



HARDNESS COMPARISON CHART

Compounds For Finishing & Precision Lapping

GRADE	KIND OF ABRASIVE	GRIT SIZE	RELATIVE HARDNESS	PURPOSE
100 Crystolon	Silicon Carbide	100	Hard & Sharp	All purpose compound for tool room lapping
220 Crystolon	Silicon Carbide	220	Hard & Sharp	
2F Crystolon	Silicon Carbide	320	Hard & Sharp	
3F Crystolon	Silicon Carbide	400	Hard & Sharp	
AC-280	Corundum	280	Medium Soft	
38-500	Hard Alumina	500	Hard	Roughing harder steels stainless, chrome plate, etc.
GK-5	Garnet	600	Hard	Soft metal, brass & bronze
600 Crystolon	Silicon Carbide	600	Hard & Sharp	
600 Alundum	Aluminum Oxide	600	Hard & Tough	Hard steels, alloys
305	Corundum	800	Medium Soft	Finishing softer steels
2600	Corundum	800	Medium Soft	
A-20X	Emery	800	Medium Soft	
GK-7	Garnet	800	Medium Soft	
GSC-800	Silicon Carbide	800	Hard & Sharp	
KM-9	Medium Hard Alumina	900	Medium Hard	
38-900	Hard Alumina	900	Hard	Hard steels, stainless, chrome plated, etc.
Levigated Alumina	Medium Hard Alumina	900	Medium Hard	Polishing hard metals
GSC-1000	Silicon Carbide	1000	Hard & Sharp	
KM-50	Medium Hard Alumina	1000	Medium Hard	
Green Rouge	Chromium Oxide	1 micron	Medium Soft	Polishing stainless
Red Rouge	Ferric Oxide	1 micron	Soft	Polishing soft metals
GK-10	Garnet	5 micron	Medium Soft	Soft metal, brass & bronze non-embedding
Cerium Oxide	Cerium Oxide	1–2 micron	Medium Hard	Polishing
Levigated Alumina 10–15 micron	Medium Hard Alumina	10–15 micron	Medium Hard	Polishing hard metals
Levigated Alumina 5–10 micron	Medium Hard Alumina	5–10 micron	Medium Hard	
Levigated Alumina 1–3 micron	Medium Hard Alumina	1–3 micron	Medium Hard	
38-100	Hard Alumina	4–6 micron	Hard	
38-1200	Hard Alumina	2–3 micron	Hard	Finishing hard steels
Linde B	Medium Hard Alumina	.05 micron	Medium Hard	Stainless, chrome

**Note: There are no hard and fast rules as to lapping. Each shop or individual operator works out the answer to a lapping problem by experimenting with a compound or compounds to find the proper grit size and kind of abrasive. Given the proper lap and proper selection of lapping compounds, an operator will combine them with his skill and patience to find the answer to a lapping problem. Lapping is: the balance of the abrasive grit size, the proper hardness or kind of abrasive, against the lapping time and pressure of the part on the lapping plate or lap. The proper balance is to have all the abrasive particles completely break down into inert sizes and to have the desired amount of metal removed in the process of wearing out the abrasive power of the particles. Lapping has four main purposes: to obtain greater accuracy as to dimensions, to improve imperfections in shape, to obtain a smooth or polished surface and to improve the fit between surfaces. Examination of the above chart will show that we produce a wide range of abrasives, all kinds of grit sizes and a wide range as to relative hardness. From such a wide range of compounds a selection should solve most of your lapping problems. The abrasives are suspended or mixed into a special oily paste base and are ready for use. We developed and formulated this base 50 years ago and it has been found most suitable for all kinds of lapping. They may be used as formulated or they can be mixed with our LMKT lapping lubricant to meet special conditions. The lapped metal parts can be easily cleaned with our own Lap-O-Valve® cleaner/degreaser. We make many other abrasive products in addition to those listed. We have many compounds for all kinds of valves, taper or plug, safety relief, pressure, control, etc. We can supply compounds for lapping gears of all types, sizes and metals, from the large industrial and turbine gears to the tiny gears in computer systems. We can formulate for your shop special compounds containing special grit sizes to satisfy your individual shop conditions. Years of studying lapping problems and the formulation of many special compounds has given us a wide experience for solving all kinds of unusual lapping problems. Available also, are Diamond and Borazon™ CBN compounds and slurries for your use. We invite your inquiries as to solving your lapping problems and for you to try our sample kit.*

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