

TECHNICAL & REFERENCE MATERIAL



COATED ABRASIVES

OVERVIEW



What is a Coated Abrasive?

A coated abrasive is a product that consists of a thin layer of abrasive grain attached to a substrate such as paper, cloth, etc. Coated abrasives come in a variety of forms such as sheets, discs, rolls, specialties, or belts.

Components of Coated Abrasives

Abrasive Grains

Coated abrasives are manufactured using abrasive grains, the most common being aluminum oxide, zirconium, ceramic, silicon carbide and garnet. The crude grains are crushed and separated into sizes, called grit sizes, using calibrated screens. Grits range from 12 (very coarse) to 1200 (very fine). Once the grains are separated into sizes, they are attached to a backing material using various bond techniques. Below are descriptions of the most common abrasive grains:

Ceramic:

A high performance, man-made abrasive material. Very uniform, high density grain structure is extremely durable and self sharpening for longer life and cooler cut. Excels on tough to grind materials.

Aluminum Oxide:

A tough, blocky shaped, man-made grain used for high speed grinding and finishing of metals, wood, and other high tensile strength materials without excessive fracturing or shedding. Wherever the ability to resist fracturing is the main consideration, aluminum oxide will outperform all other coated abrasive grains.

Zirconium:

A very fine, dense, man-made crystalline grain which can be used for aggressive stock removal. Zirconium is a very dense material with a unique self-sharpening characteristic which gives it long life on heavy stock removal operations.

Silicon Carbide:

A very hard, very sharp, man-made abrasive suited for non-ferrous materials and non-metallic materials such as concrete, marble and glass. A very friable grain, silicon carbide cuts faster under light pressure than any other grain used in coated abrasives.

Garnet:

Garnet is made of natural aluminum oxide which is a relatively sharp, but very weak bonding structure. Very inconsistent when compared to synthetics. It is used primarily in woodworking as garnet dulls too quickly to be used in metalworking.

Backing Materials (Substrates)

Below are the four major types of backing materials:

Paper

Specialized technical papers are used as substrates for coated abrasives. They are identified by letters representing weight and flexibility:

“A” and “B” weights are light weight and highly flexible. “C”, “D”, “E”, “F” weights are medium to heavy weight for more strength and less flexibility.

Cloth

Cloth backings are more durable than paper backings. There are two common types of cloth backing, cotton (ie: Egyptian) and polyester. Cloth backings are identified by weight and flexibility:

“F” weight (J-Flex) is light and highly flexible. This lighter weight is suitable for cleaning, finishing, and polishing.

“J” weight (Jeans) is highly flexible and suitable for cleaning, finishing, and polishing of contour surfaces.

“X” weight (Drills) is medium to heavy weight for more strength and durability. It has low flexibility suitable for grinding, deburring and finishing.

“H” (Heavy Duty) is a heavier weight than “X” weight. It has low flexibility and is suitable for heavy duty grinding and deburring applications. Excellent edge stability.

Fiber

Fiber backing is a tough vulcanized material made from rag stock. This backing is usually used for abrasive fiber discs.

Combination

Combination backing is laminated paper and cloth, and is very sturdy and shock resistant. Combination backings typically are used for a wide range of grits and mounting techniques.

Other Backing Materials

There are also a variety of other substrates such as nylon fiber or screens that can be coated for special applications. Non-woven nylon impregnated with abrasive grain is another substrate that can be used for cleaning, polishing, or blending.



COATED ABRASIVES OVERVIEW

Bond Techniques

The grains are locked to the backing material using a bond technique that involves a two layer process. There are three major types of bond techniques used in coated abrasives:

Resin over Resin

A very strong bond resistant to heat and moisture. Resin over resin bonds are durable for heavy stock removal and is by far, the most popular bonding method.

Resin over Glue

A bond that is resistant to heat. It is more aggressive than glue over glue bonds and leaves a finer finish than resin over resin bonds.

Glue over Glue

A bond that is less durable than resin bonds, but glue over glue bonds produce a more uniform finish. Glue over glue bonds soften under heat, thereby reducing the life of the product.

All coated abrasives are stiff and rigid after the drying and curing of the bond. To achieve the flexibility required for the application, a mechanical flexing process is required. This process is actually a controlled cracking of the bond in one or more directions to achieve the desired flexibility.

Open Coat vs. Closed Coat

These terms refer to the spacing between the abrasive grains bonded to the backing.

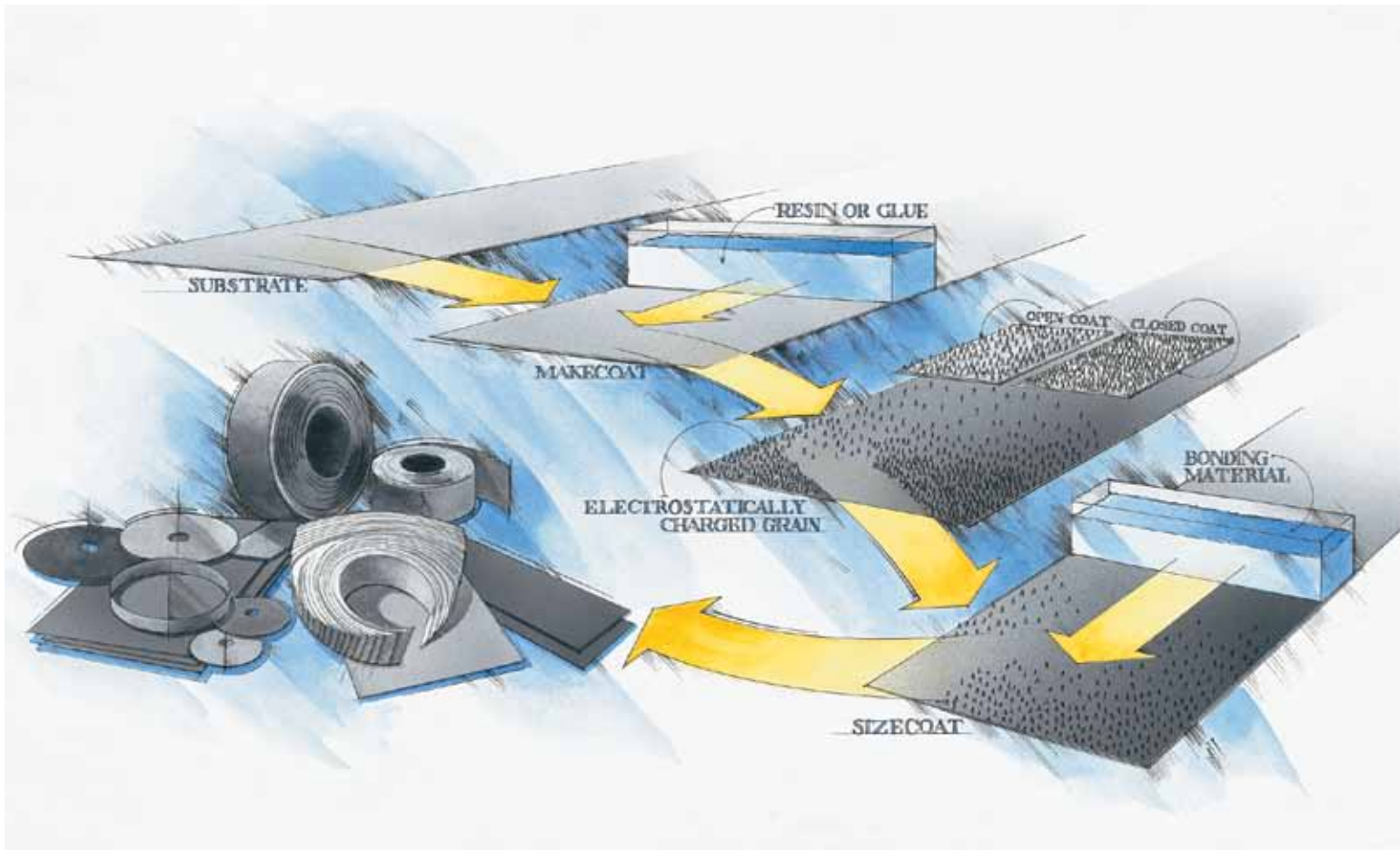
Closed Coat

Closed coat means the abrasive grains are adjacent to each other with no space between. The majority of applications will benefit from closed coat material because it allows for more material removal.

Open Coat

Open coat means the grains are set apart from each other, achieving a surface coverage of about 60% or more. In situations where loading is likely (soft, non-ferrous materials, painted surface, wood, etc.) open coat will resist loading and clogging and extend the useful life of the abrasive.

Making Coated Abrasives



Storage and Handling

Incorrect storage of coated abrasives will significantly affect performance. All types of backings are susceptible to variations in temperature and humidity during storage:

- Keep stockroom at constant levels of humidity (35-50%) and temperature (60-80° F)
- Keep cartons away from damp or cold walls and floors where they may absorb moisture
- Store coated abrasives away from any heat source
- Keep products in original packages for easy handling and stacking
- Flap wheels removed from the original packaging should be spread out on a clean shelf, always placed face down, never resting on edge
- Fiber discs removed from the original packaging should be stored in a suitable disc holder and kept under pressure
- Store bulk rolls flat on shelves or pallets, not on edge
- Belts removed from packing case should be rolled up and stood on edge on a clean shelf. They may be draped over a large cylinder but never hang a belt from a nail or peg (the backing will crease and the abrasive coat will crack)
- Precondition the coated abrasive products in a humidity and temperature controlled environment before use for maximum efficiency

Coated Application Chart

Product	Structure	Adhesive	Backing/Weights	Form							
				Sheets	Rolls	SAIT-Saver	Quick Ship	Blue Line Belts	Custom Belt	Discs	Fiber Discs
Cloth- Belts											
LA-X	Closed	Resin over Resin	X-Weight Cloth			•					
1A-X	Closed	Resin over Resin	X-Weight Cloth				•	•			
2A-X	Closed	Resin over Resin	X-Weight Cloth				•	•	•		
3A-X	Closed	Resin over Resin	X-Weight Cloth					•	•		
AO-X	Open	Resin over Resin	X-Weight Cloth				•	•	•		
2A-H	Closed	Resin over Resin	H-Weight Polyester					•	•		
C-W	Closed	Resin over Resin	X-Weight Cloth				•	•	•		
Z-H	Closed	Resin over Resin	H-Weight Polyester				•	•	•		
3Z-H	Closed	Resin over Resin	H-Weight Polyester					•			
AZ-X	Closed	Resin over Resin	X Weight Poly/Cotton						•		
Cloth- Other											
Aluminum Oxide (AOX)	Open/Closed	Resin over Resin	J-Flex, J, X cloth	•	•	•	•			•	•
DA-F	Open	Resin over Resin	J-Flex Cloth		•						•
EA-F	Open	Resin over Resin	J-Flex Cloth	•	•						
TA-X	Closed	Resin over Resin	X Weight Cloth								•
2A-X	Closed	Resin over Resin	X Weight Cloth								•
3A-X	Closed	Resin over Resin	X Weight Cloth								•
Zirconium	Closed	Resin over Resin	X Cloth, H Polyester								•
3Z-H	Closed	Resin over Resin	H Polyester								•
AZ-X	Closed	Resin over Resin	X Weight Poly/Cotton				•				
Paper- Other											
Zirconium (Z-F)	Closed	Resin over Resin	F							•	
Aluminum Oxide (A-E)	Open	Resin over Resin	E							•	
Aluminum Oxide (AW-D & AW-C)	Open/Closed	Resin over Resin	C, D	•						•	
Stearate Aluminum Oxide (3S)	Open	Resin over Resin	C	•						•	
Stearate Aluminum Oxide (4S/4V)	Open	Resin over Resin	C	•						•	
Silicon Carbide (CW-C)	Open/Closed	Resin over Resin	C	•						•	
Silicon Carbide (C-E/C-F)	Closed	Resin over Resin	E, F							•	
Garnet	Open	Glue over Glue		•							
Fiber											
8S (Ceramic)	Closed	Resin over Resin									•
9S (Ceramic)	Closed w/ Coolants	Resin over Resin									•
AO (Aluminum Oxide)	Open	Resin over Resin									•
2A (Aluminum Oxide)	Closed	Resin over Resin									•
3A (Aluminum Oxide)	Closed w/ Coolants	Resin over Resin									•
Z (Zirconium)	Closed	Resin over Resin									•
3Z (Zirconium)	Closed w/ Coolants	Resin over Resin									•
C (Silicon Carbide)	Closed	Resin over Resin									•
Screens											
Silicon Carbide	N/A	Resin over Resin	Cloth screen impregnated with Silicon Carbide	•	•	•	•			•	
Non-Woven											
Aluminum Oxide/Silicon Carbide	N/A	N/A	Non woven nylon	•						•	
Silicate Compounds	N/A	N/A	Non woven nylon	•							
Buffing Discs	N/A	N/A	Buffing Cloth							•	
Combination											
Silicon Carbide	Open/Closed	Resin over Glue	Paper/Cloth		•	•	•			•	

Coated Application Chart

Wet	Dry	Application
	•	General purpose, metalworking and woodworking
	•	Ordinary and alloyed steel, ferrous and non-ferrous metals, cast iron, wood
	•	Ordinary and alloyed steel, ferrous and non-ferrous metals, cast iron, wood
	•	Stainless steel and other heat sensitive materials, aluminum
	•	Ferrous, non-ferrous metals (steel, iron, aluminum, copper), wood, plastic, fiberglass
•	•	Ordinary and alloyed steel, ferrous and non-ferrous metals, cast iron
•	•	Hard cast iron, aluminum, glass, ceramics, marble and stone
•	•	Ordinary and alloyed steel, cast iron, aluminum, stainless steel
•	•	Stainless steel and other heat sensitive materials, aluminum
•	•	Ordinary and alloyed steel, cast iron, aluminum, stainless steel, wood
	•	Ferrous, non-ferrous metals (steel, iron, aluminum, copper), wood, plastic, fiberglass
	•	Ordinary and alloyed steel, ferrous and non-ferrous metals, cast iron, wood
	•	Ordinary and alloyed steel, ferrous and non-ferrous metals, cast iron, wood
	•	Ordinary and alloyed steel, ferrous and non-ferrous metals, cast iron, wood
	•	Ordinary and alloyed steel, ferrous and non-ferrous metals, cast iron, wood
	•	Stainless steel and other heat sensitive materials, aluminum
	•	Ordinary and alloyed steel, cast iron, aluminum, stainless steel
	•	Stainless steel and other heat sensitive materials, aluminum
	•	Wood floors
	•	Ferrous, non-ferrous metals, wood, plastic, fiberglass, sealers, fillers, paint, body filler
•	•	Ferrous, non-ferrous metals, wood, plastic, fiberglass, sealers, fillers, paint, body filler
	•	Ferrous, non-ferrous metals, wood, plastic, fiberglass, sealers, fillers, paint
	•	Automotive-Sealers, body filler, paint, fiberglass, aluminum
	•	Automotive-Sealers, body filler, paint, fiberglass, aluminum
•	•	Body filler, paint, fiberglass, glass, wood, varnish, plastic, ceramics, marble, ferrous and non-ferrous metals
	•	Marble, granite, solid surface, ceramics, glass, fiberglass
	•	Soft woods
	•	High tensile steels, titanium, aluminum, ferrous, non-ferrous metals
	•	Stainless steel, high tensile steels, titanium, aluminum, ferrous, non-ferrous metals
	•	Ferrous, non-ferrous metals, wood, fiberglass
	•	Ferrous, non-ferrous metals, wood, fiberglass
	•	Stainless steel, high tensile steels, titanium, aluminum, ferrous, non-ferrous metals
	•	Ferrous and non-ferrous metals, stainless steel, high tensile steels
	•	Stainless steel, high tensile steels, titanium, aluminum, ferrous, non-ferrous metals
	•	Glass, marble, ceramic, ferrous and non-ferrous metals
•	•	Fiberglass, body filler, paint, cement, ceramic, marble, wood, varnish, ferrous, non-ferrous metals
•	•	Ferrous and non-ferrous metals, stainless steel, aluminum, wood, tile, rust and paint removal, cleaning welds
•	•	Ferrous and non-ferrous metals, paint, varnish, ceramic, fiberglass, plastic, formica
	•	Buffing stainless steel, carbon steel, aluminum, non-ferrous metals
	•	Wood floors

Description of Backing Materials

Backing	Flexibility
Cloth	
F	Lightest and most flexible
J	Very flexible
X	Medium to heavy weight Low flexibility
H	Heavier weight than "X" Low flexibility
Paper	
A	Lightest and most flexible
B	Heavier weight and less flexible than "A" weight
C	Medium weight and flexibility
D	Heavier weight and less flexible than "C" weight
E	Heavy Duty, low flexibility
F	Heavy Duty, extremely low flexibility

Anatomy of a Wheel

What is a Bonded Abrasive?

A resin bonded abrasive is a grinding or cutting tool composed of abrasive grains which are held tightly together by a bonding agent and typically reinforced with a woven material. Within the bonded abrasives category are grinding and cutting wheels, as well as “stones” in a variety of shapes and sizes.

3 Main Components of Resinoid Bonded Abrasives

① Abrasive Grains

Abrasive grains are particles of man-made abrasive compounds. While some manufacturers use recycled grains, United Abrasives uses only high quality, virgin grains that are made to our specifications. The chemical structure of the grains determines the physical properties of the grains (i.e. shape, sharpness, hardness, friability). Common grain types used in making bonded abrasives include:

- **A - Aluminum Oxide**
A tough blocky shaped grain used for cutting metals and other high tensile strength materials without excessive fracturing
- **C - Silicon Carbide**
A very hard and very sharp abrasive suited for non-metallic materials such as concrete
- **Z - Alumina Zirconium** (also referred to as Zirconium)
A very fine, dense crystalline grain which can be used for rugged stock removal
- **SG - 3M Ceramic Abrasive Grain**
An exclusive patented ceramic aluminum oxide, two or three times tougher than standard aluminum oxide

② Bonding Agent

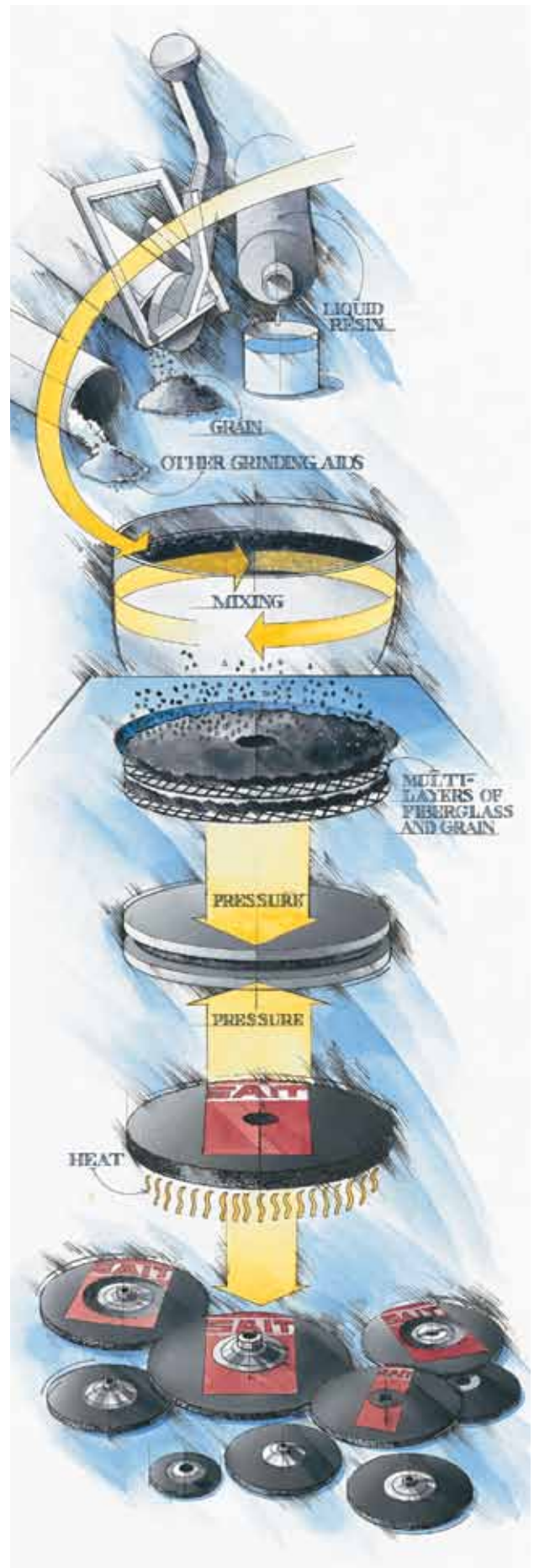
The bonding agent that holds the grains together determines the resistance of the wheel. United Abrasives uses a resinoid bond that is formulated to meet the unique specifications of each product.

③ Reinforcement

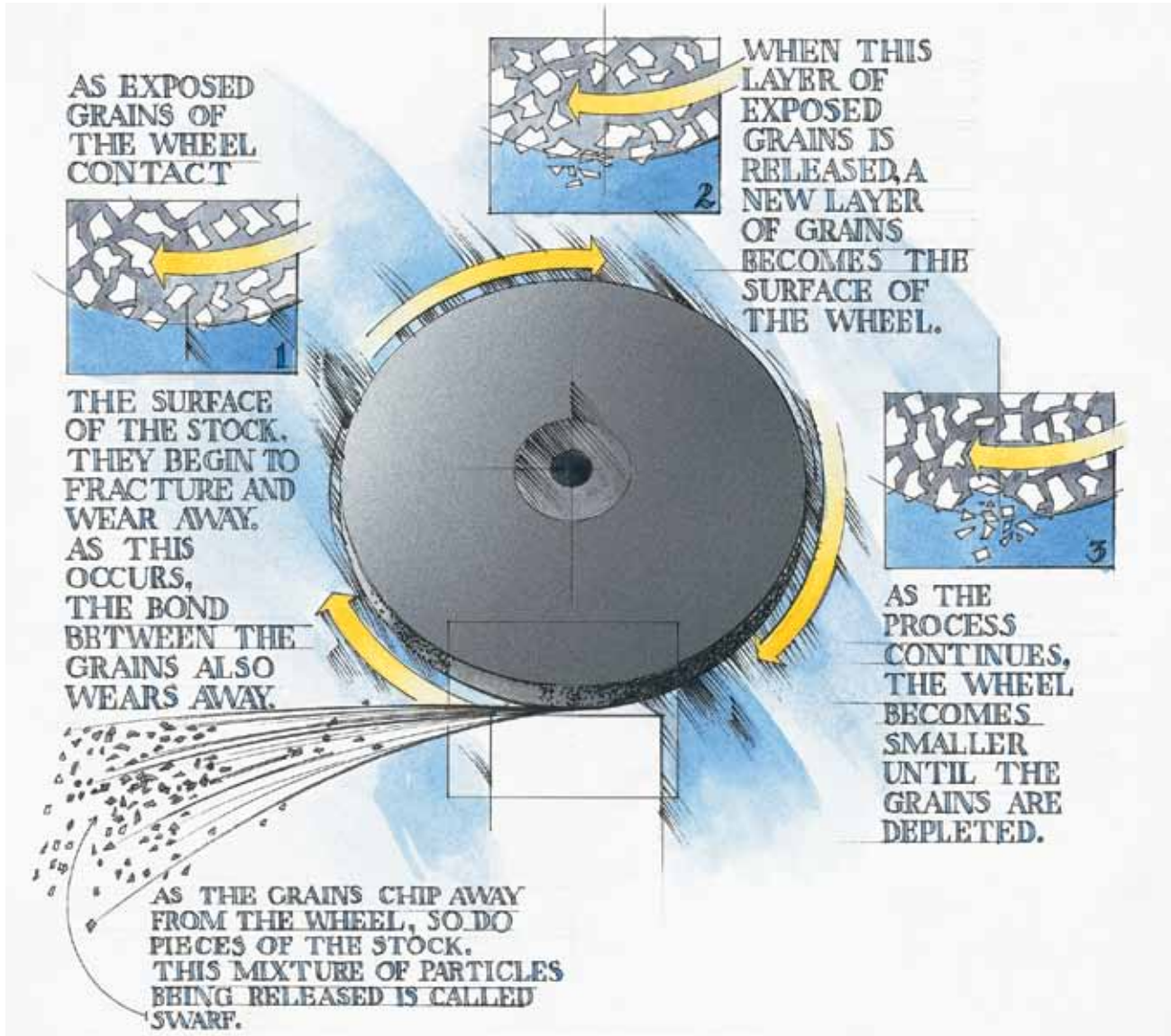
The reinforcement material provides extra strength to use the wheel at maximum RPMs and withstand lateral pressure that is applied during use. United Abrasives uses multiple layers of long stranded fiberglass which are woven to form an exceptionally strong reinforcement layer specific to the application.

Combining the 3 Components

During the manufacturing process, these three components are combined to form a grinding wheel. The grains and bonding agents are measured, combined, and pressed in an automated hydraulic press. United Abrasives' labels are also incorporated into the manufacturing process and therefore remain intact throughout the life of the wheel.

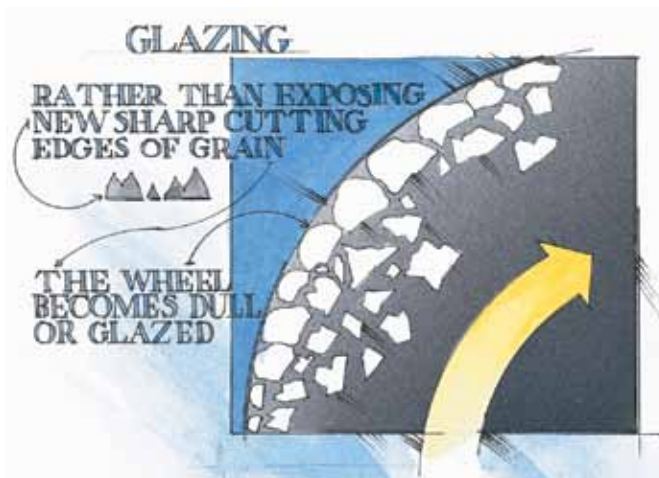


How a Wheel Works



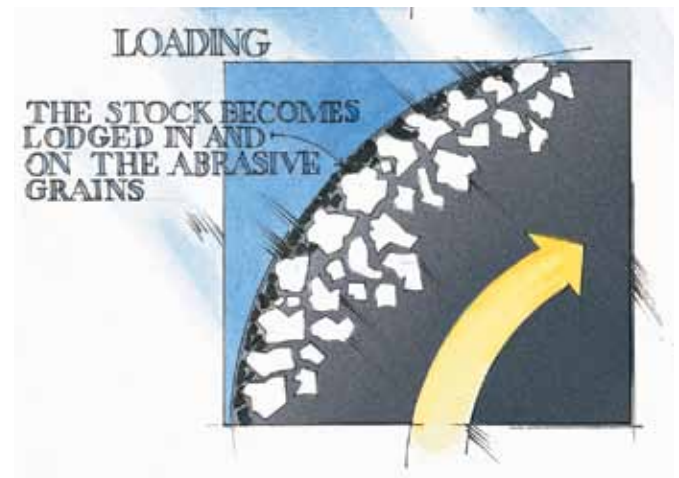
Common Occurrences With Grinding/Cutting Applications

As a wheel is grinding and/or cutting, some situations may occur with the application such as glazing or loading. Here is a description of each of these occurrences and some possible solutions.



Solutions to Glazing

- Dress the wheel for a temporary solution
- Use a softer bond and/or coarser grit wheel



Solutions to Loading

- Dress the wheel for a temporary solution
- Use the correct wheel for the application

Resin Bonded Abrasives

Sample of Wheel Label

Below is an example of a label that can be found on United Abrasives' wheels. We feel it is important to include as much information as possible on our labels so the end user has the pertinent information he needs to operate the wheel. All of our labels are baked on the wheels during the manufacturing process, so the label remains intact throughout the life of the wheel.



Wheel Label Color Coding:



Storage and Handling

All abrasive wheels are breakable and therefore care shall be exercised in handling and storage to prevent damage. The following rules, which are based on experience, should be observed:

- Handle wheel carefully to prevent dropping or bumping
- Do not roll wheels (hoop fashion)
- Use trucks or other suitable conveyances to provide support and protection in transporting all wheels which cannot be carried by hand
- Suitable racks, bins, drawers or boxes shall be provided to store the various types of wheels used
- Abrasive wheels should be stored in a dry area not subject to extreme temperature changes since some bonds may be affected by excessive humidity and temperature differentials
- Racks should be located as near as practical to the grinding location, but never where there is danger of damage from passing trucks, crane handling equipment or excessive vibration

Exclusive Super-Lock™ Hub

Super-Lock™ combines a mechanically interlocked transversed key lock system and uses a unique two-part bonding system to give it superior performance capabilities. Other manufacturers use hubs that depend upon two part epoxy, which can fail in many instances due to poor surface preparation, improper curing conditions, incorrect ratio of catalyst and epoxy, or the quantity of epoxy material applied.

Unique in the industry

The United Abrasives Super-Lock™ system is our exclusive, fail-safe throw away hub assembly. This is a unique hubbing system that is used on Type 27 and Type 28 grinding and cutting wheels where hub mounting is preferred.

Unsurpassed Performance

The rotational torque placed upon wheels can vary based on material being removed and pressure that is applied. While the chemical bonds that other manufacturers use can fail, the Super-Lock™ Hub ensures the stability of the hub to wheel connection.

Millions sold - Not one Failure

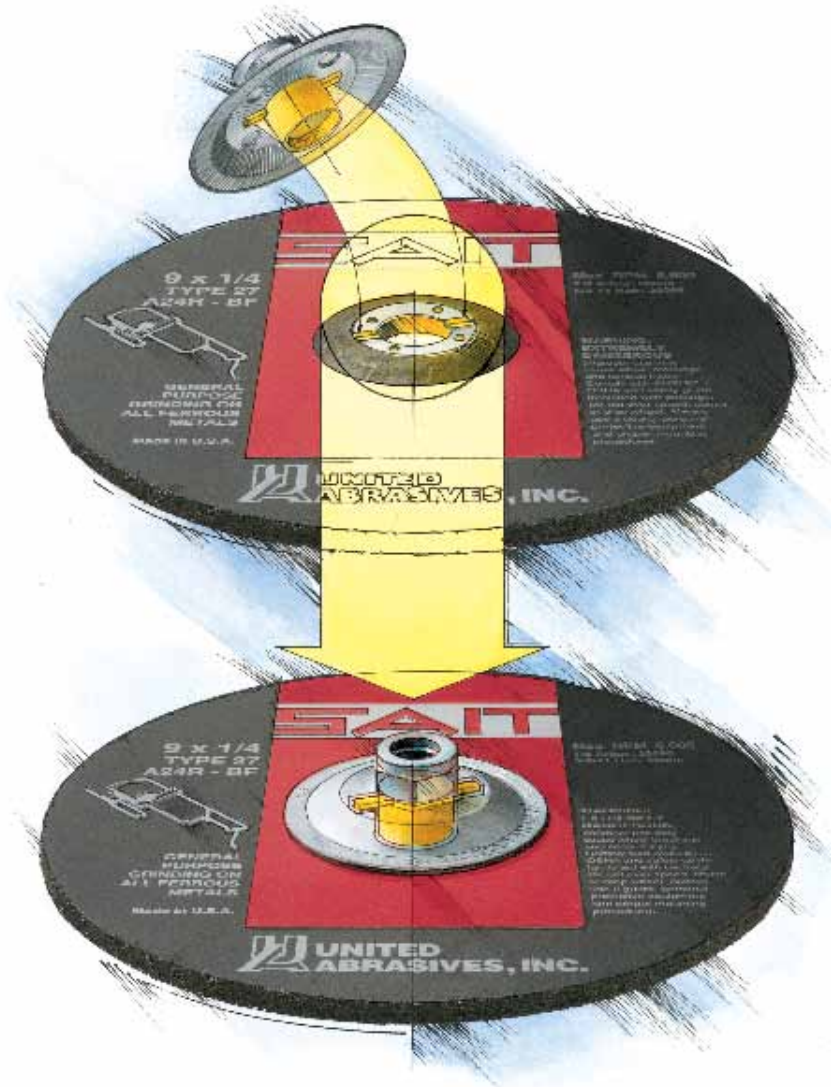
Since 1983, United Abrasives has manufactured and sold millions of depressed center wheels with Super-Lock™ Hubs. Not a single one has ever been reported as a failure.

Patented

The Super-Lock™ Hub system is so safe that it was originally protected by United States patent #4,541,205. United Abrasives is the only manufacturer to utilize this outstanding hub system.

Use on Type 27 and Type 28 Wheels

The Super-Lock™ Hub System is available on all 4-1/2", 5", 7" and 9" Type 27 and Type 28 depressed center grinding and cutting wheels. Turbo 4-1/2" and 5"x1/8" and .090 wheels do not have Super-Lock™ Hub.



Look for this drawing throughout the catalog indicating the wheels that are available with the Super-Lock™ Hub



Safety Guide

Important:

The following information about safety should be used only as a guide. All products listed in this catalog shall be used in accordance with safety regulations set by OSHA and by the directive described by the American National Safety Institute B7.1, the Canadian Standard Association Safety Code B-173-5 and by the American Brush Manufacturers Association covering: Speed, Safety Guards, Flanges, Mounting Procedures, General Operating Rules, Handling, Storage, and Inspection of General Machine Conditions.

The information to the right is designed as a guide for the individual user of abrasive wheels, whether he be in the employ of a large corporation or in the confines of his home work shop. It is based on the premise that grinding/cutting is a safe operation when a few basic rules are followed. These rules are based on material contained in the American National Standards Institute Safety Requirements B7.1 - "Use, Care & Protection of Abrasive Wheels." Follow Them.



Warning:

Avoid inhalation of dust generated by grinding and cutting operations. Exposure to dust may cause respiratory ailments as well as irritation to eyes and skin. In most cases, a greater hazard is the exposure to the dust/fumes from the base material being ground or paint or coatings applied to it. Use approved NIOSH or MSHA respirators, safety glasses or face shields, gloves and protective clothing. Provide adequate ventilation to eliminate dust or to maintain dust levels below the permissible exposure level for nuisance dust as classified by OSHA. Refer to Material Safety Data Sheet for further information.

All operators must read and understand safety information thoroughly.

Follow Safety Instructions:

You must follow all operator and safety instructions, as well as all common safety practices which reduce the likelihood of physical injury.

Operate Wheels at Recommended Speeds:

It is imperative that abrasive wheels be operated at recommended safe speeds. For safety reasons no abrasive wheel shall be operated at a speed greater than that indicated on the blotter or wheel.

- Do always handle and store wheels in a careful manner.
- Do visually inspect all wheels before mounting for possible damage.
- Do make sure operating speed of machine does not exceed speed marked on wheel, its blotter or container.
- Do check mounting flanges for equal size, relieved as required & correct diameter.
- Do use mounting blotters as required by ANSI standards.
- Do be sure work rest is properly adjusted on bench, pedestal and floor stand grinders.
- Do always use safety guard that covers a minimum of one-half (1/2) the abrasive wheel.
- Do allow newly mounted wheels to run at operating speed, with guard in place, for at least one minute before grinding.
- Do always wear safety glasses or some type of approved eye protection while grinding or cutting.
- Do turn off coolant before stopping wheel to avoid creating an out-of-balance condition.
- Do follow common sense safety considerations.
- Do follow federal, state and local laws and regulations.
- Don't use a wheel that has been dropped or appears to have been abused.
- Don't force a wheel onto the machine or alter the size of the mounting hole. If wheel won't fit the machine, get one that will.
- Don't ever exceed maximum operating speed established for the wheel.
- Don't use mounting flanges on which the bearing surfaces are not clean, flat and smooth.
- Don't tighten the mounting nut excessively.
- Don't grind on the side of conventional, straight or Type 1 wheels.
- Don't use a wheel on any machine that is not properly designed for the specific application of the wheel.
- Don't start the machine until the safety guard is properly and securely in place.
- Don't jam work into the wheel.
- Don't stand directly in front of a grinding/cutting wheel whenever a machine is in operation.
- Don't grind or cut material for which the wheel is not designed.

A pamphlet including these Do's and Don'ts and other safety information is included in each box of wheels.

Bonded Application Chart

	Ferrous Metals *																
	Angle Iron	Bar Stock	Cast Iron / Ductile Pipe	Carbon Steel	Channel Iron	Decking	Heavy Rebar	High Tensile Steel	Iron Pipe	I-Beams / Rail Steel	Light Gauge Metals	Metal Studding	Metal Tubing	Stainless Steel	Steel	Thin Rebar	Welds
Type 27 Grinding Wheels																	
A24N	•	•	•	•	•	•	•	•	•	•				•	•		•
A24R	•	•	•	•	•	•	•		•	•					•		•
A24T	•	•			•				•	•		•			•		•
C24N			•														
Type 27 Specialty Grinding Wheels																	
A46N																	
A24 Turbo	•	•			•				•			•	•			•	
Sait Z-tech™	•	•			•	•	•		•	•					•	•	
Saitech Ultimate Performance™									•					•	•		•
Saitech Attacker®									•					•	•		•
Stainless Contaminant Free														•			
Type 28 Grinding Wheels																	
A24N	•	•	•	•	•			•	•	•				•	•		•
A24R	•	•	•	•	•	•	•		•	•				•	•	•	•
C24N			•														
Saitech Ultimate Performance™			•					•						•			•
Type 29 Flexible Grinding/Blending Wheels																	
Challenger II™ / Challenger 3	•	•			•	•		•	•	•	•		•	•	•		•
Type 27 Specialty Cutting & Light Grinding Wheels																	
Pipeline/Turbo	•	•			•	•			•	•	•	•	•	•	•	•	•
Sait Z-tech™ Pipeline	•	•			•	•			•	•	•	•	•	•	•	•	•
Saitech™ Pipeline (S Pipe)	•	•			•	•			•	•	•	•	•	•	•	•	•
Type 27 Cutting Wheels																	
A24R	•	•		•	•	•	•		•	•				•	•		•
.090	•	•		•	•	•	•		•	•				•	•		•
C24R			•														
Type 27 Specialty Cutting Wheels																	
Sait Z-tech™	•	•		•	•	•	•		•	•				•	•		•
.045 Aluminum																	
Saitech UP™ / Saitech™ .045, Z-tech™ .045 / The Ultimate Cut™ .045					•	•			•	•				•	•		•
Stainless Contaminant Free														•			
Type 1 Chop Saw Wheels																	
EZ-Chop Attacker® / Z-tech™	•	•			•		•		•			•	•		•	•	•
EZ-Chop® / Stud King®																	
Saitech Steel Worker®					•			•					•	•		•	•
Iron Worker™	•	•			•		•		•					•	•		•
Non-ferrous Metals (Alum)																	
Type 1 High Speed Cut-off Wheels for Portable Saws																	
A24R	•	•		•	•		•		•	•				•	•		•
SAIT-Pro	•	•		•	•	•		•	•	•	•	•	•	•	•	•	•
A60S				•	•			•	•	•				•	•		•
Saitech™ .045 / Z-tech™ .045 / The Ultimate Cut™ .045				•	•			•	•	•				•	•		•
C24R / XFC			•														
Type 1 Specialty High Speed Cut-off Wheels																	
Brute™						•					•	•					
Hobo®	•	•			•		•		•	•			•				
Ductile™			•						•								
Big M.A.C.™																	
Type 1 Cut-off Wheels for Street Saws																	
C16																	
C24R																	
Street Walker™																	
Street Runner™																	
Type 1 Wheels for Stationary Cut-off Saws																	
A24N	•	•	•	•	•		•	•	•	•				•	•		•
A24R	•	•		•	•	•	•		•	•				•	•	•	•
A36R		•			•		•							•	•		•
C24R																	
Metal-Cutting Carbide Blades																	
Type 1 Thin High Speed Cut-off Wheels																	
A24R	•	•				•			•			•	•		•		•
A36T	•	•				•						•	•		•		•
A60T						•						•	•		•		•
Saitech Ultimate Performance™					•		•							•			•
Type 11 Cup Wheels																	
A16						•			•					•	•		•
Z16						•			•					•	•		•
C16			•														
CA16					•												
Type 16,17,18 Cones & Plugs																	
Resin Bonded Mounted Points																	

* Indicates most common usages

Bonded Application Chart

Non-Ferrous Metals *				Stone *				Other *				Page in Catalog			
Aluminum	Brass	Bronze	Copper	Asphalt	Brick	Ceramic	Concrete	Granite	Green Concrete	Marble	Masonry		Fiberglass	Plastic	Wood
															8
															8
															8
					•	•	•	•	•	•	•				14
•	•	•	•												11
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* Indicates most common usages

How To Use This Chart

This chart should be used as a reference to match wheel to application. Following these steps will help you utilize this chart to choose the wheel that will best suit your needs.

STEPS IN SELECTING A WHEEL

1. Select the material you will be using based upon the choices at the top of the chart.
2. Determine what you want to do to this material?
 - Are you cutting?
 - Are you grinding?
 - Are you cutting and grinding?
 - Are you finishing?
3. What tools do you have available?
4. Once you have followed these steps, select the wheel that will best suit your needs and turn to that page to see more specifications on that product.