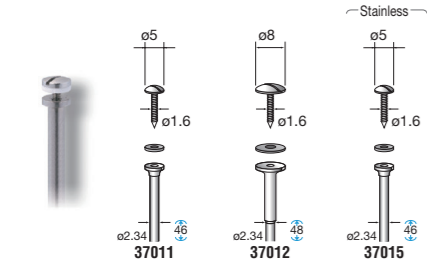
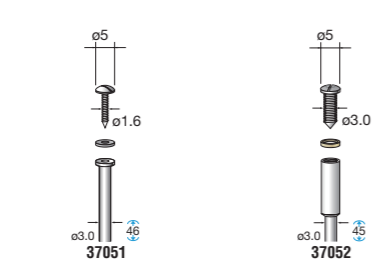


SPECIALTY TOOLS

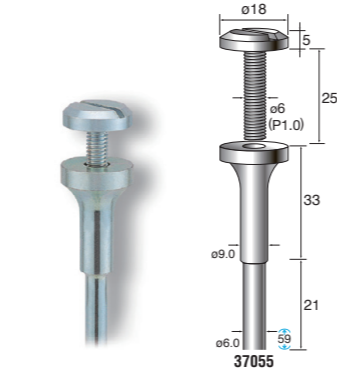
SHANK $\phi 2.34$
10 pcs./pack Mandrels



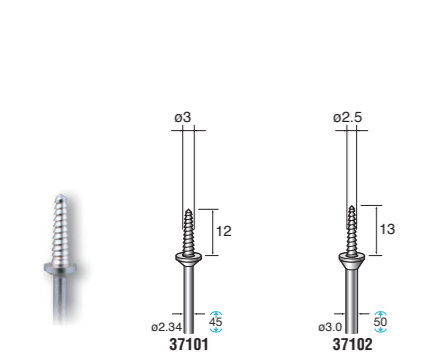
SHANK $\phi 3.0$
10 pcs./pack Mandrels



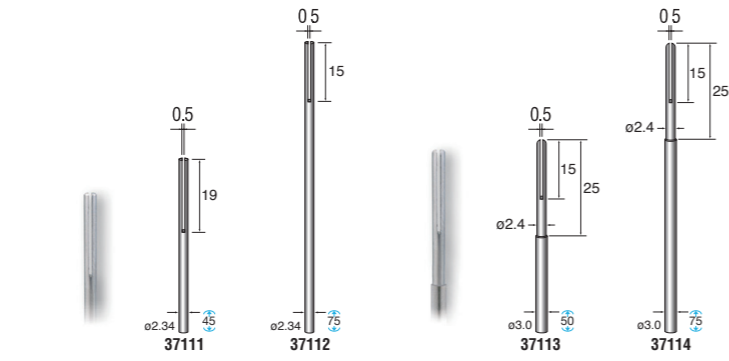
SHANK $\phi 6.0$
1 pc./pack Mandrels



SHANK $\phi 2.34, \phi 3.0$
10 pcs./pack



10 pcs./pack



MOUNTED POINTS

Types of Abrasive Grain

"Abrasive Grain" is a general term of very hard abrasive particles for polishing and grinding. Abrasive Grain is harder than work materials and functions to grind work materials. Abrasive Grain is classified generally into three types.

Alumina type

Primary ingredient is alumina (aluminium oxide : Al_2O_3).

- A** : For rough grinding of iron and steel materials, low carbon steels, forged products, castings and raw steel materials.
- WA** : For general grinding of alloy steels, tool steels and carbon steels.
- PA** : For general grinding of heat treated alloy steels, tool steels, and stainless steels.

Silicon Carbide type

Primary ingredient is silicon carbide (SiC).

- C** : For general grinding of cast iron, chilled cast iron, copper, bronze, brass, aluminum and non ferrous metals.
- GC** : For general grinding of super hard alloys, ceramics, stone, jewelry, glass, pottery, wood and synthetic resins.

Mixed Abrasive Grain type

Mixed use of abrasive grain of the same type

- PA · W** : For precision grinding of high speed steel, alloy steels, tool steels and special alloys.
- A · WA** : For rough grinding of iron and steel materials, low carbon steels, forged products, castings, steel materials and stainless steels.

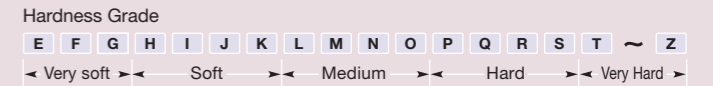
Bonding Material

Material used to bond and hold abrasive grains. Primary bonding materials are shown below.

- V (vitrified)** : Mainstream of magnetic bonding material, grinding stone
- B (resinoid)** : Bonding material is mainly made of thermosetting
- R (rubber)** : Hard rubber
- E (shellac)** : Thermoplastic resin (natural resin)

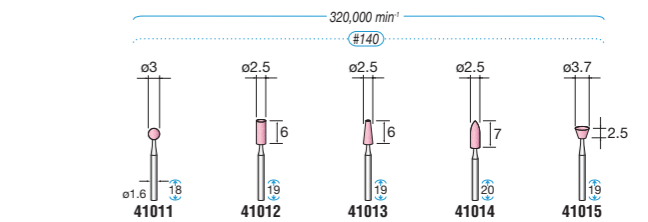
Hardness Grade

This shows bonding strength of abrasive grain, bonding materials and wear resistance of grinding stone. The Hardness Grade is measured by various instruments. The hardness is classified from A to Z, A is the softest while Z is the hardest.



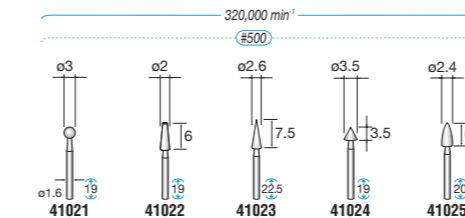
SHANK $\phi 1.6$

10 pcs./pack WA V P PINK

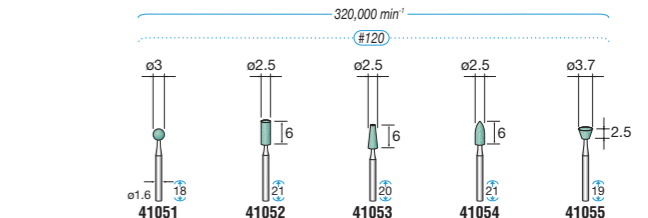


SHANK $\phi 1.6$

10 pcs./pack WA V P WHITE

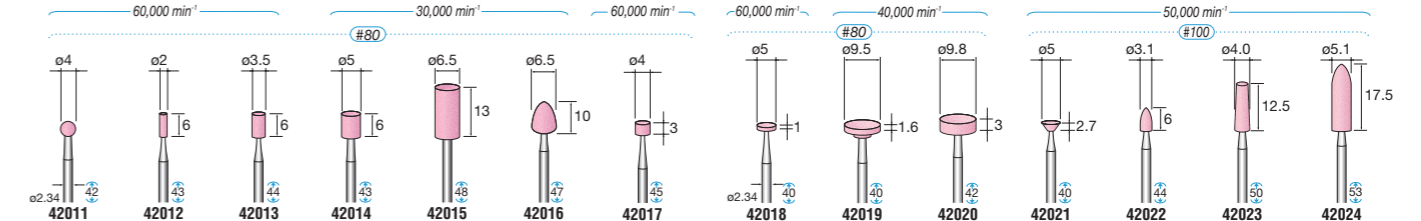


10 pcs./pack GC V M GREEN



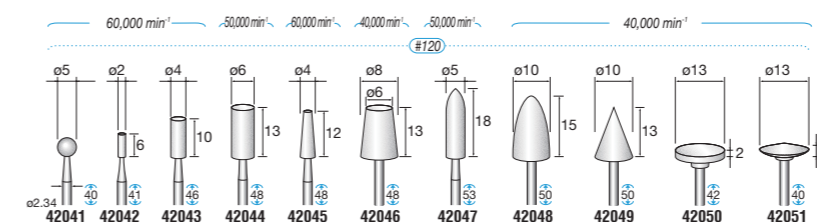
SHANK $\phi 2.34$

10 pcs./pack WA V P PINK

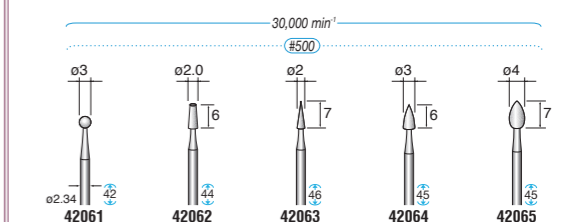


SHANK $\phi 2.34$

10 pcs./pack WA V P WHITE

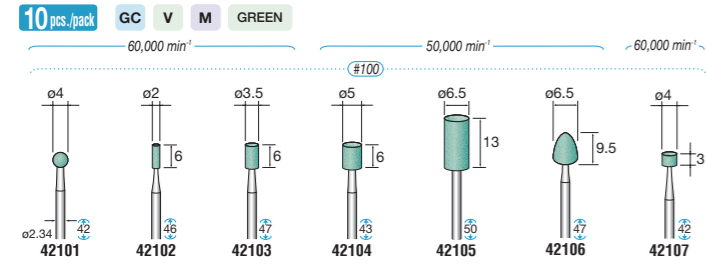


10 pcs./pack WA V P WHITE



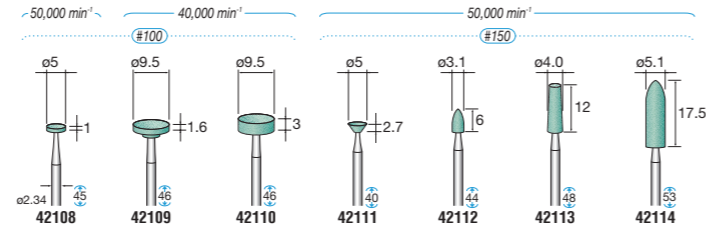
MOUNTED POINTS

SHANK $\phi 2.34$

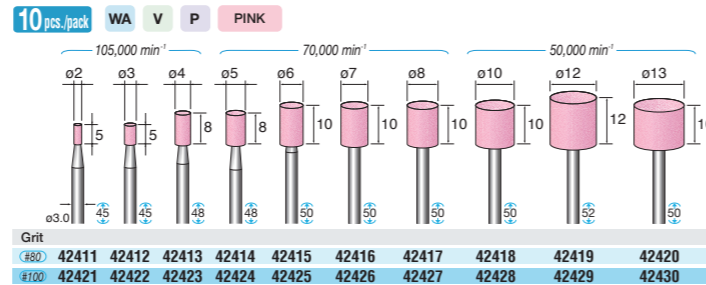


3.0 mm shank diameter series. Perfect for high surface finishing, precision work.

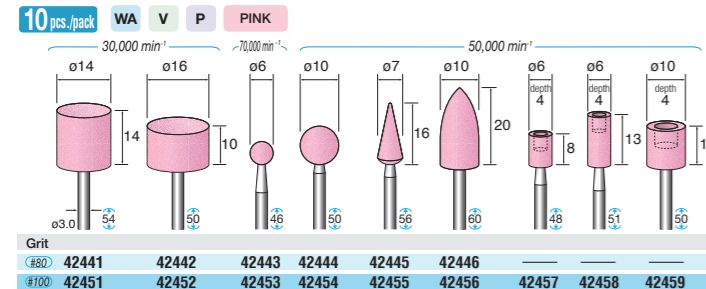
SHANK $\phi 3.0$



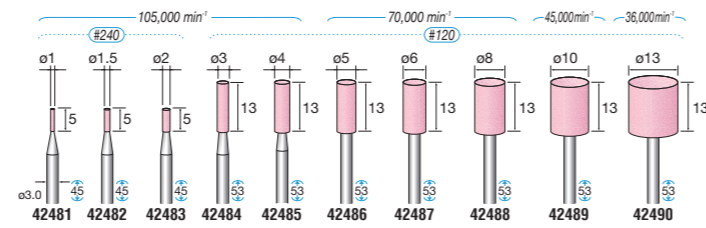
SHANK $\phi 3.0$



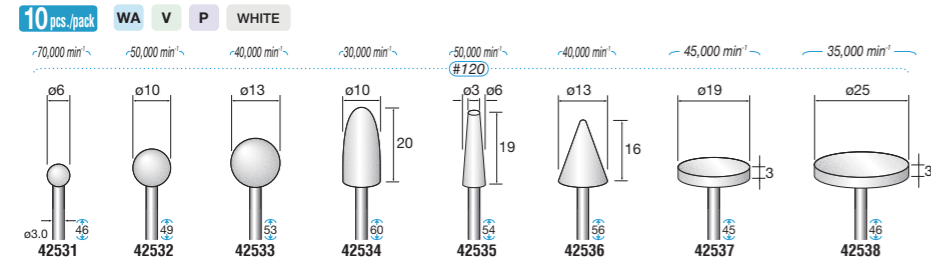
SHANK $\phi 3.0$



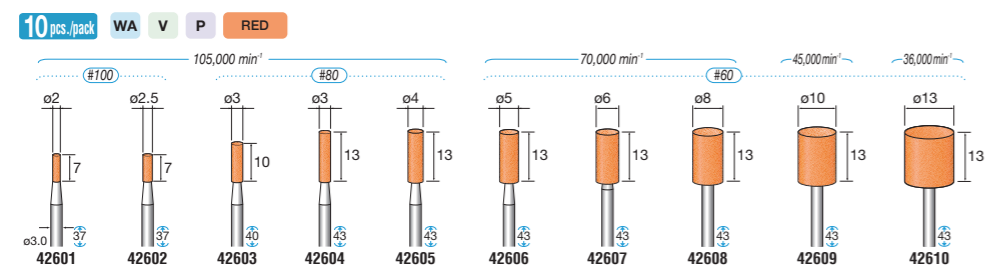
SHANK $\phi 3.0$



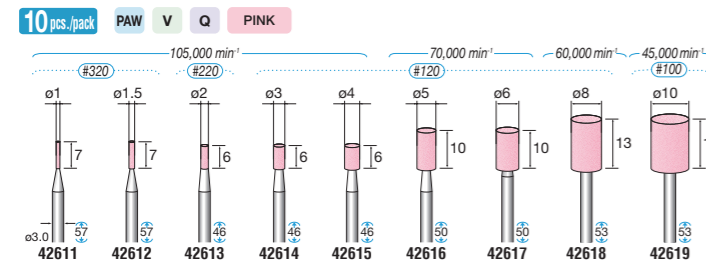
SHANK $\phi 3.0$



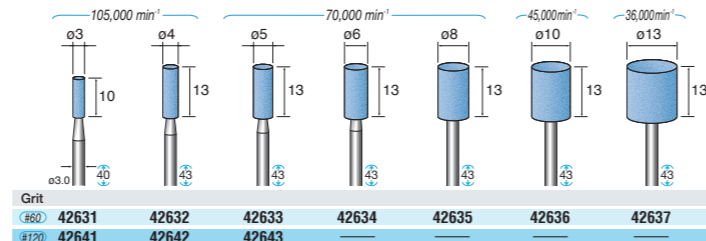
SHANK $\phi 3.0$



SHANK $\phi 3.0$

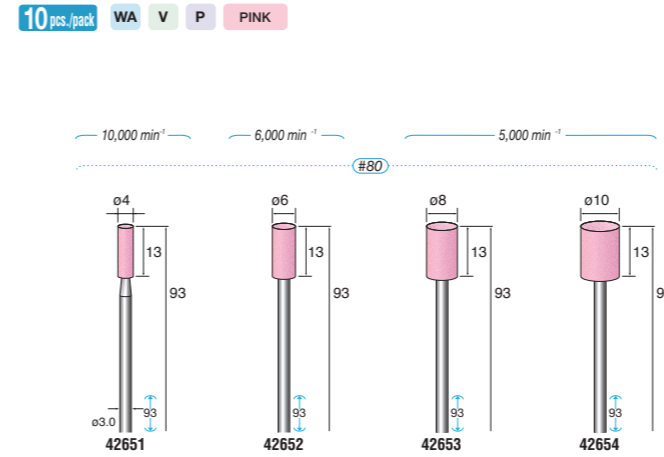


SHANK $\phi 3.0$

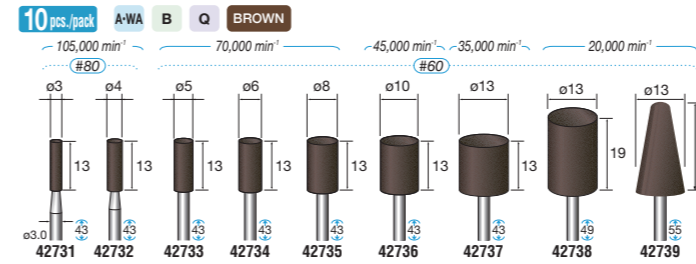


MOUNTED POINTS

SHANK $\phi 3.0$

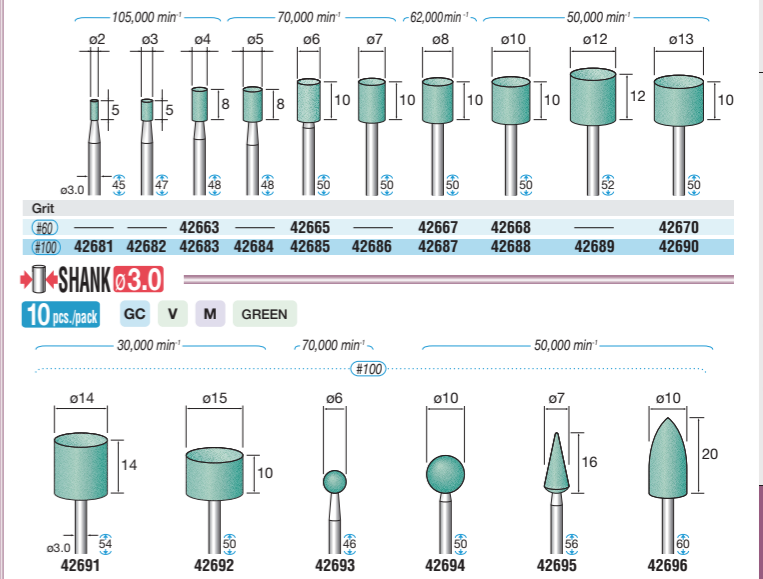


SHANK $\phi 3.0$

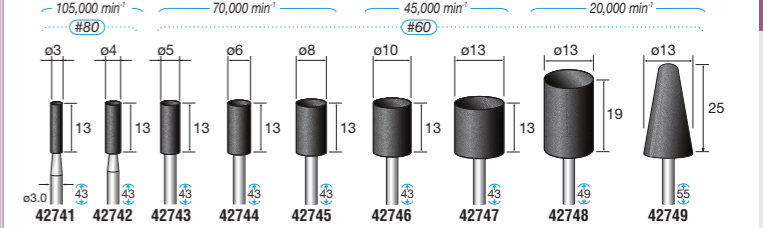


6.0 mm shank diameter series. High quality finishing grindstones.

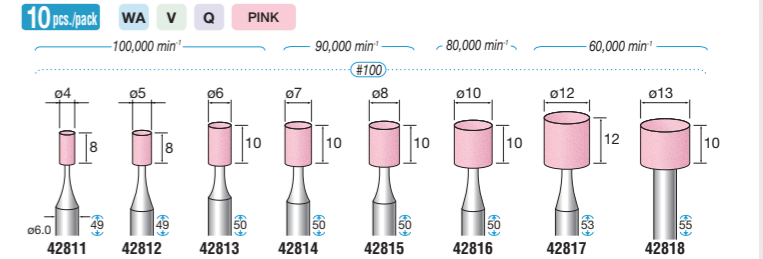
SHANK $\phi 3.0$



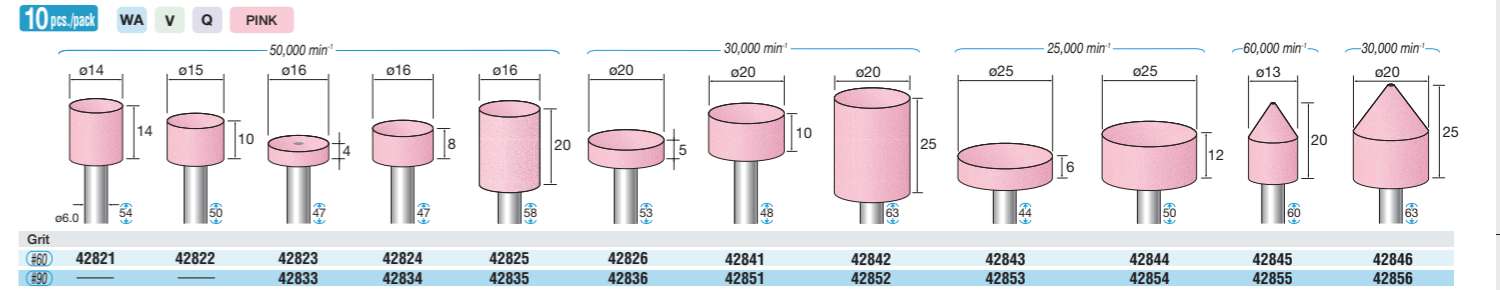
SHANK $\phi 3.0$



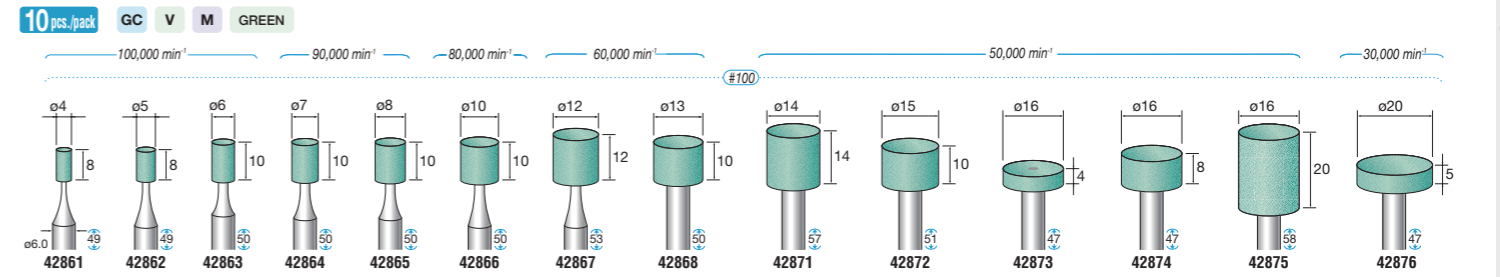
SHANK $\phi 6.0$



SHANK $\phi 6.0$



SHANK $\phi 6.0$



MOUNTED POINTS

SHANK $\phi 6.0$
10 pcs./pack GC V M GREEN

30,000 min⁻¹ 25,000 min⁻¹ 60,000 min⁻¹ 30,000 min⁻¹

Part numbers: 42881, 42882, 42883, 42884, 42885, 42886

SHANK $\phi 6.0$
10 pcs./pack A-WA B Q BROWN

102,000 min⁻¹ 90,000 min⁻¹ 81,000 min⁻¹ 69,000 min⁻¹ 55,000 min⁻¹ 40,000 min⁻¹ 30,000 min⁻¹ 25,000 min⁻¹

Part numbers: 42901, 42902, 42903, 42904, 42905, 42906, 42907, 42908

SHANK $\phi 6.0$
10 pcs./pack WA

Grinding disk for metal grinding, slitting and cutting. Can easily be attached to mandrels (P.29)
*Mandrel is purchased separately.

SHANK $\phi 6.0$
10 pcs./pack A B Q BLACK

102,000 min⁻¹ 90,000 min⁻¹ 81,000 min⁻¹ 69,000 min⁻¹ 55,000 min⁻¹ 40,000 min⁻¹ 30,000 min⁻¹ 25,000 min⁻¹

Part numbers: 42911, 42912, 42913, 42914, 42915, 42916, 42917, 42918

SHANK $\phi 3.0$
10 pcs./pack WA

15,000 min⁻¹ 13,000 min⁻¹ 8,000 min⁻¹

Part numbers: 43101, 43103, 43104, 43105, 43106

SHANK $\phi 2.34$
18 pcs./pack Assorted Set

43401		
Set (18 pieces) (Each code No. one piece-pack)		
WA	GC	
#80 42011	#100 42101	
#80 42012	#100 42102	
#80 42013	#100 42103	
#80 42014	#100 42104	
#80 42016	#100 42106	
#80 42018	#100 42108	
#120 42047	#100 42109	
#120 42048	#100 42110	
#120 42050	#100 42111	
#120 42051	#100 42112	

SHANK $\phi 3.0$
18 pcs./pack Assorted Set

43405		
Set (18 pieces) (Each code No. one piece-pack)		
WA	PA	
#90 42421	#120 42484	
#90 42422	#120 42485	
#90 42423	#120 42486	
#90 42424	#120 42487	
#90 42425	#120 42488	
#90 42427	#120 42489	
#90 42428	#120 42490	
#90 42454	#120 42491	
#90 42455	#120 42492	
#90 42456	#120 42493	
#90 42494	#120 42494	

SHANK $\phi 3.0$
15 pcs./pack Assorted Set

43410		
Set (15 pieces) (Each code No. one piece-pack)		
PAW	PA	
#320 42612	#60 42631	
#220 42613	#100 42632	
#120 42614	#100 42633	
#120 42615	#100 42634	
#120 42616	#100 42635	
#120 42617	#100 42636	
#120 42618	#100 42637	
#120 42619	#100 42638	

SHANK $\phi 3.0$
12 pcs./pack Assorted Set

43415		
Set (12 pieces) (Each code No. one piece-pack)		
GC		
#100 42681	#100 42688	
#100 42682	#100 42689	
#100 42683	#100 42690	
#100 42684	#100 42691	
#100 42685	#100 42692	
#100 42686	#100 42693	
#100 42687	#100 42694	

RUBBERIZED ABRASIVES

SHANK $\phi 1.6$
10 pcs./pack WA Silicon Polisher

1.6 mm shank diameter series. Short type for high-speed rotation. Ideal for grinding very small parts.

SHANK $\phi 1.6$
10 pcs./pack WA Silicon Polisher

30,000 min⁻¹

Part numbers: 46011, 46012, 46013, 46014, 46015

SHANK $\phi 2.34$
10 pcs./pack WA GC Green Polisher

2.34 mm shank diameter series. Perfect for precision finishing and deburring.

SHANK $\phi 2.34$
10 pcs./pack WA GC Green Polisher

30,000 min⁻¹ 20,000 min⁻¹ 15,000 min⁻¹ 8,000 min⁻¹ 30,000 min⁻¹ 20,000 min⁻¹ 18,000 min⁻¹

Grit	Color	46111	46115	46121	46125	46131	46135	46151	46155
#120	(GC) Green	46111	46115	46121	46125	46131	46135	46151	46155
#220	(WA) Green	46112	46116	46122	46126	46132	46136	46152	46156
#320	(WA) Green	46113	46117	46123	46127	46133	46137	46153	46157

SHANK $\phi 2.34$
10 pcs./pack WA High Shine Polisher

24,000 min⁻¹ 15,000 min⁻¹ 24,000 min⁻¹ 20,000 min⁻¹ 24,000 min⁻¹ 24,000 min⁻¹

Grit	Color	46211	46215	46221	46225	46231	46235
#120	Blue	46211	46215	46221	46225	46231	46235
#320	Violet	46212	46216	46222	46226	46232	46236
#500	Brown	46213	46217	46223	46227	46233	46237

SHANK $\phi 2.34$
10 pcs./pack WA Silicon Polisher

20,000 min⁻¹ 15,000 min⁻¹ 15,000 min⁻¹ 30,000 min⁻¹

Grit	Color	46312	46316	46322	46326	46331	46342	46346
#180	Gray	46312	46316	46322	46326	46331	46342	46346
#220	Brown	46311	46315	46321	46325	46330	46341	46345
#500	Dark Brown	46313	46317	46323	46327	46332	46343	46347
#1000	Green	46314	46318	46324	46328	46333	46344	46348
#2000	Blue	46319	46320	46329	46330	46334	46349	46350

SHANK $\phi 3.0$
10 pcs./pack WA Silicon Polisher

30,000 min⁻¹ 15,000 min⁻¹ 30,000 min⁻¹

Grit	Color	46351	46362	46363	46367
#180	Black	46351	46362	46363	46367
#280	Violet	46352	46363	46364	46368
#400	Brown	46353	46364	46365	46369
#1800	Green	46354	46365	46366	46370

SHANK $\phi 3.0$
10 pcs./pack WA Power Polisher

3.0 mm shank diameter series. Produces a smoother, better surface finish due to greater pliability versus standard grindstones.

SHANK $\phi 3.0$
10 pcs./pack WA Power Polisher

30,000 min⁻¹ 20,000 min⁻¹

Grit	Color	46601	46611	46621	46631	46641	46651
#80	Red	46601	46611	46621	46631	46641	46651
#120	Dark Green	46602	46612	46622	46632	46642	46652
#180	Olive	46603	46613	46623	46633	46643	46653
#220	Green	46604	46614	46624	46634	46644	46654
#320	Brown	46605	46615	46625	46635	46645	46655
#400	Beige	46606	46616	46626	46636	46646	46656