

pdtools

SUPERABRASIVES



PRODUCT CATALOG

SHARPENING STONES

A little about our company

PDTools superabrasives is one of the leading companies in Eastern Europe for the production of diamond and CBN tools for mechanical engineering, woodworking, glass and other industries.

Our company has been successfully producing diamond/CBN tools since 1966. We were the first in Europe who synthesized diamonds and implemented them into high precision grinding tools.

Having significantly expanded our range of tools, we deliver our products to more than 70 countries worldwide.

The company is certified by Bureau VERITAS according to ISO 9001:2015.



Background Information

Sharpening stones are tools used for sharpening and machining cutting tools such as knives, scissors, cutters etc. They are made of various materials: conventional abrasives, diamond, CBN powders, natural stones, and so on.

To select the adequate sharpening stone, you need to analyse the type of cutting tool you want to sharpen, its material, shape and size. You also need to understand the desired sharpening result - rougher stones are used to remove areas of damage and imperfections on the cutting edge or to shape the cutting edge, while finer stones are used to polish and sharpen already sharpened tools.

Selecting a sharpening stone, you should also be aware its grit size (the size of the abrasive grains), which may be indicated on the sharpening stone itself. The smaller the grit size, the finer the defects and the smoother the surface will be after sharpening.

In general, a number to select the adequate stone, it is highly recommended to contact experts at PDTools superabrasives, for advice and assistance in selecting a tool.

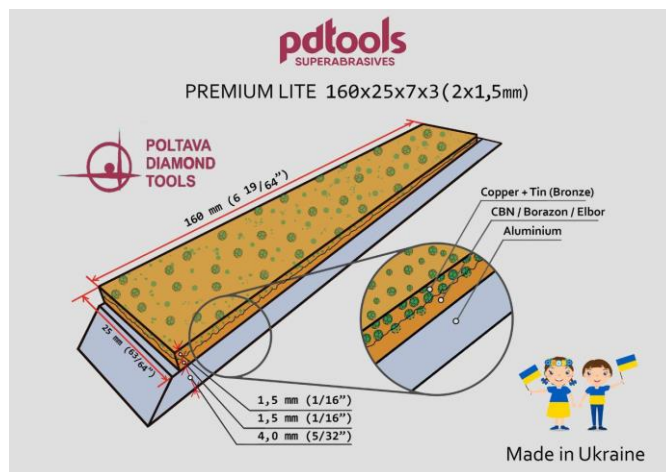
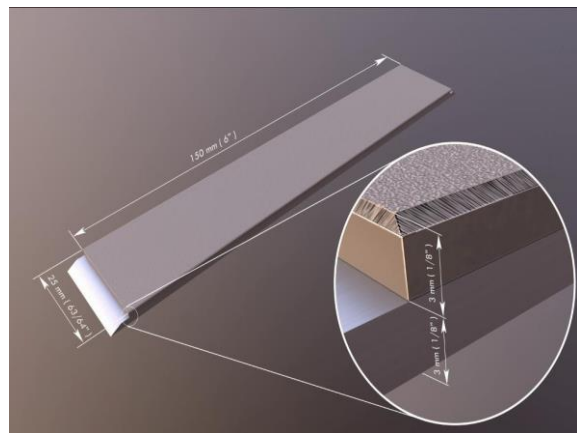
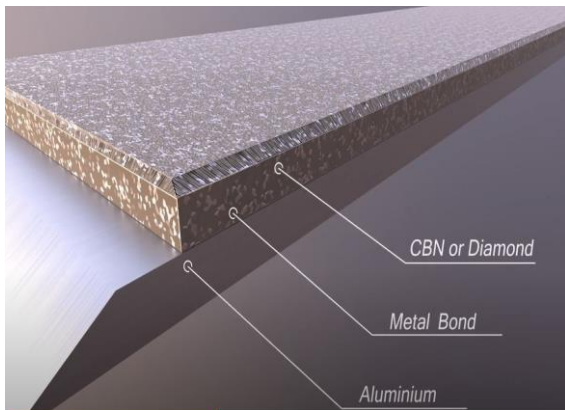


Stones from PDTools superabrasives

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PDTools superabrasives has developed and now manufactures unique metal, resin and vitrified bonded diamond or CBN stones for sharpening and finishing of the cutting edge of kitchen, hunting and other knives, as well as professional hairdressing, manicure and medical tools.

Our sharpening stones have CBN or diamond grits which are fixed reliably in a special unique bond that holds them for a long time and is self-renewable. This allows a sharpening stone to work for a long time and impress by a fantastic performance.



Bonds` performance in comparison

Производительность ↑

Керамика
Металлика
Органика

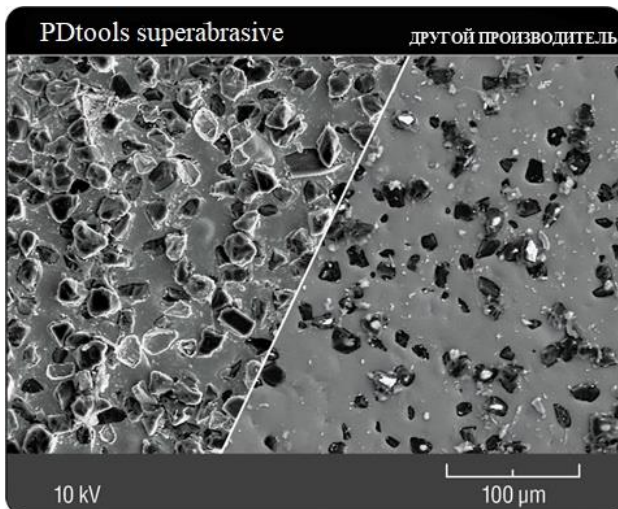
Стойкость ↑

Металлика
Керамика
Органика



Characteristics of sharpening stones

Bond	Efficiency (10 is the highest)	Durability (10 is the highest)	Self-renewal (10 is the highest)	Clogging (10 is the highest)	Profile dressing interval (10 is the highest)
Metal	9	10	7	10	7
Resin	8	7	9	8	9
Vitrified	10	9	10	7	10



Beware of fakes and imitators!!! PDTools superabrasive sharpening tool (on the left) shows complete coverage and the diamonds exhibit remarkable consistency in size, ensuring maximum performance, durability and cleanliness.

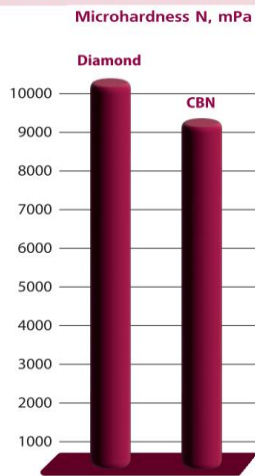
The surface of the imitation sharpening tool (on the right) has a sparse, patchy coating consisting of a jumble of diamonds of different sizes.

What to choose: cubic boron nitride (CBN) or diamond?

What is better to buy for sharpening knives - diamond and the cubic boron nitride (CBN) stones or synthetic and natural stones?

Diamond and CBN stones provide the fastest, easiest and most effective way to sharpen an edge.

**PHYSICOMECHANICAL CHARACTERISTICS
OF ABRASIVE TOOL MATERIALS**



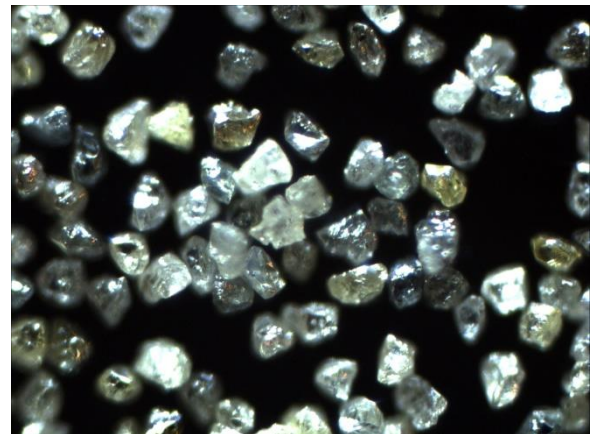
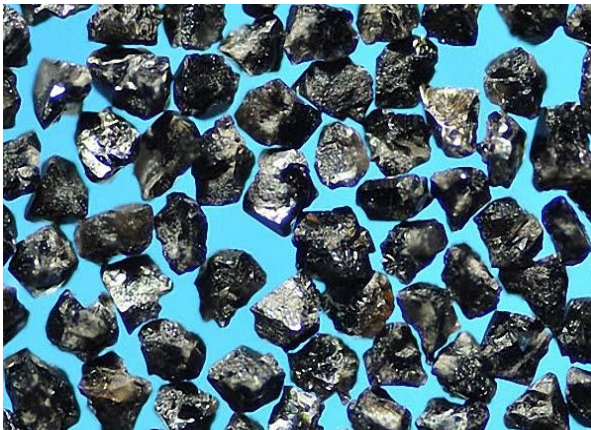
As we know, Diamond is the hardest material on the planet and the most common superabrasive that performs well.

However, there is a superabrasive material, which is best of all for knife sharpening.

It is cubic boron nitride (CBN). Being inert to iron, CBN has been developed for processing of iron-based materials. The special feature of this material is that the stone works faster and cleaner. Cubic boron nitride interacts better with steel than diamond because it does not contain carbon, which is part of the metal blade. CBN is also suitable for machining of all types of knife steels.

By the way both diamond and CBN will make the same perfect edge when sharpened, but CBN will do it faster.

Stones made of these super-hard materials, compared to synthetic and natural stones, require much less attention in their care, preparation and storage. They are not so fragile and there is no risk of breaking if dropped. The between dressing interval is far longer, the diamond/CBN grits are easily opened and the workout grease is easily removed. They can also be used in dry applications.



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How to choose the right sharpening stone?

The choice of sharpening stone depends on the type of tool or knife you want to sharpen, as well as your preference.

Diamond Stones:

- Diamond stone uses a diamond covering (layer) to sharpen tools. Diamonds are one of the hardest materials on earth, making them very effective for sharpening of very hard materials, including ceramics and hard alloys.
- Diamond stones can be available in different grit sizes, allowing you to choose a stone with varying degrees of roughness depending on how sharp of a blade you need to get.

CBN stones:

- CBN (cubic boron nitride) is also a very hard material comparable to diamonds and is widely used for sharpening of tools.
- CBN stones are particularly good at sharpening hard steels, including high carbon steels and stainless steels.

Whatever stone you choose, it is important to learn and understand sharpening techniques to achieve the best results and keep your tools in top condition.



Types and standard sizes of RDTools superabrasives stones

We can offer two lines of stone lines:

PREMIUM – 3 mm thick monolayer stones on bronze metal bond with diamond or CBN layer;

EXPERT – resin bonded monolayer with a thickness of 3mm Diamond or CBN.

PREMIUM LITE - bronze-bonded metal stones with diamond or CBN layer with a total thickness of 3mm (1.5mm superabrasive + 1.5mm non-abrasive layer)

The standard sizes of stones we produce are:

150•25•3

150•17•3

150•12•3

150•50•3

200•70•3

200•40•3

100•25•3

Grit sizes from 60 grit (250/200 microns) to 30,000 grit (0/005 microns)



FEPA Diamond / CBN	ANSI B74-16 UNITED STATES	GRIT	System of standards valid in Ukraine and CIS ДСТУ 3292-95 / ГОСТ 9206-80	GRIT SIZE CLASS
µm	mesh	GRIT	µm	
D251/B251	60/70	60	250/200	EXTRA COARSE
D213/B213	70/80	70	200/160	
D181/B181	80/100	80	160/125	
D151/B151	100/120	100	125/100	
D126/B126	120/140	140	100/80	COARSE
D107/B107	140/170	170		

D91/B91	170/200	200	80/63	MEDIUM
D76/B76	200/230	230		
D64/B64	230/270	270	63/50	
D54/B54	270/325	325	50/40	
D46/B46	325/400	400		
M63/B63	500	500	60/40	
M40/B40	550	550	40/28	FINE
M30/B30	500/600	600		
M25/B25	650	650	28/20	
M20/B20	1 100	1 000	20/14	VERY FINE
M16/B16	1 500	1 500	14/10	
M10/B10	2 000	1 700	10/7	EXTRA FINE
M6.3/B6.3	3 000	3 000	7/5	
M4.0/B4.0	5 000	4 000	5/3	
M2.5/B2.5	8 000	5 000	3/2	ULTRA FINE
M1.6/B1.6	12 000	10 000	2/1	
M1/B1	60 000	15 000	1/0	

Just try our product and you will be pleased. Thousands of customers have already appreciated the quality of our stones. We have done our best to make these professional stones available to each and every one of you.

Attention: Beware of fakes and imitators! Original products are produced only on laser engraved aluminum blanks with the PDT logo and PDTools superabrasives (rebranded).

