

Stock list

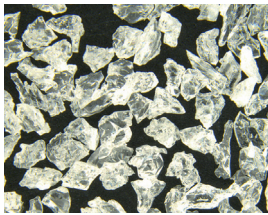
Manual grinding tools



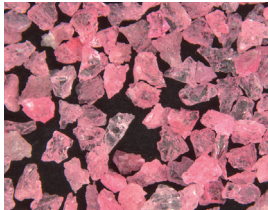
Whetstones • Bench Stones
Files • Sharpening Stones

Grain type

Property



Aluminium oxide, white (EKW):
Toughness: low/medium
Cutting performance: medium/high
Grain shape: sharp-edged/cubic
Material: St37, St52, C45, 16MnCr5



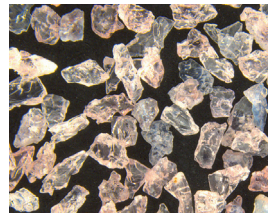
Aluminium oxide, pink (EKRO):
Toughness: medium
Cutting performance: high
Grain shape: cubic
Material: hardened and alloyed steels



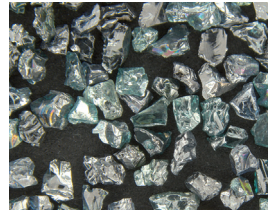
Aluminium oxide, ruby (EK-DRO):
Toughness: medium/high
Cutting performance: high
Grain shape: sharp-edged
Material: hardened and alloyed steels, HSS

Grain type

Property



Aluminium oxide, special (EKSP):
Toughness: high
Cutting performance: very high
Grain shape: cubic
Material: HSS, CrNi steels up to 62 HRC



Silicon carbide, green/dark (SCG; SCD):
Very hard and brittle
Material: carbide, glass, high-alloy tool steels



Sintered aluminium oxide (HTB; CO):
Very tough and wear resistant, splinters in micro parts, grinding pressure required for cutting
Material: high-alloy tool steels from 60 HRC

Grain sizes:

Grain sizes are classified according to the FEPA standard (Federation of European Producers of Abrasives). For bonded abrasives, the classification is preceded by an F.

The higher the number, the smaller the average grain diameter. In addition to the FEPA standard, the JIS (Japanese Industrial Standards) or ANSI (American National Standards Institute) standards are also used.

The table compares the different size divisions of the three standards.

Grain size according to FEPA	JIS	ANSI
F 60	J 60	60
F 100	J 100	100
F 150	J 150	150
F 180	J 180	180
F 220	J 220	220
F 240	J 360	240
F 280	J 400	280
F 320	J 600	360
F 360	J 700	400
F 400	J 1000	500
F 500	J 1200	
F 600	J 1500	
F 800	J 2000	1000
F 1000	J 3000	1200
F 1200	J 4000	
F 1500	J 6000	
F 2000	J 8000	

Standard Shapes of Whetstones according to DIN ISO 525

Grinding rod/Whetstone, rectangular DIN ISO 525 Shape 9010 B x C x L in mm 	Grinding rod/Whetstone, square DIN ISO 525 Shape 9011 B x L in mm 
Grinding rod/Whetstone, triangular DIN ISO 525 Shape 9020 B x L in mm 	Grinding rod/Whetstone, round DIN ISO 525 Shape 9030 B x L in mm 
Grinding rod/Whetstone, round conical pointed DIN ISO 525 Shape 9030A B x L in mm 	Grinding rod/Whetstone, round conical DIN ISO 525 Shape 9030A B x C x L in mm 
Grinding rod/Whetstone, half-round DIN ISO 525 Shape 9040 B x C x L in mm 	Grinding rod/Whetstone, multi-shape DIN ISO 525 Shape 9010A2 B x C/C1 x L in mm 
Grinding rod/Whetstone, hollow gouge DIN ISO 525 Shape 9010A4 B x C x L in mm 	Grinding rod/Whetstone, hoof knife DIN ISO 525 Shape 9010A5 B x C/C1 x L in mm 
Grinding rod/Whetstone, scythe whetstone DIN ISO 525 Shape 9099 B x C x L in mm 	Knife blade shape DIN ISO 525 Shape 9010 D B x C x L in mm 

Whetstones, files and bench stones are manufactured according to the following tolerance table:

Nominal dimension	Tolerance	Plane parallelism
up to 20 mm	± 0.5 mm	0.3 mm
20 - 60 mm	± 1 mm	0.5 mm
60 - 100 mm	± 1.5 mm	0.7 mm
100 - 400 mm	± 2 mm	1.0 mm

This accuracy is achieved in the final operation by polishing. Cost-effective, unpolished versions are available on request.
Broken or rounded edges on the shapes 9010 and 9011 can also be produced on request.

Form gem cutter to supplier of grinding and dressing tool systems



Grinding and dressing tools from Effgen Lapport Schleiftechnik – everything from a single source.

For over 100 years, Effgen Lapport Schleiftechnik has been offering its customers individual solutions for the most demanding grinding tasks. Initially, the company developed tools which allowed gemstones to be processed more accurately and cost-effectively than ever before. However, before long, it made the transition from producing these tools for its own use to selling them to nearby gemstone polishers. Today, Effgen Lapport Schleiftechnik offers grinding applications for almost every sector of industry. Outstanding customer service and competent technical support are included, of course. The company's product portfolio extends from conventional and high-performance grinding tools to dressing tools. This comprehensive product range and service ethos makes Effgen Lapport Schleiftechnik a true systems supplier.

Effgen Lapport Schleiftechnik employs more than 450 qualified and dedicated employees at its German production sites in Herrstein and Enkenbach-Alsenborn. Sales offices throughout Europe and a global

network of trading partners ensure excellent customer proximity. The Effgen Lapport Schleiftechnik Group comprises the brands Effgen Schleiftechnik and Lapport Schleiftechnik. Effgen Schleiftechnik is your partner for ultra-hard grinding, polishing and dressing tools made of diamond and cubic boron nitride. Lapport Schleiftechnik is your partner for conventional grinding tools made of aluminium oxide and silicon carbide. A joint network of sales and application technology maximises synergy effects that benefit

you as a customer; with systematic consulting services from a single source.

The product portfolio of Effgen Lapport Schleiftechnik includes ultra-hard grinding tools with electroplated, metallic, ceramic, and resin bonds. The diameter spectrum ranges from 0.08 to 1,600 mm, depending on the application and product category. Effgen Schleiftechnik manufactures both stationary and rotating dressing tools. Rotating dressing tools can be supplied as form and profile dressing tools, the latter also manufactured in a reverse process for the highest precision applications.

Lapport Schleiftechnik complements the product range with conventional grinding tools using ceramic and synthetic resin bonds up to grain size F-1200. The diameter spectrum ranges from 50 mm to 1,200 mm for solid grinding wheels and up to 1,600 mm for segmented designs, with reusable base bodies. Grinding segments, honing stones, and manual tools, such as whetstones and sharpening stones in any desired geometries, complete the product range.



Lapport Schleiftechnik, production plant in Enkenbach-Alsenborn

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The LAPPORT stock catalogue contains items that the company keeps in stock at all times.

Grinding tools that are in stock can be delivered within 5 working days.

If you have any questions, please contact our application technology department at +49 (0) 63 03/9211-0 or info@lapport.de.

Product groups and their areas of application

Product group	Grain type	Grain size [mesh]	Hardness level	Bond	Areas of application
Indiga	Aluminium oxide, normal	Coarse = F 100 Medium = F 150 Fine = F 400	T- high W- high U- high	V*	For processing soft steel tools in metal and woodworking, e.g. machine and planer knives, gauges.
Record-Arkansas	Aluminium oxide, white	Fine = F 500	Z- high	V	Very fine and hard stone for optical, watchmaking, engraving and precision mechanics workshops.
Record-Brocken	Aluminium oxide, normal	Coarse = F 100 Fine = F 500	S- high X-high	V	Combination stone for honing knives or woodworking tools, e.g. chisels.
Silicon carbide whetstones	Silicon carbide	Very coarse = F 20 Coarse = F 100 Medium = F 150 Fine = F 280	S- high Q- high Q- high S- high	V	For processing tools made of hardened steels, HSS and hard metals in mould making as well as marble, granite or tiles.
Gloria	Silicon carbide	Fine = F 400	L- medium	B**	Soft stone for resharpener delicate cutting edges, e.g. razors where a burr-free area is required.
Sharpening stones	High grade aluminium oxide/ silicon carbide	F 24 - F 280	G-Q	V & B	Soft stones for sharpening cBN and diamond grinding wheels. Also suitable for processing hardened steels.

* V: ceramic bond ** B: resin bond

Indiga

Indiga oilstones and abrasive files are made of special aluminium oxide materials. High quality raw materials and continuous research and development provide the basis for the high grinding performance and durability of Indiga products.

Usage:

Soft steels, e.g. scrapers, chisels, machine and planer knives, steels, reamers, gauges.

Recommendation for use:

Use Indiga oil stones and grinding files only in conjunction with pure, thin-bodied oil for finer grinding, petroleum or water. For cleaning, it is advisable to use a



similar or somewhat coarser silicon carbide whetstone with the addition of petroleum. For best results, store moist in a closed container.

Description	Shape	Grain size	Dimensions			Part number	Piece/ Carton
			B [mm]	C [mm]	L [mm]		
Gouge stone	9010A4	medium	25	11/5	100	100113	3
Gouge stone	9010A4	medium	45	6/2	115	100118	3
Gouge stone	9010A4	fine	45	6/2	115	100119	3
Gouge stone	9010A4	medium	45	10/3	115	100124	3
Gouge stone	9010A4	fine	45	10/3	115	100127	3
Gouge stone	9010A4	medium	25	8/2	125	100146	1
Knife blade shape	9010D	medium	25	3	100	100620	6
Knife blade shape	9010D	fine	25	3	100	100621	6
Bench combination stone	9010	coarse/fine	25	13	100	100093	1
Bench combination stone	9010	coarse/fine	40	16	115	100094	1
Bench combination stone	9010	coarse/fine	50	20	125	100098	1
Bench combination stone	9010	coarse/fine	40	20	150	100099	1
Bench combination stone	9010	coarse/fine	50	25	150	100101	1
Bench combination stone	9010	coarse/fine	50	25	175	100104	1
Bench combination stone	9010	coarse/fine	50	25	200	100106	1
Bench stone	9010	coarse	25	13	100	100003	1
Bench stone	9010	medium	25	13	100	100004	1
Bench stone	9010	fine	25	13	100	100005	1
Bench stone	9010	medium	40	20	150	100020	1
Bench stone	9010	fine	40	20	150	100021	1
Bench stone	9010	coarse	50	25	150	100026	1
Bench stone	9010	medium	50	25	150	100028	1
Bench stone	9010	fine	50	25	150	100030	1
Bench stone	9010	coarse	50	25	200	100046	1
Bench stone	9010	medium	50	25	200	100047	1
Bench stone	9010	fine	50	25	200	100048	1
Triangular file	9020	medium	6		100	100524	6
Triangular file	9020	fine	6		100	100525	6
Triangular file	9020	medium	8		100	100527	6
Triangular file	9020	fine	8		100	100528	6
Triangular file	9020	coarse	10		100	100529	6
Triangular file	9020	medium	10		100	100530	6

Other dimensions, forms and specifications available on request

Description	Shape	Grain size	Dimensions			Part number	Piece/ Carton
			B [mm]	C [mm]	L [mm]		
Triangular file	9020	fine	10		100	100531	6
Triangular file	9020	medium	13		100	100533	6
Triangular file	9020	fine	13		100	100534	6
Triangular file	9020	medium	13		150	100539	3
Triangular file	9020	fine	13		150	100540	3
Triangular file	9020	coarse	16		150	100541	3
Triangular file	9020	medium	16		150	100542	3
Triangular file	9020	fine	16		150	100543	3
Triangular file	9020	coarse	20		150	100544	3
Triangular file	9020	medium	20		150	100545	3
Triangular file	9020	fine	20		150	100546	3
Triangular file	9020	coarse	20		200	100550	3
Triangular file	9020	medium	20		200	100551	3
Triangular file	9020	fine	20		200	100552	3
Flat file	9010	medium	6	3	100	100587	6
Flat file	9010	medium	8	4	100	100590	6
Flat file	9010	fine	8	4	100	100591	6
Flat file	9010	medium	10	5	100	100593	6
Flat file	9010	fine	10	5	100	100594	6
Flat file	9010	medium	16	8	150	100605	3
Flat file	9010	fine	16	8	150	100606	3
Flat file	9010	medium	20	10	150	100608	3
Flat file	9010	fine	20	10	150	100609	3
Half-round file	9040	medium	6	3	100	100563	6
Half-round file	9040	medium	8	4	100	100566	6
Half-round file	9040	medium	10	5	100	100569	6
Half-round file	9040	fine	10	5	100	100570	6
Half-round file	9040	medium	13	6	150	100578	3
Half-round file	9040	fine	16	6	150	100579	3
Half-round file	9040	medium	16	8	150	100581	3
Round file	9030	medium	6		100	100411	6
Round file	9030	fine	6		100	100413	6
Round file	9030	medium	8		100	100417	6
Round file	9030	fine	8		100	100419	6
Round file	9030	medium	10		100	100424	6
Round file	9030	fine	10		100	100426	6
Square file	9011	fine	6	6	100	100453	6
Square file	9011	medium	8	8	100	100456	6
Square file	9011	fine	8	8	100	100457	6
Square file	9011	coarse	10	10	100	100458	6
Square file	9011	medium	10	10	100	100460	6
Square file	9011	fine	10	10	100	100462	6
Square file	9011	medium	13	13	150	100487	3
Square file	9011	fine	13	13	150	100488	3
Square file	9011	coarse	16	16	150	100491	3
Square file	9011	medium	16	16	150	100495	3
Square file	9011	fine	16	16	150	100497	3
Square file	9011	coarse	20	20	150	100500	3
Square file	9011	medium	20	20	150	100503	3
Square file	9011	fine	20	20	150	100505	3

Other dimensions, forms and specifications available on request

Record-Arkansas

Record-Arkansas products have a high degree of hardness and are particularly fine, which enables them to remove even the smallest imperfections.

The fine grinding and honing action of Record-Arkansas products ensure optimum care and processing of precision tools, reliably maintaining their sharpness.

The wax impregnation prevents particle build-up and provides a cool and smooth finish.

Usage:

In optical, watchmaking, engraving and precision mechanics workshops. For sharpening knives and instruments.

Recommendation for use:

Record-Arkansas products should be used only in conjunction with pure, thin-bodied oil for finer grinding, petroleum or water. For cleaning and maintaining

friction, it is recommended that a similar or medium-fine silicon carbide honing stone should be used on the surface with the addition of water.



Description	Shape	B [mm]	Dimensions		Part number	Piece/ Carton
			C [mm]	L [mm]		
Gouge stone	9010A4	45	6/2	115	100297	3
Gouge stone	9010A4	45	10/3	115	100298	3
Bench stone	9010	25	13	100	100229	1
Bench stone	9010	50	20	125	100236	1
Bench stone	9010	50	25	150	100251	1
Bench stone	9010	50	25	200	100258	1
Triangular file	9020	6		100	100344	6
Triangular file	9020	10		100	100348	6
Triangular file	9020	13		100	100350	6
Triangular file	9020	16		150	100355	3
Flat file	9010	6	3	100	100406	6
Flat file	9010	8	4	100	100407	6
Flat file	9010	20	10	150	100418	3
Flat file	9010	20	10	200	100421	2
Flat file	9010	50	20	200	100256	2
Half-round file	9040	10	5	100	100394	6
Half-round file	9040	16	8	150	100399	3
Round file	9030	6		100	100372	6
Round file	9030	8		100	100373	6
Round file	9030	10		100	100376	6
Round file	9030	13		100	100378	6
Square file	9011	6	6	100	100313	6
Square file	9011	8	8	100	100316	6
Square file	9011	10	10	100	100318	6
Square file	9011	13	13	100	100321	6
Square file	9011	13	13	150	100325	3
Square file	9011	16	16	150	100327	3
Square file	9011	20	20	200	100336	2

Other dimensions, forms and specifications available on request

Record-Brocken

Record-Brocken are high quality combination stones. They consist of a coarse and a fine grinding layer, enabling one tool to be used for both pre-grinding and fine honing. This combination of coarse/fine qualities makes them ideal for use in a wide range of applications.

Usage:

Record-Brocken are used for processing carpenter's, shoemaker's and butcher's knives, household knives and cutting tools of all kinds.

Recommendation for use:

Always soak Record-Brocken stones with water before use. It is therefore recommended that they be kept in water at all times. For cleaning and maintaining friction, it is recommended that a similar or fine silicon carbide honing stone should be used on the surface with the addition of water.



Description	Shape	B [mm]	Dimensions		Part number	Piece/ Carton
			C [mm]	L [mm]		
Machine knife stone	9030	75		20	100687	1
Bench combination stone	9010	50	20	100	100678	1
Bench combination stone	9010	60	20	115	100679	1
Bench combination stone	9010	70	20	130	100680	1
Bench combination stone	9010	80	20	140	100681	1
Bench combination stone	9010	50	20	150	100684	1

Other dimensions, forms and specifications available on request

Silicon carbide whetstones

Silicon carbide is one of the hardest abrasives and characterised by long-term, high grinding performance. The abrasive is suitable for very hard and high quality steels. Silicon carbide can also be used for problem-free regrinding of welds and other hardened steels.

Usage:

For hardened steels, HSS and carbide steels in mould and tool making.

Recommendation for use:

Silicon carbide whetstones and grinding files may be used with water, thin-bodied oil for finer grinding, petroleum or even dry. For cleaning and maintaining friction, it is recommended that a slightly coarser silicon carbide honing stone should be used on the surface with the addition of water.



Description	Shape	Grain size	Dimensions			Part number	Piece/ Carton
			B [mm]	C [mm]	L [mm]		
Gouge stone	9010A4	coarse	25	11/5	100	101046	6
Gouge stone	9010A4	medium	25	11/5	100	101047	6
Gouge stone	9010A4	medium	45	6/2	115	101050	3
Gouge stone	9010A4	fine	45	6/2	115	101051	3
Hoof knife stone	9010A5	medium	35	10/2-3	150	100370	3
Machine knife stone	round	coarse/fine	100		38	100392	1
Knife blade shape	9010D	medium	25	3	100	100330	6
Knife blade shape	9010D	fine	25	3	100	100331	6
Knife sharpener with handle		coarse/fine	35/25	16	250	100762	1
Dressing stone (unpolished)	9010	coarse	25	13	100	100939	1
Dressing stone (unpolished)	9010	coarse	50	25	100	101916	1
Dressing stone (unpolished)	9010	coarse	50	25	125	100942	1
Dressing stone (unpolished)	9010	coarse	50	25	150	100945	1
Dressing stone (unpolished)	9010	coarse	50	25	200	101248	1
Scythe whetstone	9099	medium	32	13	230	100934	1
Bench combination stone	9010	coarse/fine	25	13	100	101038	1
Bench combination stone	9010	coarse/fine	50	20	125	101040	1
Bench combination stone	9010	coarse/fine	40	20	150	101041	1
Bench combination stone	9010	coarse/fine	50	25	150	101042	1
Bench combination stone	9010	coarse/fine	50	25	200	101044	1
Bench stone	9010	medium	25	6	100	100430	1
Bench stone	9010	fine	25	6	100	100431	1
Bench stone	9010	coarse	25	13	100	100435	1
Bench stone	9010	medium	25	13	100	100436	1

Other dimensions, forms and specifications available on request

Description	Shape	Grain size	Dimensions			Part number	Piece/ Carton
			B [mm]	C [mm]	L [mm]		
Bench stone	9010	fine	25	13	100	100438	1
Bench stone	9010	coarse	50	25	150	100467	1
Bench stone	9010	medium	50	25	150	100469	1
Bench stone	9010	fine	50	25	150	100470	1
Bench stone	9010	coarse	50	25	200	100499	1
Bench stone	9010	medium	50	25	200	101000	1
Bench stone	9010	fine	50	25	200	100558	1
Triangular file	9020	coarse	6		100	101145	6
Triangular file	9020	medium	6		100	101146	6
Triangular file	9020	fine	6		100	101147	6
Triangular file	9020	coarse	8		100	101148	6
Triangular file	9020	medium	8		100	101149	6
Triangular file	9020	fine	8		100	101150	6
Triangular file	9020	coarse	10		100	101151	6
Triangular file	9020	medium	10		100	101152	6
Triangular file	9020	fine	10		100	101153	6
Triangular file	9020	coarse	13		100	101154	6
Triangular file	9020	medium	13		100	101155	6
Triangular file	9020	fine	13		100	101156	6
Triangular file	9020	coarse	10		150	101157	3
Triangular file (unpolished)	9020	coarse	10		150	101205	3
Triangular file	9020	medium	10		150	101158	3
Triangular file	9020	fine	10		150	101159	3
Triangular file	9020	coarse	13		150	101160	3
Triangular file	9020	medium	13		150	101161	3
Triangular file	9020	fine	13		150	101162	3
Triangular file	9020	coarse	16		150	101163	3
Triangular file	9020	medium	16		150	101164	3
Triangular file	9020	fine	16		150	101165	3
Triangular file	9020	coarse	20		150	101166	3
Triangular file	9020	medium	20		150	101167	3
Triangular file	9020	fine	20		150	101168	3
Triangular file	9020	coarse	20		200	101175	3
Triangular file	9020	medium	20		200	101176	3
Triangular file	9020	fine	20		200	101177	3
Triangular file	9020	coarse	25		250	101181	3
Flat file	9010	coarse	8	4	100	100244	6
Flat file	9010	medium	8	4	100	100245	6
Flat file	9010	fine	8	4	100	100246	6
Flat file	9010	medium	10	5	100	100249	6
Flat file	9010	coarse	13	6	100	100252	6
Flat file	9010	medium	13	6	100	100254	6
Flat file	9010	fine	13	6	100	100255	6
Flat file	9010	coarse	10	5	150	100265	3
Flat file	9010	medium	10	5	150	100267	3
Flat file	9010	fine	10	5	150	100268	3
Flat file	9010	coarse	13	6	150	100270	3
Flat file	9010	medium	13	6	150	100271	3
Flat file	9010	coarse	16	8	150	100274	3
Flat file	9010	medium	16	8	150	100275	3
Flat file	9010	fine	16	8	150	100276	3

Other dimensions, forms and specifications available on request

Description	Shape	Grain size	Dimensions			Part number	Piece/ Carton
			B [mm]	C [mm]	L [mm]		
Flat file	9010	coarse	20	10	150	100277	3
Flat file	9010	medium	20	10	150	100279	3
Flat file	9010	fine	20	10	150	100280	3
Flat file	9010	medium	30	15	250	100305	2
Flat file	9010	fine	30	15	250	100306	2
Flat file-Kombi	9010	coarse/fine	25	15	200	100401	1
Half-round file	9040	medium	6	3	100	100150	6
Half-round file	9040	fine	6	3	100	100151	6
Half-round file	9040	medium	8	4	100	100165	6
Half-round file	9040	fine	8	4	100	100166	6
Half-round file	9040	medium	10	5	100	100168	6
Half-round file	9040	fine	10	5	100	100169	6
Half-round file	9040	medium	10	5	150	100177	3
Half-round file	9040	fine	10	5	150	100179	3
Half-round file	9040	medium	13	6	150	100182	3
Half-round file	9040	fine	13	6	150	100184	3
Half-round file	9040	medium	16	8	150	100187	3
Half-round file	9040	fine	16	8	150	100189	3
Half-round file	9040	medium	20	10	200	100215	3
Half-round file	9040	fine	20	10	200	100217	3
Round file	9030	medium	6		100	100013	6
Round file (unpolished)	9030	medium	6		100	100812	6
Round file	9030	fine	6		100	100016	6
Round file	9030	medium	8		100	100024	6
Round file	9030	fine	8		100	100027	6
Round file	9030	medium	10		100	100034	6
Round file	9030	fine	10		100	100036	6
Round file	9030	medium	10		150	100052	3
Round file	9030	fine	10		150	100054	3
Round file	9030	medium	13		150	100086	3
Round file	9030	fine	13		150	100092	3
Round file	9030	medium	16		150	100096	3
Round file	9030	fine	16		150	100097	3
Round file, conical, blunt	9030A	coarse	13	6	150	100342	3
Round file, conical, pointed	9030B	medium	8/pointed		75	100334	6
Round file, conical, pointed	9030B	fine	8/pointed		75	100335	6
Square file	9011	coarse	6	6	100	101097	6
Square file	9011	medium	6	6	100	101098	6
Square file	9011	fine	6	6	100	101099	6
Square file	9011	coarse	8	8	100	101100	6
Square file	9011	medium	8	8	100	101101	6
Square file	9011	fine	8	8	100	101102	6
Square file	9011	coarse	10	10	100	101103	6
Square file	9011	medium	10	10	100	101104	6
Square file	9011	fine	10	10	100	101105	6
Square file	9011	coarse	13	13	100	101106	6
Square file	9011	medium	13	13	100	101107	6
Square file	9011	fine	13	13	100	101108	6
Square file	9011	coarse	10	10	150	101109	3
Square file	9011	medium	10	10	150	101110	3
Square file	9011	fine	10	10	150	101111	3

Other dimensions, forms and specifications available on request

Description	Shape	Grain size	Dimensions			Part number	Piece/ Carton
			B [mm]	C [mm]	L [mm]		
Square file	9011	coarse	13	13	150	101112	3
Square file	9011	medium	13	13	150	101113	3
Square file	9011	fine	13	13	150	101114	3
Square file	9011	coarse	16	16	150	101115	3
Square file	9011	medium	16	16	150	101116	3
Square file	9011	fine	16	16	150	101117	3
Square file	9011	coarse	20	20	150	101118	3
Square file	9011	medium	20	20	150	101119	3
Square file	9011	fine	20	20	150	101120	3
Square file	9011	coarse	20	20	200	101127	2
Square file	9011	medium	20	20	200	101128	2
Square file	9011	fine	20	20	200	101129	2
Square file, Long sides rounded, R= 2 mm	9011	fine	20	20	200	174091	3

Other dimensions, forms and specifications available on request

Gloria

Gloria whetstones are ideal for processing delicate knives due to their synthetic resin bond. They produce a particularly sharp grind, ensure clean, burr-free cutting edges and thus extend the service life of the tools.

Usage:

Fine honing of razors and knives as well as cutting edges of carpenter's, shoemaker's and butcher's tools.

Recommendation for use:

Gloria whetstones should only be used in conjunction with pure, thin-bodied oil for finer grinding, petroleum or water. For cleaning and maintaining friction, it is recommended that a similar or a fine-grained stone should be used on the surface with the addition of one of the above liquids.



Description	Shape	B [mm]	Dimensions		Part number	Piece/ Carton
			C [mm]	L [mm]		
Bench stone	9010	50	16	150	101299	1
Bench stone	9010	50	20	200	100672	1

Sharpening stones

Sharpening stones are used in a wide variety of designs for sharpening and cleaning cBN and diamond grinding wheels.

The bond of the grinding wheel is reset and the abrasive grain is exposed.

Due to the applications in which they are used, these stones in Form 9010 are relatively soft and unpolished.



Selection aid according to grain size and bond type of cBN and diamond grinding wheels:

Grain size of the synthetic resin bonds		Grain size of the metal bonds		Part number
D10 - D35	B 10 - B35	D10 - D35	B10 - B35	313449
D35 - D181	B35 - B181	D35 - D91	B45 - B91	316484
D64 - D181	B64 - B181	D64 - D181	B64 - B181	310082
from D251	from B251	from D 251	from D251	309996

The following sharpening stones are in stock:

Grain type	Grain size [Mesh]	Bond	Hardness	Dimensions			Part number	Piece/ Carton
				B [mm]	C [mm]	L [mm]		
Silicon carbide	F 24	V	Q- hard	50	25	200	170203	1
Aluminium oxide, pink	F 70	V	G- soft	50	25	200	309996	1
Aluminium oxide, pink	F 80	V	K- hard	50	25	200	170899	1
Aluminium oxide, white	F 150	V	H- soft	25	13	100	170207	1
Silicon carbide	F 150	B	I- medium	50	25	200	170195	1
Aluminium oxide, white	F 180	V	F- soft	25	13	100	145402	1
Silicon carbide	F 180	V	L- hard	20	20	200	170196	2
Aluminium oxide, white	F 180	V	D- soft	50	25	200	316484	1
Aluminium oxide, white	F 180	V	F- soft	50	25	200	165216	1
Silicon carbide	F 180	B	J- medium	50	25	200	310082	1
Aluminium oxide, white	F 280	V	D- soft	50	25	200	313449	1

Stones specifically adapted to the process or other dimensions available on request.

Honing stones

Honing is considered to be the finest machining process used with metallic surfaces. It can be divided into internal round, external round, flat and profile honing.

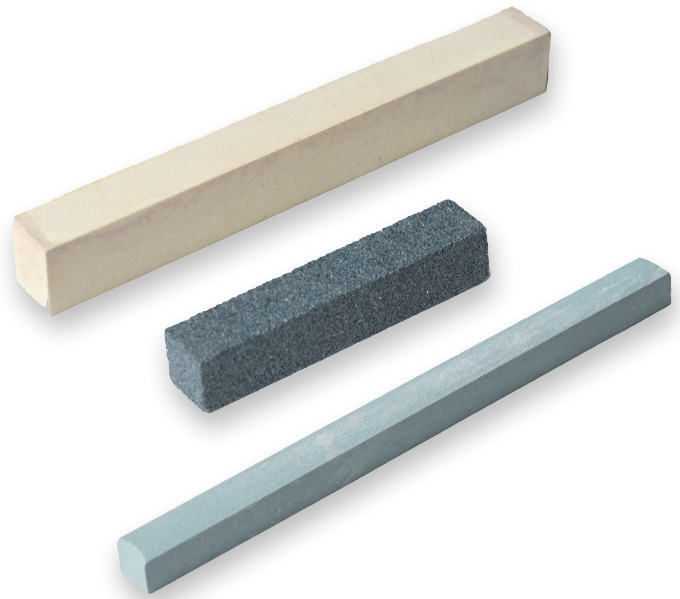
A distinction is made between long stroke honing and short stroke honing – a reference to the frequency of the oscillating motion.

In honing, the tool aligns itself even at low pressure.

This makes it possible to produce the finest surfaces within narrow dimensional tolerances and reduce pre-machining form errors. The surfaces produced have a high load-bearing capacity and are highly resistant to wear.

Honing stones shapes are summarised in the DIN-ISO 525 standard under Shape 54. A wide range of edge shapes can be produced, e.g. with bevels, chamfers or according to customer requirements.

Lapport honing stones blocks are available as standard in all qualities in dimensions from 5x5 mm to 50x40 mm, other dimensions on request.



Honing stones are manufactured according to the following tolerance table:

Nominal dimension [mm]	Tolerance [mm]
6	- 0,2
5 - 10	- 0,2
10 - 30	- 0,3
30 - 50	- 0,4

Guide values for grain size and achievable surface quality:

Grain size [Mesh]	Surface quality Rz [µm]	Application
F 80 - 100	8 - 4	Roughing/ Prehoning
F 120 - 150	5 - 3	
F 150 - 220	4 - 2,5	Prehoning
F 240 - 280	2,2 - 1,6	Finish honing
F 320 - 400	1,2 - 0,8	
F 400 - 1200	0,5 - 0,3	Superfinishing

Types of impregnation:

Sulfurising or waxing the honing stones improves their grinding properties.

The lubricating film that results from this reduces wear and improves the surface quality.

The type of impregnation must be individually adapted to the application.

Product range

Effgen

Diamond and CBN grinding tools

- All common types of bonds
- Special tools
According to drawing
- Profile grinding tools
- Cutting discs
- Shaft grinding tools
(drilling and milling tools)
- Mounted points
- Face grinding tools
- Band saws and saw wires
- Fine grinding tools
- Internal grinding tools
- Grinding segments
- Honing tools
- Diamond files

Dressing tools

- Profile dressing rolls
- Form dressing rolls
- MS-AL dressing rolls
- Dressing wheels
- Single and multi-grain dressers
- Dressing plates and blocks

Polishing tools

- Polishing tools with elastic bond
- Polishing pellets
- Polishing segments
- Polishing pastes

Lapport

Grinding wheels

Normal aluminium oxide grinding wheels

for grinding unhardened steel, forged and cast iron and for other general grinding work.

Semi-high-grade aluminium oxide grinding wheels

for grinding tool steel and similar materials with higher grinding pressures and better cutting results in cylindrical grinding.

High-grade aluminium oxide grinding wheels

for grinding fine tools, hardened steel parts, especially for internal, round and surface grinding, with the highest standards of precision.

Silicon carbide grinding wheels

for grinding grey, hard and red cast iron, aluminium, hard rubber, marble, granite, terrazzo, porcelain, glass, precious and semi-precious stones. In special green grain design for hard metals, such as widia, titanite and boehlerit.

HPG grinding wheels

combine the lower price of conventional grinding tools with the performance of ultra-hard grinding tools.

Grinding segments

in all shapes and specifications.

Sharpening and dressing tools

for resharpener and dressing of ultrahard

grinding tools.

Saw sharpening wheels for sharpening circular, gang and band saws, etc.

Control wheels

ceramic- and bakelite-bonded transport wheels for centreless cylindrical grinding tasks.

Honing and superfinishing stones

Honing stones

for superfinishing of surfaces, especially engine cylinders.

Superfinishing stones

for external honing or vibratory finishing of shafts.

Files and whetstones

Indiga oil whetstones and abrasive files

in all common sizes and shapes for honing metal and woodworking tools, such as milling cutters, knives, engraving and watchmaking tools etc., also for reworking hardened steel parts of all kinds.

Record-Arkansas oil stones

for fine honing of tools, knives, surgical and optical instruments, etc.

Gloria whetstones

for fine honing of razors and other fine knives with sensitive cutting edges.

Silicon carbide whetstones and abrasive files

for the same purpose as Indiga oil stones but with greater sharpness. Silicon carbide is suitable for carbide, widia, boehlerit, titanite etc.

Silicon carbide sliders and tong stones

for grinding stone of all kinds, such as marble, granite, terrazzo, as well as for dressing grinding wheels etc.

Silicon carbide handle files and scythe whetstones

for sharpening scythes, sickles, mower, chopper blades, etc., in the agricultural sector.



EFFGEN

Schleiftechnik

Günter Effgen GmbH

Am Teich 3-5
55756 Herrstein (Germany)

Tel.: + 49 (0) 67 85 18 0

sales@effgen.de
www.effgen.com

LAPPORT

Schleiftechnik

Lapport Schleiftechnik GmbH

Rosenhofstraße 55
67677 Enkenbach-Alsenborn (Germany)

Tel.: + 49 (0) 63 03 92 11 0

sales@lapport.de
www.lapport.com