stock removal	For rough processing and semi-processing alloy cast iron, high nickel Chrome, high chrome iron and chilled steel with hardness HRC45-50.
SBN80G	3、5	80%	Continuous cutting with Medium stock removal	For rough processing and semi-processing alloy cast iron, high nickel Chrome, high chrome iron and chilled steel with hardness HRC45-50.
SBN70G PCBN70G	3、5	70%	Continuous cutting with small stock removal	For finishing the chilled steel and high temperature alloy with HRC45-55.
SBN60G	1、3	60%	Continuous cutting with small stock removal	For finishing and super-finishing the chilled steel with HRC55-62 like bearing steel, tool steel, mold steel, gauge steel and HSS.
SBN55G1 PCBN55G1	1、3	55%	Slight non-continuous and continuous cutting with small stock removal	For Finishing and super-finishing the chilled steel with HRC55-65, like bearing steel, tool steel, mold steel, gauge steel and HSS.

PCBN Blank

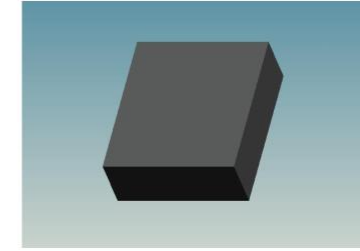
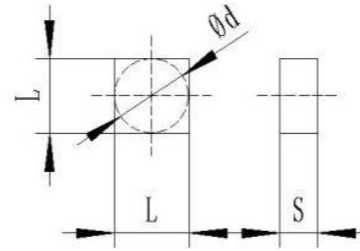
Available specifications

SPEC	D (Diameter) (mm)	T (Thickness) (mm)	t (CBN section thickness) (mm)	PCBN55G1	PCBN70G	PCBN90Z	PCBN90Z2	PCBN95Z1
Φ45×1.2×0.6	45	1.2±0.05	0.5-0.8	√	√	√	√	√
Φ45×1.6×1.0	45	1.6±0.05	0.9-1.2	√	√	√	√	√
Φ45×3.2×1.0	45	3.2±0.05	0.9-1.2	√	√	√	√	√
Φ45×3.8×1.0	45	3.8±0.05	0.9-1.2	√	√	√	√	√
Φ45×4.5×1.0	45	4.5±0.05	0.9-1.2	√	√	√	√	√

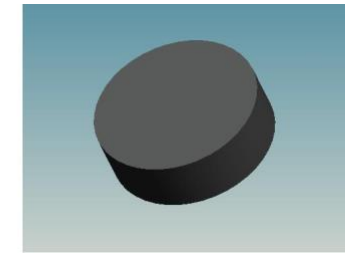
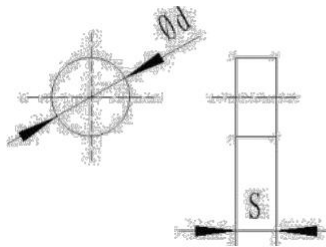
Solid PCBN (SBN)

Available specifications

Square



Spec	Dimension (mm)			ISO	Code						
	L	Ød	S		SBN55G1	SBN60G	SBN70G	SBN80G	SBN90Z	SBN90Z2	SBN95Z1
9.85×3.4	9.85	9.85	3.4	SNMN090300	√	√	√	√	√	√	√
9.85×5	9.85	9.85	5	SNMN090400	√	√	√	√	√	√	√
13×5	13	13	5	SNMN120400	√	√	√	√	√	√	√
16.2×8.2	16.2	16.2	8.2	SNMN150700	√	√	√	√	√	√	√



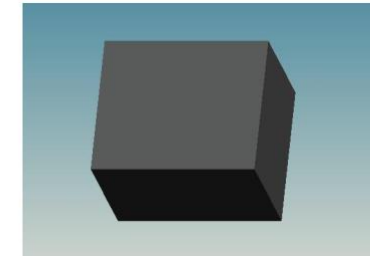
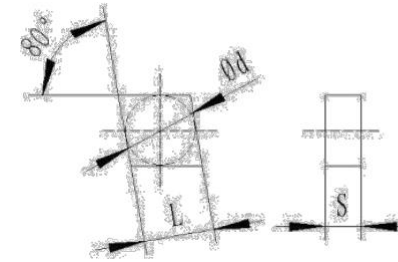
Disc

Spec	Dimension (mm)			ISO	Code						
		Ød	S		SBN55G1	SBN60G	SBN70G	SBN80G	SBN90Z	SBN90Z2	SBN95Z1
6.7×5		6.7	5	RNMN060400	√	√	√	√	√	√	√
9.85×3.4		9.85	3.4	RNMN090300	√	√	√	√	√	√	√
9.85×5		9.85	5	RNMN090400	√	√	√	√	√	√	√
13×5		13	5	RNMN120400	√	√	√	√	√	√	√

Solid PCBN (SBN)

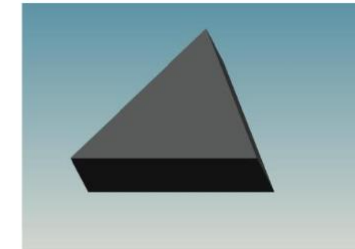
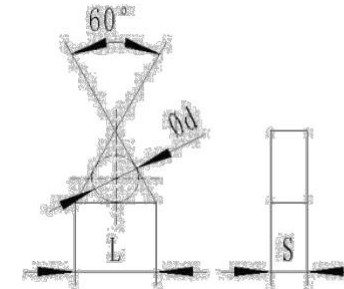
Available specifications

Square



Spec	Dimension(mm)			ISO	Code					
	L	Φd	S		SBN55G1	SBN60G	SBN70G	SBN80G	SBN90Z	SBN90Z2
9.85×5	9.85	9.85	5	CNMN090400	√	√	√	√	√	√
13×5	13	13	5	CNMN120400	√	√	√	√	√	√
13×8.2	13	13	8.2	CNMN120800	√	√	√	√	√	√

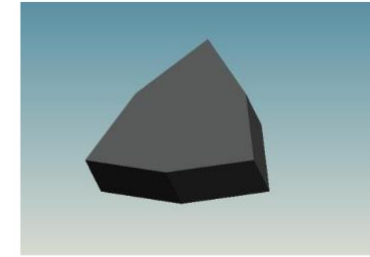
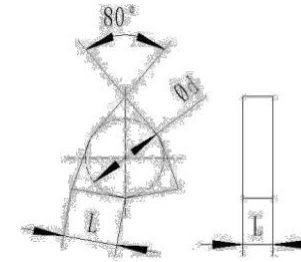
Equilateral triangle



Spec	Dimension(mm)			ISO	Code						
	L	Φd	S		SBN55G1	SBN60G	SBN70G	SBN80G	SBN90Z	SBN90Z2	SBN95Z1
11.3×3.4	11.3	6.524	3.4	TNGN110300	√	√	√	√	√	√	√
16.8×5	16.8	9.699	5	TNGN160400	√	√	√	√	√	√	√

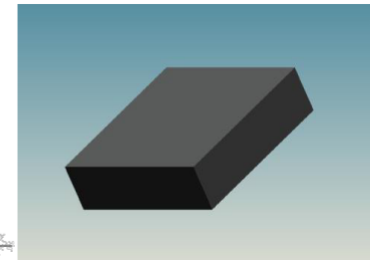
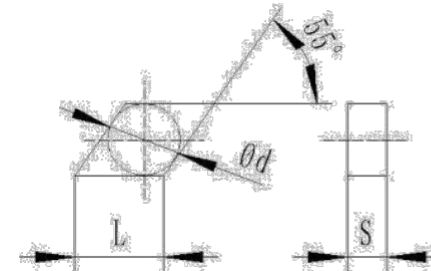
Solid PCBN (SBN) Available specifications

80° Equilateral hexagon



Spec	Dimension (mm)			ISO	Code						
	L	Φd	S		SBN55G1	SBN60G	SBN70G	SBN80G	SBN90Z	SBN90Z2	SBN95Z1
9×5	9	13.1	5	WNMN080400	√	√	√	√	√	√	√

55° Rhombus

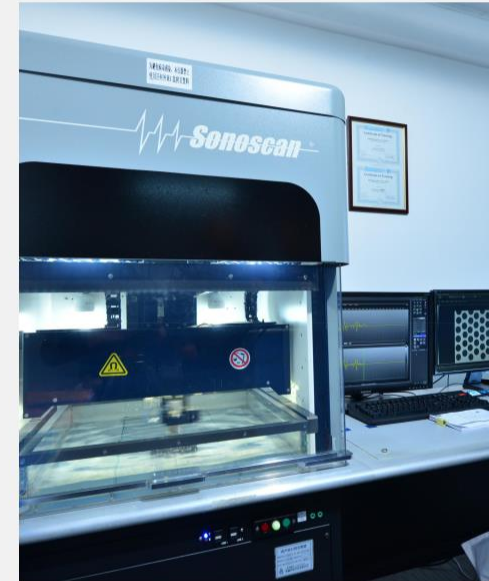
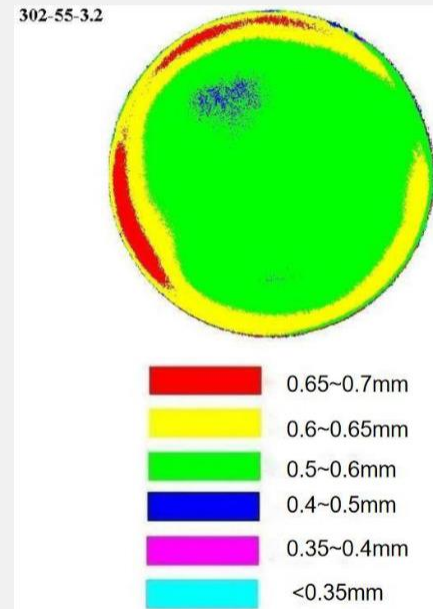


Spec	Dimension (mm)			ISO	Code						
	L	Φd	S		SBN55G1	SBN60G	SBN70G	SBN80G	SBN90Z	SBN90Z2	SBN95Z1
11.3×5	11.3	9.256	5	DNUN110400	√	√	√	√	√	√	√
11.3×6.6	11.3	9.256	6.6	DNUN110600	√	√	√	√	√	√	√
15.8×6.6	15.8	12.943	6.6	DNUN150600	√	√	√	√	√	√	√

Quality Control

C-SCAN

INNOGRIND™ supplies an ultrasonic scan photo for each piece of product, which helps customer optimise the cutting areas.



Scanning Acoustic Microscope

We look forward to
your inquiry !