A Polyhose GROUP COMPANY

Polymak

SOLUTIONS PROVIDER FOR INDUSTRY AND TRADE

QUALITY & SAFETY



Polymak

20 WHEELS OF SUCCESS

20 CRORE PIECES SOLD

AUGUST 2024

WWW.POLYMAK.CO.IN

WIDEST RANGE OF CUTTING & GRINDING WHEELS

100 trained field staff to offer technical support and trials

State of the art manufacturing facilities for abrasives, Flap discs and coated abrasives.

2 1 3

Ranked 3rd amongst the leading manufacturers of thin wheels in India.



MAKE IN INDIA

Polymak ABRASIVES

Polymak Abrasives manufactured by Ital Plastic Compounds Pvt. Ltd., situated in Irungatukottai near Chennai, which has the facility to manufacture a wide range of thin grinding and cut-off wheels. The eco – friendly, state- of –the- art factory spread over 135000 sq. ft. is equipped with the latest moulding machines, ovens, testing & storage facilities.

Quality & safety being the very foundation of the manufacturing policy, abrasives are manufactured in compliance with EN12413 standards.

Polymak abrasives are guaranteed to give the best in terms of grinding and cutting performance, life and safety; certainly proving to be a cut above the rest.



We have the following sizes listed below in Aloxite, WA, Silicon carbide and Zirconia Abrasives.

CUTOFF WHEELS	DEPRESSED CENTRE WHEELS	FLAP DISCS	FIBRE DISCS
100 mm x 3.0 mm x 16 mm	100 mm x 4.0 mm x 16 mm	100 mm x 16 mm MB A 36-40-60-80-120	100 mm x 16 mm ZA 36-60-80-120
105 mm x 1.0 mm x 16 mm	100 mm x 5.0 mm x 16 mm	100 mm x 16 mm FB A 36-60-80-120	125 mm x 22 mm ZA 36-60-80-120
105 mm x 1.2 mm x 16 mm	100 mm x 6.0 mm x 16 mm	100 mm x 16 mm MB ZA 36-40-60-80-120	180 mm x 22 mm ZA 24-36-60-80-120
105 mm x 2.0 mm x 16 mm	115 mm x 6.0 mm x 22.23 mm	100 mm x 16 mm FB ZA 36-60-80-120	125 mm x 22 mm CER 36-60-80-120
107 mm x 1.0 mm x 16 mm	125 mm x 5.0 mm x 22.23 mm	115 mm x 22 mm MB A 36-40-60-80-120	180 mm x 22 mm CER 24-36-60-80-120
115 mm x 1.2 mm x 22.23 mm	125 mm x 6.0 mm x 22.23 mm	115 mm x 22 mm FB A 36-60-80-120	
115 mm x 2.5 mm x 22.23 mm	125 mm x 7.0 mm x 22.23 mm	115 mm x 22 mm MB ZA 36-40-60-80-120	
115 mm x 3.0 mm x 22.23 mm	180 mm x 4.0 mm x 22.23 mm	115 mm x 22 mm FB ZA 36-60-80-120	
125 mm x 1.2 mm x 22.23 mm	180 mm x 5.0 mm x 22.23 mm	180 mm x 22 mm FB A 36-60-80-120	
125 mm x 1.6 mm x 22.23 mm	180 mm x 6.0 mm x 22.23 mm	180 mm x 22 mm FB ZA 36-60-80-120	
125 mm x 3.0 mm x 22.23 mm	180 mm x 6.2 mm x 22.23 mm		
180 mm x 1.2 mm x 22.23 mm	180 mm x 6.5 mm x 22.23 mm		
180 mm x 1.6 mm x 22.23 mm	180 mm x 6.7 mm x 22.23 mm		
180 mm x 3.0 mm x 22.23 mm	180 mm x 6.8mm x 22.23 mm		
180 mm x 4.0 mm x 22.23 mm	180 mm x 7.0mm x 22.23 mm		
230 mm x 1.9 mm x 22.23 mm	230 mm x 6.0 mm x 22.23 mm		
230 mm x 3.0 mm x 22.23 mm	230 mm x 7.0 mm x 22.23 mm		
305 mm x 2.8 mm x 25.4 mm			
305 mm x 3.0 mm x 25.4 mm			
355 mm x 2.8 mm x 25.4 mm			
355 mm x 3.0 mm x 25.4 mm			
405 mm x 3.0 mm x 25.4 mm			
405 mm x 3.2 mm x 25.4 mm			
405 mm x 4.2 mm x 25.4 mm			

- Type 27
- Type 42
- Type 41

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"Polymak range of abrasives meet the requirements of a wide spectrum of industries. Polymak abrasives are marketed by Polymak Tools India Pvt. Ltd., a pan India marketing organization with more than a decade old experience in abrasives and related accessories. Managed by professional with over 100 years of experience between them with thorough knowledge of product applications and the market."



Polymak CUT-OFF WHEELS

ABOUT THE PRODUCT

Polymak cut-off wheels with a minimum wheel thickness of 1 mm and maximum thickness of 4 mm and has excellent cutting properties, great stability and minimum burr formation.

TYPICAL MATERIALS FOR POLYMAK CUT-OFF WHEELS

- Steel
- Stainless steel
- Construction steel
- Non-Ferrous - metals
- Cast materials
- Pipes
- Flat iron
- Tins
- Solid materials
- Carbon steel

TYPICAL APPLICATIONS FOR THESE PRODUCTS

- Structural steel
- Shipyards
- Steelwork
- Foundries
- Plant Construction
- Metal works
- Vehicle construction





While the exhaustive program of our abrasives will cater to most grinding and cutting needs, abrasives could also be custom manufactured for specific applications. The above mentioned wheels can be used with Cut-off machines, Electric & Pneumatic Angle Grinders.

Polymak GRINDING WHEELS

ABOUT THE PRODUCT

Polymak grinding wheels are renowned for maximum stock removal in a shortspan of time. Polymak grinding wheels are used in all major surface grinding applications, as well as for edge beveling and burr removal.

Polymak offers professional advice in selecting the right grinding wheel for your applications and also trials at your site.

Our technical advisors would be very happy to offer any technical or help when you have a specific problem.





PRACTICAL TIPS

This thumb rule applies to grinding wheels: the harder the material, the softer the bond of the grinding wheel. In addition, the application plays a very decisive role.

A hard bond is more suitable while grinding corners and burrs as they have sharp edges and remove the grit out of the bond.

While working on surfaces a soft wheel would be suitable.

Polymak DE-CODING THE LABEL



Product Brand

Abrasive Type

Grain Size

Grade of Hardness

Bond

Max RPM

Speed

Material

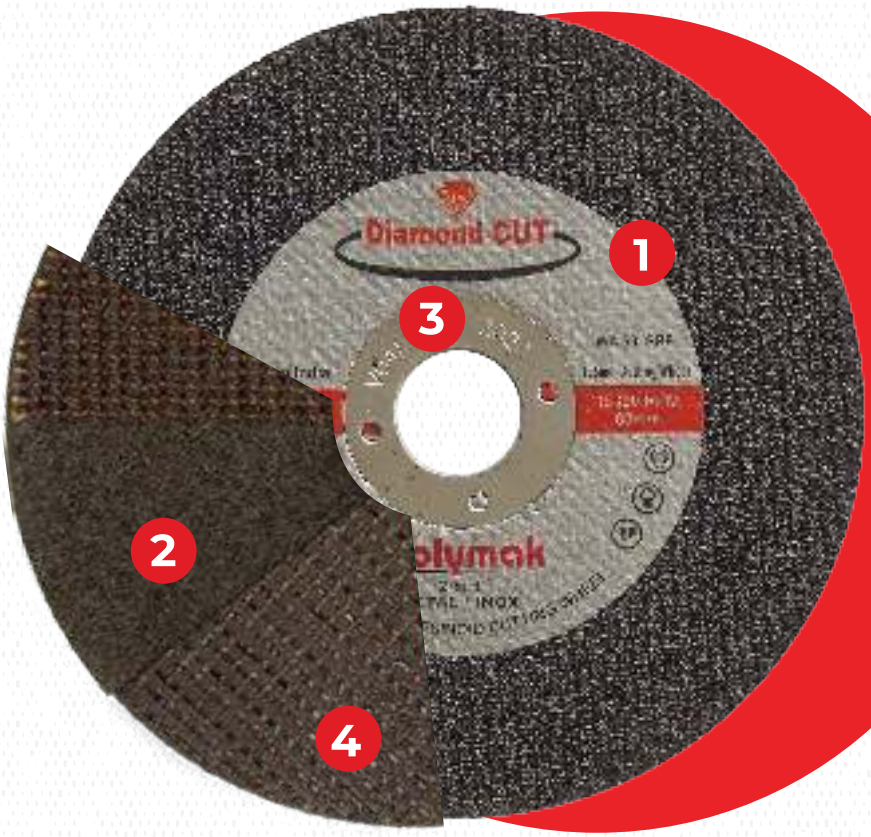
Safety Standards

Safety Pictograms

Product Brand

Polymak

CUT-OFF AND GRINDING WHEELS



1) LABEL AND COVER SHEET

The label includes all of the important information on the product, manufacturer and information on the proper usage of the grinding tool.

2) MIXTURE

The Girt: Today all grit types are only produced synthetically. Only grit produced synthetically can ensure continuously high wear and wheel quality.

Resins and fillers: Additional, important components for cutting and grinding wheels are resins, (in liquid and dry form), and fillers. These components are key in determining the wheel properties, such as stability, stock removal rate, shear strength and can be adjusted to meet the needs of the specific application.

3) METAL RING

Provides information on the expiry date of the wheel.

4) GLASS FIBRE WHEEL

Glass fibre is a reinforcing layer to ensure stability and increases the safety of the cut-off wheel. The number and strength of the glass fibre layers is dependent upon wheel type and application. The higher the potential lateral load on a cut-off wheel (it is greater during free cutting than during stationary cutting). The more glass fibre that the cutting wheel must contain, or the contained glass fibre must be more stable. Particularly thin material is used for thin cutting wheels (0.8 mm to 1.0 mm), ensure that a large grit ratio is achived between the layers. Grinding wheels are constructed with at least 2 glass fibre layers.

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CUT-OFF AND GRINDING WHEELS

APPLICATIONS GUIDE





Quarter	
V 01	January-March
V 04	April-June
V 07	July-September
V 10	October-December

SAFETY AND STORAGE

The shelf life of cut-off wheels and grinding wheels is primarily determined by their moisture content. Cut-off wheels and grinding wheels that are subjected to increased humidity after they are manufactured lose their original service life. Correct storage ensures a consistent long service life. Cut-off wheels and grinding wheels that are subjected to water or steam are a safety risk. The user is obligated to use the product correctly. Cut-off wheels and grinding wheels should not be used after the expiry date.

WORKING SAFELY...

... by being careful and recognising risks

Please avoid the risks listed below when working with cut-off wheels and grinding wheels.

- contact with rotating abrasive wheels
- abrasive wheel breakage
- grinding dust and debris
- vibration
- noise

... through with personal protective gear

Goggles, gloves, ear muffs and dust masks must be worn. When working on hard grinding applications additional protective gear is required, such as face protection, leather aprons and safety boots.

... with protective machine guards

Machine guards are supplied with the grinding machine and may not be changed or removed. When using cup grinding wheels the outer surface must be completely enclosed.

In addition, cup grinding wheels may only be used in combination with an adjustable wheel guard, to balance the wear on the wheel and to keep the exposure of the wheel at a minimum.

... through visual inspection and performance of checks prior to mounting

Ensure the wheel RPM matches the machine RPM setting and avoid exceeding the maximum admissible operating speed. Carefully check the cutting-off wheel and grinding wheel for damage. If the cut-off wheel or grinding wheel is damaged, do not use the damaged product. Our cut-off wheels and grinding wheels are marked with the corresponding safety pictograms.

... through correct use

Ensure that the respective wheel is being used correctly. Avoid damage to the mounting bore or to the wheel through jerks, excessive force or falls. Ensure that the wheel is correctly and securely mounted and use the correct mounting flange. Prior to starting work, the abrasive wheel should run at operating speed for atleast 30 seconds. Please observe the FEPA safety regulations and the European Standard **ENI2413**

The peripheral speed and grinding pressure are important parameters for achieving optimal cut-off and grinding wheel results.

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CUT-OFF AND GRINDING WHEELS

APPLICATIONS GUIDE

THE OPTIMAL SPEED

Too low

If the RPM of the machine is too low, the cut-off wheel and grinding wheel tend to “jump”, and the wheel edges wear down un evenly. Particularly with thin material cross sections, such as cutting tin or wire, this causes the grit to be separated from the bond and the wheel wear speed is above average.

Optimal

Polymak cut-off wheels and grinding wheels are high performance products and were developed such that best wheel performance (measured according the stock removal volume to wheel wear ratio) is achieved in the range right below the maximum peripheral speed. Keep the machine running at a consistently high RPM and, if needed, select a more powerful machine.

Too high

The maximum RPM and peripheral speed is printed on the label of each wheel. For your own safety, please be sure not to exceed the recommended speeds when grinding.

THE CORRECT GRINDING PRESSURE

An important requirement for a satisfactory cutting result is the correct grinding pressure. A common mistake is to reduce the grinding pressure to preserve the wheel and extend the cutting life of the wheel. If this is done, the material overheats (turns blue); the cut-off wheel becomes clogged and “burns up”. This is why the grinding pressure should always be set such that the cutting time is as short as possible. This is particularly true for heat sensitive material with large material cross sections.

THE PROPER HARDNESS

...for cut-off wheels

Generally, the rule of thumb when selecting the



correct cut-off wheel is : the harder the material, the softer the abrasive bond. The reason: the service life of a cut-off wheel is dependent on whether the cutting surface of the workpiece hardens or not. Overheating results in the wheel “glazing” and the cutting properties are negatively affected. In this case, the hardness of the bond should be decreased and the softer cut-off wheel should be used.

...for grinding wheels

The rule of thumb also applies to grinding wheels: the harder the material, the softer the grinding wheel bond. In addition, the application plays a decisive role. Corner grinding and the grinding of burrs and sharp edges can cause grit to be removed from the bond. We suggest the selection of a hard bond. On the other hand, when working on surfaces or small weld seams a wheel that is too hard would become dull and would no longer be effective. It would have a good service life, but would also have a low stock removal rate and high work costs. A medium or soft wheel bond would be best for finish grinding.

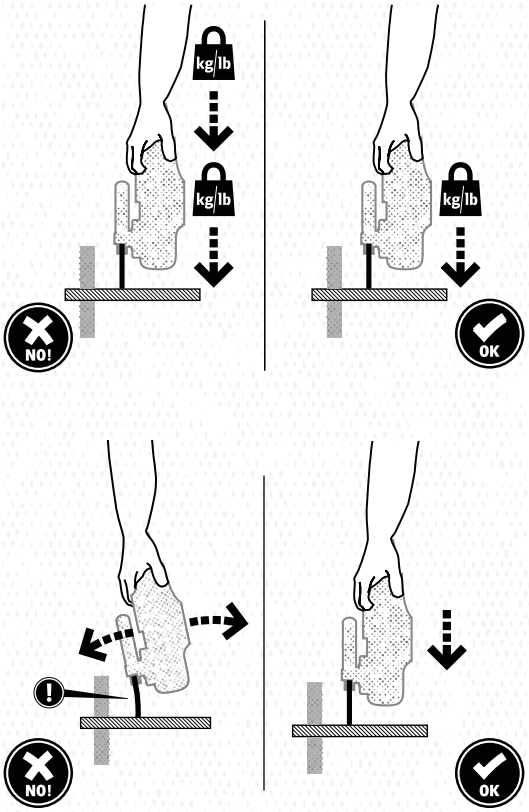
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CUT-OFF AND GRINDING WHEELS

APPLICATIONS GUIDE

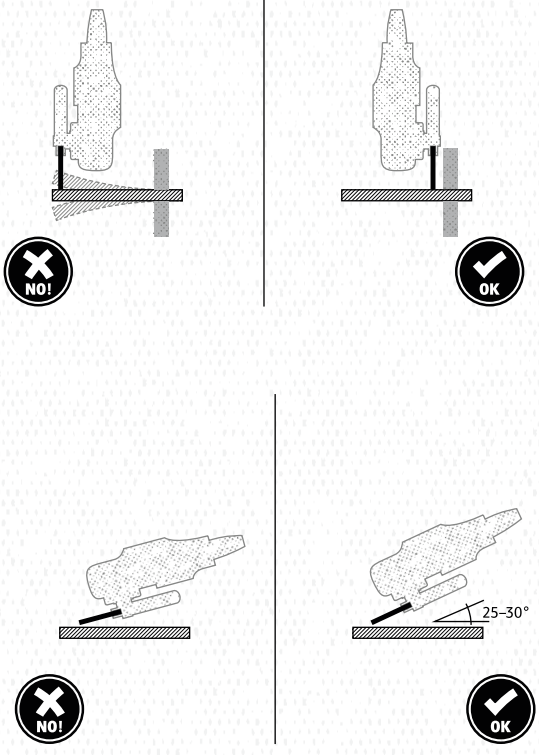
CORRECT APPLICATION/TECHNIQUES FOR CUT-OFF

Pressure may only be placed on the cut-off wheel from a radial direction. This is the only way to avoid wobbling, buckling and wheel breakage, especially when applying a high level of cutting pressure. The workpiece that is to be cut-off should be properly affixed to the workbench to ensure that the wheel does not slide off to the side. In addition, we recommend that the material is affixed as close to the cutting site as possible to ensure that it does not vibrate, flutter or slip to the side.



CORRECT APPLICATION/TECHNIQUES FOR GRINDING

Grinding wheels work best at 35 degree angle to the workpiece. This angle provides the best stock removal to wheel wear ratio. If possible, always select this angle. When grinding and the angle is below 15 a very thin edge which levels off is formed around the circumference of the wheel. Even minimal changes to the angle can result in a situation in which the grinding pressure can no longer be absorbed resulting in the grinding wheel slipping to the side. Valuable grit is not used and an imbalance is created that results in having to replace the wheel prematurely.



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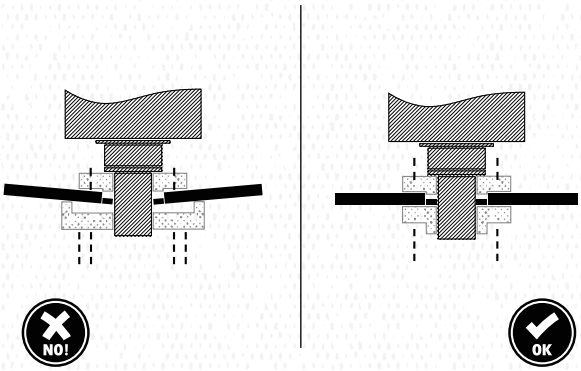
CUT-OFF AND GRINDING WHEELS

APPLICATIONS GUIDE

THE CORRECT MOUNT

... for better power transmission

Cut-off wheels and grinding wheels are mounted to the machine with side flanges. The flange elements are responsible for transferring power to the wheel. For reasons of safety it is extremely important that defective or incorrect flanges are not used.

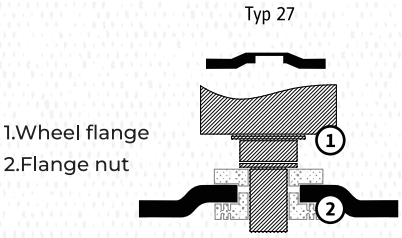


... and for more safety

The use of wheel flange FL 76 provides increased lateral stability anduser control, specifically when using thin cut-off wheels with a flat form and diameter of 180 mm and 230 mm.The applicable regulations and standards must be complied with when using the wheel flange. The contact surface and diameter of the wheel flange must match. Using wheel flanges with diameters that do not match is prohibited.

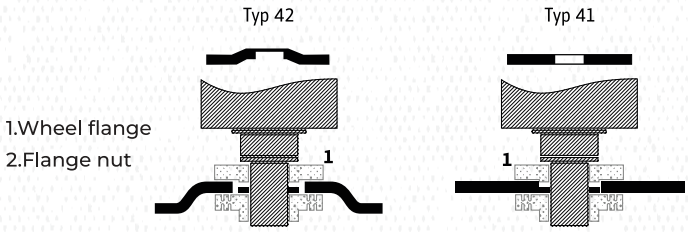
DEPRESSED CENTRE GRINDING WHEELS

4 - 10mm thickness



FLAT AND DEPRESSED CENTRE CUT-OFF WHEELS

0.8 - 4mm thickness



Polymak ABRASIVE FLAP DISCS

APPLICATIONS GUIDE

1. Green label indicates the max. peripheral speed

2. Safety recommendations
Language neutral pictograms

3. Dimensions
Product dimensions in millimetre

4. Metal ring

5. Grit size



ABOUT THE PRODUCT

Since their market launch, the Polymak abrasive Flap disc has successfully taken the place of the grinding disc in many areas of surface finishing.

The performance of the abrasive Flap disc, with its fan-shaped radial arrangement of cloth grinding flaps, far exceeds that of other abrasive products.

Polymak abrasive Flap discs are made of zirconia alumina, ceramic, or aluminium oxide coated flaps fastened to glass fibre-reinforced or plastic backing plates.

The even arrangement of the flaps guarantees high flexibility, constant high grinding performance and low vibrations.



Polymak FIBRE DISCS

Our individually Coated Fibre disc are designed to produce consistent finish combined with a fast cut rate on a variety of job materials. Produced individually with resin & grain consternation on periphery of the disc, these products give world class performance.

Available with Aluminium Oxide, Zirconia Alumina & Ceramic abrasive grains, these products are available on a variety of job materials including wood, mild steel, stainless steel, hardened & alloy steels.



Z PLUS ZIRCONIA FIBRE DISCS RANGE	
180x22mm	POLYMAK 7 Inch Abrasive Disc -ZA24
	POLYMAK 7 Inch Abrasive Disc -ZA36
	POLYMAK 7 Inch Abrasive Disc-ZA60
	POLYMAK 7 Inch Abrasive Disc-ZA80
	POLYMAK 7 Inch Abrasive Disc-ZA120
125x22mm	POLYMAK 5 Inch Abrasive Disc -ZA36
	POLYMAK 5 Inch Abrasive Disc-ZA60
	POLYMAK 5 Inch Abrasive Disc-ZA80
	POLYMAK 5 Inch Abrasive Disc-ZA120
100x16mm	POLYMAK 4 Inch Abrasive Disc -ZA36
	POLYMAK 4 Inch Abrasive Disc-ZA60
	POLYMAK 4 Inch Abrasive Disc-ZA80
	POLYMAK 4 Inch Abrasive Disc-ZA120



A PLUS ALO FIBRE DISCS RANGE
FFD4(A+)A36 100 mm Fibre Disc G36
FFD4(A+)A60 100 mm Fibre Disc G60
FFD4(A+)A80 100 mm Fibre Disc G80
FFD4(A+)A120 100 mm Fibre Disc G120
FFD5(A+)A36 125 mm Fibre Disc G24
FFD5(A+)A36 125 mm Fibre Disc G36
FFD5(A+)A60 125 mm Fibre Disc G60
FFD5(A+)A80 125 mm Fibre Disc G80
FFD5(A+)A120 125 mm Fibre Disc G120



CERAFLEX CREAMIC FIBRE DISCS RANGE
EXITFLEX - 7Inch Abrasive Disc C-36
EXITFLEX - 7Inch Abrasive Disc C-60
EXITFLEX - 5Inch Abrasive Disc C-36
EXITFLEX - 5Inch Abrasive Disc C-60
EXITFLEX - 4Inch Abrasive Disc C-36
EXITFLEX - 4Inch Abrasive Disc C-60



MADE IN INDIA
MADE FOR THE WORLD

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MARKETING OFFICE

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