

Stone, Belt, Paper and Compound Grit Comparison

Description	Belts and wheels		JIS		Waterstones			Trizact	Average grit size in microns
	ANSI/CAMI (USA)	FEPA (Europe)	Old	New	Shapton Hones	Norton Stones	DMT Diamond Plates		
	8								2210
	10								1854
		P12							1764
	12								1600
		P16							1322
	16								1092
		P20							984
	20								940
	24								686
		P24							740
		P30							622
	30								559
		P36							524
	36								483
		P40							412
	46								356
								A500	351
		P50							326
	54								305
								A400	268
		P60							260
	60								254
	70								203
		P80						A300	195
	80								165
		P100							156
	90								145
		P120					Coarse Crystolon(^)	A160	127
					Shapton Pro 120 Grit				122.5
	100								122
							Extra-Extra Coarse		120
	120								102
100 micron belt									100
		P150					Coarse India(#)	A130	97
80 Micron belt	150								89
		P180	180				Medium Crystolon(^)	A100	80
3M 74 micron diamond stone	180								78
									76
					Shapton Pro & Glass 220 Grit				74
		P220	220						66.82
	220					220 Grit Water Stone		A90	65
					Shapton 240 Grit				63
60 Micron belt			240				Extra Coarse		61.25
		P240							60
				240					58
									57
							Medium India(#)		53.5
		F230, P280							53
			280		Shapton 280 Grit				52.5
	240								50
				280					48
		P320	320						46
					Shapton Pro 320 Grit				45.94
		F240				Fine Crystolon(^)	Coarse		45
					Shapton 360 Grit				40.83
3M 40 micron diamond stone & belt		P360	360	320					40
	280								39
					Shapton 400 Grit				36.75
Medium diamond		F280				360 Grit Water Stone			36
35 Micron belt		P400		360		Fine India(#)		A45	35
			400						34
	320								31
30 Micron belt		P500		400					30
					Shapton Glass 500 Grit				29.4
		F320							29
			500						28
		P600						A30	25.8
				500			Fine		25
					Shapton 600 Grit				24.5
			600						24
		F360							23
Extra Fine India(#), 22 Micron belt	400	P800				600 Grit Water Stone			22
				700	Shapton 700 Grit				21
20 Micron belt, 3M 20 micron stone				600					20
	500								19
					Shapton 800 Grit				18.38
18 Micron belt		P1000	800						18
		F400		700					17
	600					800 Grit Water Stone			16
			1,000						15.5

15 Micron belt, 15 micron SiC paper		P1200					A16	15
					Shapton Pro & Glass 1,000 Grit			14.7
Medium Ceramic	700		800		1,000 Grit Water Stone			14
			1,200					13
		P1500					A10	12.6
					Shapton 1,200 Grit			12.25
12 micron belt	800							12
			1,000					11.5
					1,200 Grit Water Stone			11
			1,500					10.8
								10.5
		P2000						10.3
3M 10 micron diamond stone					Shapton Pro 1,500 Grit			10
			1,200					9.8
		F600			1,500 Grit Water Stone			9.5
9 micron belt	900					Extra-Fine		9.2
			2,000					9
		P2500						8.5
			1,500					8.4
								8
					2,000 Grit Water Stone			7.5
					Shapton Pro & Glass 2,000 Grit			7.35
	1,000		2,500			Ceramic		7
			2,000					6.7
		F800						6.5
6 Micron belt					4,000 Grit Water Stone			6
					Shapton 2,500 Grit			5.88
			3,000					5.7
			2,500					5.5
5 micron SiC paper	1,200	F1000						5
					Shapton 3,000 Grit			4.9
			3,000					4
					Shapton Glass 4,000 Grit			3.68
Green Rouge, 3 Micron belt, Tornek compd(~)	1,500	F1200	4,000		8,000 Grit Water Stone	Extra-Extra-Fine	A3	3
					Shapton Pro 5,000 Grit			2.94
					Shapton 6,000 Grit			2.45
		F1500	6,000					2
					Shapton Pro & Glass 8,000 Grit			1.84
					Shapton 10,000 Grit			1.47
Yellow Coticle Stone(Approximate)		F2000	8,000		Shapton Pro 12,000 Grit			1.2
1 Micron belt, Linde C(\$)	2,000							1
					Shapton Pro 15,000 Grit			0.98
					Shapton Glass 16,000 Grit			0.92
					Shapton 20,000 Grit			0.74
Linde B(\$)					15,000 Grit Water Stone			0.5
					Shapton Pro & Glass 30,000 Grit			0.49
Linde A(\$)								0.3
					Shapton 60,000 Grit			0.25
					Shapton 100,000 Grit			0.15
					Shapton 200,000 Grit			0.07

It is impossible to make exact comparisons between all the different abrasives because different standards are used for average, minimum and maximum size, the percentage allowed outside those limits, and the distribution of sizes within those limits. Sizes of 240 grit and larger (macrogrits) are determined by sieving, while sizes of 240 grit and smaller (microgrits) are determined by sedimentation.

~ Tornek compound contains a variety of grains of various size, the smallest down to 0.7 micron. The average effective size is 3 micron.

^ Crystolon is Norton Abrasives tm for Silicon Carbide stones

India is Norton Abrasives tm for Aluminum Oxide stones

\$ Raybrite and Linde compounds are aluminum oxide powders

Old JIS standard is measured via sedimentation tube - Used until 1973

New JIS standard measured via electrical resistance - Used since 1973

Shapton sizes are from their web site

DMT sizes from their web site

All Norton sizes taken from Norton Abrasives Grit Table

ANSI Numbers from Washington Mills ANSI GRIT SIZE CONVERSION CHART in average Microns

European "P" sizes are for coated abrasives; "F" sizes are for bonded abrasives.

FEPA Numbers from LECO Corporation grit comparison Sheet 15

Japanese Industrial Standard Variance Chart (in Microns)	JIS old	JIS new
240	60±4	57±3
280	52±3	48±3
320	46±2.5	40±2.5
360	40±2	35±2
400	34±2	30±2
500	28±2	25±2
600	24±1.5	20±1.5
700	21±1.3	17±1.3
800	18±1	14±1
1000	15.5±1	11.5±1
1200	13±1	9.5±0.8
1500	10.5±1	8±0.6
2000	8.5±0.7	6.7±0.6
2500	7±0.7	5.5±0.5
3000	5.7±0.5	4±0.5
4000		3±0.4
6000		2±0.4
8000		1.2±0.3

Some Kanji:

砥石 = Toishi whetstone

天然砥石 = Natural Whetstone

嵐山 = Arashiyama / Storm Mountain brand

ベスタ = Besuta / Bester brand

キング = King brand

北山 = Kitayama / North Mountain brand

ナニワ = Naniwa Kenma brand (エビ = ebi / shrimp trademark)

シャプトン = Shaputon / Shapton brand (刃の黒幕 = kuromaku / professional grade)

スエヒロ = Suehiro brand

酔拳 = Suishin Brand "Drunken Heart"

六十型 = Type 60

京都特産 = Kyoto special product

最高級品 = High grade product