

FLUIDCHEM VALVES (I) PVT. LTD.

ISO 9001 : 2015 CERTIFIED CO.



**Lapping Consumables
Product Catalog**

SELF ADHESIVE ABRASIVE PAPERS

At **FLUIDCHEM** we listen, we observe and we optimize. We know that the efficiency of your valve grinding and lapping machine relies on the abrasives used. The wrong abrasive for the wrong application will either slow you down significantly or in worst case, damage the valve seat. Our abrasive papers are specially designed for valve grinding and lapping purpose. They have been proven at our testing facilities and out on the field too. **FLUIDCHEM** offers a full selection of premium performance abrasive paper sheets, discs and rings providing an optimum solution for virtually all valve grinding and lapping application.

FLUIDCHEM's abrasive consumables are available in various types of grains like Aluminium Oxide, Silicon Carbide and Zirconium Oxide.

SELF-ADHESIVE GRINDING DISCS (AD)



TYPE OF GRAIN	OUTER Ø IN MM	GRIT	ITEM CODE	QTY PER BOX	SUITABLE WITH MODEL
Aluminium Oxide	20mm, 25mm, 30mm, 35mm, 40mm and 45mm	60, 80, 120, 220, 400, 600	AD-Size-AL-Grit	100	GHF-A, GHF-X
Silicon Carbide	20mm, 25mm, 30mm, 35mm, 40mm and 45mm	60, 80, 120, 220, 400, 600, 800, 1000, 2000	AD-Size-SI-Grit	100	GHF-A, GHF-X, GHF-XS
*Zirconium - Aluminum oxide	20mm, 25mm, 30mm, 35mm, 40mm and 45mm	36, 60, 80	AD-Size-ZR-Grit	100	GHF-A, GHF-X, GHF-XS

Note: Other Grits and Sizes are available on request

*not available from stock

Order example:

Abrasive Grinding Ring with Outer Ø40 mm in the grain type Aluminum Oxide (Al), Grit220 ->AD-040--AL-0220

SELF-ADHESIVE GRINDING RINGS (AR)



TYPE OF GRAIN	OUTER Ø IN MM	GRIT	ITEM CODE	QTY PER BOX	SUITABLE WITH MODEL
Aluminium Oxide	50mm, 60mm, 80mm and 100mm	60, 80, 120, 220, 400, 600	AR-Size-AL-Grit	100	GHF-B, GHF-C, GHF-D, GHF-E, GHF-Y, GHF-Z
Silicon Carbide	50mm, 60mm, 80mm and 100mm	60, 80, 120, 220, 400, 600, 800, 1000, 2000	AR-Size-SI-Grit	100	GHF-B, GHF-C, GHF-D, GHF-E, GHF-Y, GHF-Z, GHF-YC
*Zirconium - Aluminum oxide	50mm, 60mm, 80mm and 100mm	36, 60, 80	AR-Size-ZR-Grit	100	GHF-B, GHF-C, GHF-D, GHF-E, GHF-Y, GHF-Z

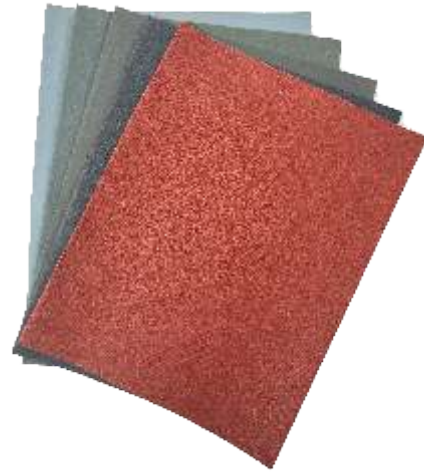
Note: Other Grits and Sizes are available on request

*not available from stock

Order example:

Abrasive Grinding Ring with Outer Ø80 mm in the grain type Aluminum Oxide (Al), Grit220 ->AR-080--AL-0220

SELF-ADHESIVE ABRASIVE SHEETS (AS)



TYPE OF GRAIN	SIZE	GRIT	ITEM CODE	QTY PER BOX	SUITABLE WITH MODEL
Aluminium Oxide	230 x 280mm	60, 80, 120, 220, 400, 600	AS-AL-Grit	25	With all models
Silicon Carbide	230 x 280mm	60, 80, 120, 220, 400, 600, 800, 1000, 2000	AS-SI-Grit	25	With all models
*Zirconium - Aluminum oxide	230 x 280mm	36, 60, 80	AS-ZR-Grit	25	With all models

Note: Other Grits and Sizes are available on request

*not available from stock

Order example:

Abrasive Sheet 230 x 280 mm in the grain type Aluminum Oxide (Al), Grit220 -> AS-AL-0220

SELF-ADHESIVE ABRASIVE ANGLE PAPER (AA)



TYPE OF GRAIN	SIZE	GRIT	ITEM CODE	QTY PER BOX	SUITABLE WITH MODEL
Aluminium Oxide	30 x 35 50 x 30 50 x 50 50 x 45	60, 80, 120, 220, 400, 600	AS-Size-AL-Grit	100	GHF-XA, GHF-YA
Silicon Carbide	30 x 35 50 x 30 50 x 50 50 x 45	60, 80, 120, 220, 400, 600, 800, 1000, 2000	AS-Size-SI-Grit	100	GHF-XA, GHF-YA
*Zirconium - Aluminum oxide	30 x 35 50 x 30 50 x 50 50 x 45	36, 60, 80	AS-Size-ZR-Grit	100	GHF-XA, GHF-YA

Note: Other Grits and Sizes are available on request

*not available from stock

Order example:

Abrasive Angel Paper 30 x 35 mm in the grain type Aluminum Oxide (Al), Grit220 -> AA-30x35-AL-0220

DIAMOND LAPPING PASTE

Diamond Lapping Paste manufactured by **FLUIDCHEM** complies with global quality norms and parameters, and are safely used to lap the most difficult to cut materials. Formulated using premium grade raw materials and best-of-breed processing technology, our Diamond Lapping Paste can be employed on a wide variety of industrial applications.



At **FLUIDCHEM**, we maintain ready stock of the highest quality Diamond Lapping Paste in different grades. It is extensively demanded by manufacturers of mechanical seals, bearing seats, valve seats, tungsten carbide dies, contact lens moulds and other similar industries (See below table) where a high degree of polish is required. Our diamond lapping paste can be made available in super fine, fine, medium and rough pastes and is packed in a handy 5gm syringe that makes dispensing of the diamond compound easy and hassle free.

All Diamond Lapping Compounds delivered from our end are tested on several quality parameters prior to the dispatch and can be availed at highly competitive rates.

COLOUR CODE

The diamond grain size of any particular paste can be instantly determined by its colour. This is further facilitated by the paste being supplied in translucent syringes. A list of these colours as they relate to the varying grades is given in our brochure as well as in the table below.

GENERAL USAGE HINTS

It is important to note that in many cases it is necessary to use two or three grades of **FLUIDCHEM** Lapping Paste where the starting surface and that which is finally desired is appreciably different. Use the paste as sparingly as possible. Initially apply just sufficient thinner to spread the paste over the working surface and then subsequently as much as is required to maintain lubrication.

CORRECT CHOICE OF COMPOUND CONCENTRATION

1. Use standard concentration of **FLUIDCHEM** diamond compounds for hardened steel, mild steel and chrome Plate.
2. Use high concentration for tungsten carbide and other hard materials.

A RULE OF THUMB FOR COMPOUND SELECTION

Use high Concentration of compound on materials over Rockwell C 50, and standard Concentration under Rockwell C 50.

HINTS FOR LAPPING

1. Clean equipment and area are of utmost importance for fine surface finish.
2. It is essential to thoroughly clean work surface completely before proceeding from coarser compound grade to a fine grade.
3. Laps must never be inter-changed between different grades. Use separate laps for each grade of compound.
4. Successive operations for finishing with different grades should always cross cut previous polishing lines.
5. Use **FLUIDCHEM** compound sparingly. Excessive amounts do not increase efficiency.

Classification	Micron	Code No	Colour Code	Guide for recommended use
For Operations requiring precise finishes and tolerances	Super Fine Polish	D-1	Blue	Metallographic finish on steel and very high finish on steel and hard metals.
		D-2	Blue	For finish Tungsten Carbide dies, mirror polish on steel and hard steel moulds and gauges etc.
Final finishing grades for moulds, dies, seals, flat lapping and production lapping	Fine Polish	D-3, D-4	Green	Mirror Polish and high finish on tungsten carbide, finest polish on sapphire, ruby, steel
		D-5, D-6 D-7, D-8	Yellow	Mirror Polish on steel, Tungsten Carbide and Diamond
	Medium Polish	D-10, D-14	Orange	Removal of working scratches on steel and pre-polishing of steel and soft metals. Medium Polish on Tungsten Carbide, pre-polishing on Sapphire and ruby.
Grade for pre-finishing hard metallic and non metallic materials, tungsten carbide, ceramics etc.	Medium Cutting	D-15, D-20 D-25	Pink	Rapid Stock removal with better finish on steel and Tungsten Carbide
		D-30, D-40	Brown	Uniform stock removal on steel, Generation of uniform surface and medium cutting on Tungsten Carbide
Maximum stock removal for hogging and rigging operations in extremely hard materials	Rough Cutting	D-50, D-60	Red	Fast Stock removal on Tungsten Carbide and any hard metal and enlarging the bore of drawing dies.
		D-80 D-100	Black	For Speedy cutting on Tungsten Carbide and Steel and any metal.

Diamond Compound is available in standard & high concentration in 5 gm syringe packing in oil & water soluble.



CBN Discs (Cubic Boron Nitride Discs)

FLUIDCHEM's CBN Disc is made from Cubic Boron Nitrite. This material is one of the hardest materials available, second only to diamonds. Cubic Boron Nitride is far superior to classic abrasives such as aluminium oxide and silicon carbide in terms of hardness and does not react chemically with steel at higher temperatures. CBN is the ideal abrasive for grinding high-speed steels (HSS), high-alloy tool steels and chromium steels (12% Cr). Choosing to use CBN Disc for grinding valve seats will give you faster and better results with our In-Situ Valve Grinding and Lapping Machines.



We also manufacture CBN Discs as per client drawings and specifications.

SILICON CARBIDE PASTE

FLUIDCHEM's Silicon Carbide Lapping Compound is a oil mix abrasive for smoothing, lapping and finishing of metal surfaces and for the precision mating of metal parts. It produces a smooth, flat surface and leaves a rust preventing film.

SILICON CARBIDE PROPERTIES

- Low density
- High strength
- Low thermal expansion
- High thermal conductivity
- High hardness
- High elastic modulus
- Excellent thermal shock resistance
- Superior chemical inertness

APPLICATIONS:

- Ideal for cleaning, lapping, grinding, sharpening, honing and polishing.
- To remove burrs, surface defects, carbon and corrosion.
- For lapping and grinding on valve seats.
- Used in the assembly, repair and maintenance of engine and drive train of motorized vehicles.
- Used on fixed and moving turbine components, Suction box covers, Seals, bearings.
- Used in the repair and maintenance of heat exchangers and also semiconductor process equipment.



Grit Available : Extra Coarse, Coarse, Medium, Fine

Type : Paste

Packing : Available in Sealed Plastic Jars in Standard Packings of 400gms.

Minimum Order Quantity : 12 Packs of 400gms of any one grit type.

Note : Green / Black Silicon Carbide Powder is also available in a packing of 1kg, 5kg, 25kg.

Boron Carbide Paste

FLUIDCHEM's Boron Carbide Pastes are general-purpose abrasives and lapping agents. The high material-removal rates and the surface qualities that can be achieved permit cost-effective lapping and fine grinding of precision parts of all kinds from a diverse range of materials. This is the result of the extreme hardness of boron carbide.

Advantages

- Short machining times thanks to high material-removal rates
- High surface quality thanks to the narrow grain-size distribution
- Heat resistance up to 350°C
- Uniform grinding even at high temperatures
- Low environmental impact

Applications

Wire drawing Industry: Polishing of...

- Drawing dies.
- Wire guides.

Sugar Industry: Re-lapping of...

- Mechanical seals of pumps.
- Compressor valve plates.
- Steam stop valves for Boilers and Super heaters.

Thermal Power Stations: Re-lapping of...

- Main steam stop valves for Boilers.
- Main steam stop valves for Super heaters.
- Safety valves for Boilers.
- Control valves (Globe valves) for Boilers.
- High pressure control valves for Turbines.
- Mechanical seals.
- Seal runners of mechanical seals.

Automobile Industry: Lapping and super finishing of...

- Tappet valves.
- Transmission gears.
- Fuel Injection nozzles.
- Cylinder head liners.
- Transmission cage body, gearbox body etc.

Lapping and Finishing of...

- Carbide tipped tools, wire drawing dies, file cutting chisels, punching tools, cutters and reamers.
- Castings, hardened metal surfaces, optical lenses, natural and synthetic gemstones, ceramics, eyeglasses etc.
- Valves, valve seats, piston rings, cylinder heads, liners and bores, ball bearings, hardened facings, press moulds, dies and punches etc.



GRIT	BORON CARBIDE
EXTRA COARSE	ME 80, ME 100
COARSE	ME 150, ME 180, ME 220
MEDIUM	ME 280, ME 400, ME 600
FINE	ME 800, ME 1000

Type: Powder / Paste

Packing: Available in Sealed Plastic Jars in Standard Packings of 100gms, 250gms, 500gms and 1000gms.



PORTABLE (IN-SITU) VALVE GRINDING AND LAPPING MACHINES



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