



TECHNICAL INFO & SAFETY GUIDE

U[®] A **UNITED**
ABRASIVES
SAIT

800.864.2660 | WWW.AM-IND.COM





Thin cutting wheels have made the job of the welder, fabricator and maintenance technician easier by providing them with a quick and simple way to cut a piece of metal without the need for other bulky equipment (torches, large saws, etc.). Yet the most common mistake we see is that users often choose the incorrect wheel for the job.

United Abrasives .045 Wheels

United Abrasives .045 wheels are the best choice for efficient cutting. They should never be used for deburring metal after cutting or grinding. This type of misuse could result in wheel failure resulting in severe injury.

United Abrasives .090 Wheels

United Abrasives .090 wheels are designed for cutting and notching metal. Notching is a shearing process during which a metal scrap piece is removed from the outside edge of a metal workpiece prior to welding.

Ultimate Combo™ Wheel

Our most versatile cutting wheel is the **Ultimate Combo™** wheel which has a **.095 thickness**. This product allows operators to **cut, notch, debur and light grind** without the need to change the wheel.

TYPES OF CUTTING WHEELS

There are two basic configurations of cutting wheels:

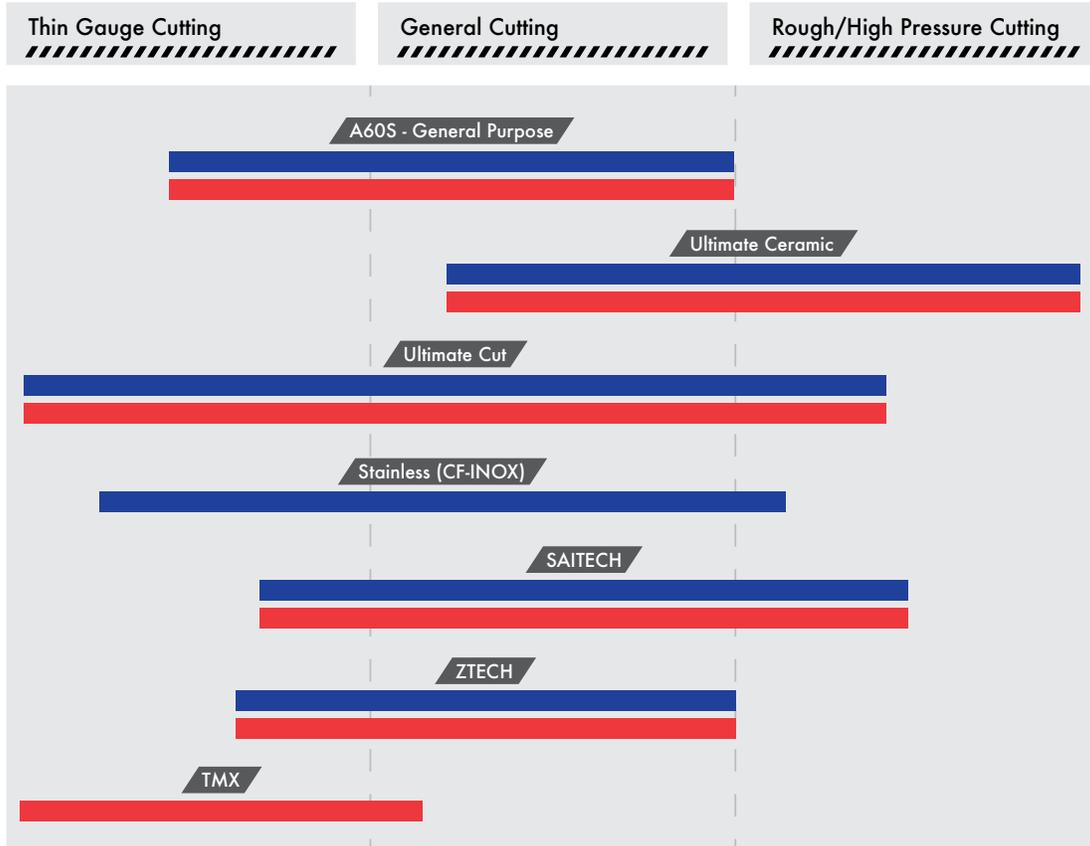
- **Type 1 / Type 41:** This is a flat cutting wheel that allows for a maximum depth of cut.
- **Type 27 / Type 42:** Originally developed and patented by United Abrasives, this design features more of a rigid feel while cutting, enhanced operator visibility of the cut, and the ability to flush cut as the raised hub allows for the locking nut to be recessed. These wheels are also available with our 5/8-11 quick change hub for ease of mounting.

GRAINS

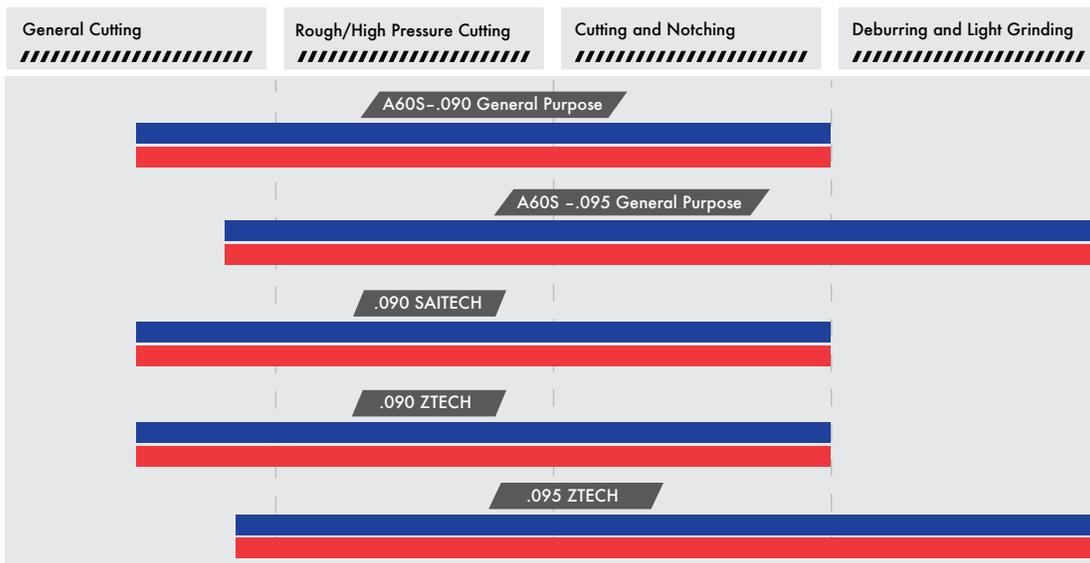
- **Ceramic** - Ceramic cutting wheels allow for a very long life and fast cutting speeds. Ceramics also tend to cut cooler, minimizing discoloration while maximizing product life.
- **Zirconium** - Zirconium grain has an extremely durable design. These wheels are used for high performance cutting with long life and feature a low cost-per-cut ratio.
- **Aluminum Oxide** - Aluminum Oxide is the most common abrasive grain and delivers very good cut rates and durability. It tends to have a lower initial cost for the user which lends to its popularity.

HOW TO PICK A CUTTING WHEEL

.045 PRODUCT SELECTION GUIDE



.090/.095 PRODUCTION SELECTION GUIDE



TYPE 1 / TYPE 41

DIA	THICK	ARBOR	MAX RPM	QTY	SAITECH™	ULTIMATE CUT™	ULTIMATE CERAMIC™ CUT-OFF	XA46R
4"	.045"	5/8"	19,000	50	23172	-	-	-
4-1/2"	.045"	7/8"	13,300	50	23174	22230	22480	-
4-1/2"	1/16"	7/8"	13,300	50	-	-	-	24251
5"	.045"	7/8"	12,200	50	23177	22235	22481	-
5"	1/16"	7/8"	12,200	50	-	-	-	24252
6"	.045"	5/8"	10,200	50	23181	-	-	-
6"	.045"	7/8"	10,200	50	23182	22240	22482	-
6"	1/16"	7/8"	10,200	50	-	-	-	24253
7"	.045"	5/8"	8,500	50	23184	-	-	-
7"	1/16"	7/8"	8,500	50	-	-	-	24254

TECH INFO

- Type 1 / Type 41 shape for square, burr-free cutting
- Saitech™, manufactured with premium ceramic grain, is designed to outlast standard aluminum oxide wheels
- Externally reinforced with fiberglass layers to provide ultimate safety in a thin wheel
- Wide range of sizes available to fit both angle grinders and circular saws



Type 1 / Type 41



Angle Grinder



Circular Saw

TYPE 27 / TYPE 42

DIA	THICK	ARBOR	MAX RPM	QTY	SAITECH™	ULTIMATE CUT™	ULTIMATE CERAMIC™ CUT-OFF
4"	.045"	5/8"	19,000	50	22068	-	-
4-1/2"	.045"	7/8"	13,300	50	22072	22380	22470
4-1/2"	.045"	5/8-11	13,300	10	23319	23321	22570
5"	.045"	7/8"	12,200	50	22073	22385	22471
5"	.045"	5/8-11	12,200	10	23306	23308	22571
6"	.045"	7/8"	10,200	50	22082	22390	22472
7"	.045"	7/8"	8,500	50	22088	-	-

TECH INFO

- Saitech™, manufactured with premium ceramic grain, is designed to outlast standard aluminum oxide wheels
- Thin cutting wheel in a Type 27 / Type 42 shape makes this perfect for your angle grinder
- Designed to provide very long life for fewer wheel changes and less downtime
- All sizes reinforced with the highest quality fiberglass for maximum safety and performance



Type 27 / Type 42



5/8-11 Hub



Angle Grinder

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 are 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 2,000 (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 several types of cloth backings: cotton (ie: Egyptian), polyester and polyester-cotton blends. 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

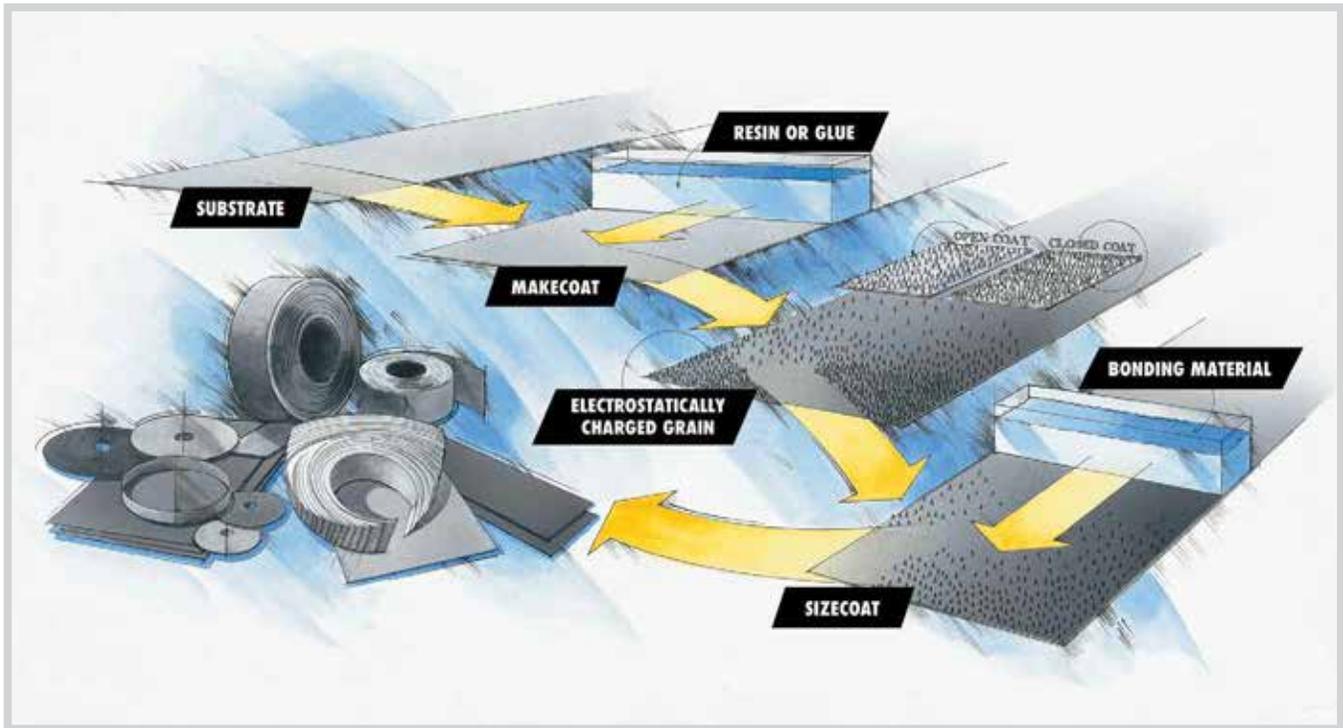
Fiber backing is a tough vulcanized material made from rag stock. This backing is generally used for abrasive fiber discs.

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.



THE

**UNITED
 ABRASIVES**
 SAIT

DIFFERENCE

- We use only the **highest quality raw materials**, which are stored in an environmentally controlled area. These include grains and backings (such as paper, cotton, cotton-polyester and polyester materials) as well as resins and glues used in the process.
- One of the world's most modern, **highly automated and state-of-the-art** coated abrasives production facilities.
- Our coated abrasives are cured in the latest, most updated, temperature controlled ovens to ensure that we produce a **consistent and quality finished product**, which is rigorously monitored every step of the way by our world renowned quality control department.
- SAIT Abrasives has been the world leader in producing the highest quality coated abrasives for over 50 years!

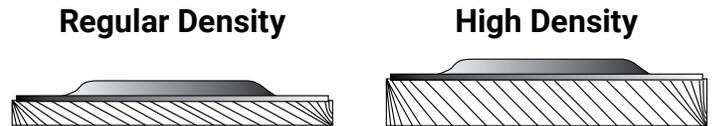
FLAP DISCS

FLAP DISC INTRODUCTION

- Flap discs are constructed by layering coated abrasive flaps so they wear away and expose new, sharp grain
- Flap discs increase productivity and reduce total grinding and finishing costs by grinding, blending & finishing in 1 step

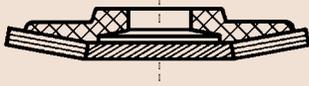
DENSITIES

High density flap discs contain approximately 40% more material than regular density flap discs.



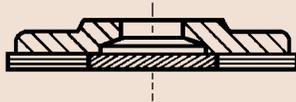
BACKING SHAPE

Conical Shape Features (Type 29)



- Built-in angle for increased contact area
- Best for use on contoured surfaces and edge work
- Minimizes workpiece gouging
- More aggressive stock removal due to higher angle
- 15°-25° working angle

Flat Shape Features (Type 27)



- Best for use on miter joints, corners and edges
- Best choice for finishing intricate and ornate surfaces
- Ideal for smooth finishing
- 0°-15° working angle

BACKING TYPE

Fiberglass Backing Features

- Backing will wear uniformly with abrasive cloth
- Will not splinter or smear on the workpiece
- Lighter, quieter operation

Plastic Backing Features

- Non-scratching, high strength backing
- Resistant to temperature extremes, common chemicals and solvents
- Some plastic backings are trimmable



FLAP DISCS VS. GRINDING WHEELS

- Faster stock removal and smoother finish
- Quieter operation and reduced vibration minimizing operator fatigue
- Cooler cutting, reduced loading and glazing
- Easy to use – reduced gouging and rework

FLAP DISCS VS. FIBER DISCS

- Up to 20 times longer life than a fiber disc
- No backing pad needed
- Easier storage – no curling
- Flap discs should use one grit coarser than used in fiber discs (except 36 grit)
- More consistent finish

THE



DIFFERENCE

TWO TYPES OF PLASTIC BACKINGS

- ABS plastic designed to be trimmed to expose more abrasives material
- Hard plastic designed for high strength and rigidity promoting ease of use and long-life

FIBERGLASS BACKING

- Custom engineered fiberglass backing plates for strength and safety
- More fiberglass than competitors – making our flap discs among the safest on the market

ADHESIVE SYSTEM

- Specially formulated adhesive system, designed to effectively secure the abrasive flaps to the backing, maximizes abrasive performance and safety

COATED MATERIAL

- Our own coated material has been specifically designed for flap discs
- Unique materials are used for each flap disc application

FLAP DESIGN

- We utilize more and larger flaps than our competitors to yield great performance and product life

FLAP DISCS - PLASTIC BACKING

Ease of use reduces operator fatigue • Longer life than fiberglass backing at the same cost

REGULAR DENSITY



ENCORE PLUS

- Tough zirconium grain provides fast grinding and reliable finishing performance
- Durable polyester-cotton backing for long life
- Exceptional value and performance

METAL Ferrous and/or non-ferrous metals
STAINLESS Stainless steel, high tensile steel, titanium
ALUMINUM Non-ferrous metals (aluminum, copper, brass, etc.)



ENCORE CERAMIC PLUS

- Premium ceramic grain outlasts conventional zirconium in most applications
- Cooler cutting and fast, consistent finishes

METAL Ferrous and/or non-ferrous metals
STAINLESS Stainless steel, high tensile steel, titanium

HIGH DENSITY



OVATION® PLUS

- Heavy duty zirconium grain, designed for high pressure applications
- Durable polyester backing for reduced edge wear and long life
- 40% more material than conventional, regular density flap discs
- Continues to grind after most flap discs stop

METAL Ferrous and/or non-ferrous metals
STAINLESS Stainless steel, high tensile steel, titanium



OVATION® ATTACKER® PLUS

- High performance zirconium grain for a wide variety of grinding and finishing applications
- Provides long life while maintaining high stock removal rates
- 40% more material than conventional, regular density flap discs

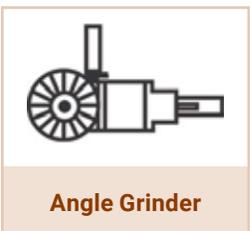
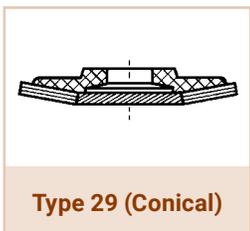
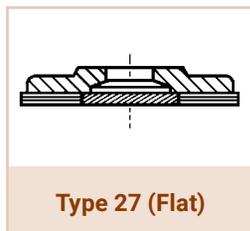
STAINLESS Stainless steel, high tensile steel, titanium
METAL Ferrous metals
ALUMINUM Non-ferrous metals (aluminum, copper, brass, etc.)



OVATION® CERAMIC PLUS

- Premium ceramic grain outlasts conventional zirconium in most applications
- Cooler cutting and fast, consistent finishes
- 40% more material than conventional, regular density flap discs

METAL Ferrous and/or non-ferrous metals
STAINLESS Stainless steel, high tensile steel, titanium



FLAP DISCS - FIBERGLASS BACKING

Backing will wear uniformly with abrasive cloth • Will not splinter or smear on the workpiece • Lighter, quieter operation

REGULAR DENSITY



ENCORE

- Tough zirconium grain provides fast grinding and reliable finishing performance
- Durable cotton backing for long life
- Exceptional value and performance

METAL Ferrous and/or non-ferrous metals
STAINLESS Stainless steel, high tensile steel, titanium
ALUMINUM Non-ferrous metals (aluminum, copper, brass, etc.)



ENCORE CERAMIC

- Premium ceramic grain outlasts conventional zirconium in most applications
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METAL Ferrous and/or non-ferrous metals
STAINLESS Stainless steel, high tensile steel, titanium

HIGH DENSITY



OVATION®

- Heavy duty zirconium grain, designed for high pressure applications
- Durable polyester backing for reduced edge wear and long life
- 40% more material than conventional, regular density flap discs
- Continues to grind after most flap discs stop

METAL Ferrous and/or non-ferrous metals
STAINLESS Stainless steel, high tensile steel, titanium



OVATION® ATTACKER®

- High performance zirconium grain for a wide variety of grinding and finishing applications
- Provides long life while maintaining high stock removal rates
- 40% more material than conventional, regular density flap discs

STAINLESS Stainless steel, high tensile steel, titanium
METAL Ferrous metals
ALUMINUM Non-ferrous metals (aluminum, copper, brass, etc.)



OVATION® CERAMIC

- Premium ceramic grain outlasts conventional zirconium in most applications
- Cooler cutting and fast, consistent finishes
- 40% more material than conventional, regular density flap discs

METAL Ferrous and/or non-ferrous metals
STAINLESS Stainless steel, high tensile steel, titanium



OVATION® STAINLESS **NEW**

- Premium aluminum oxide with grinding aid for grinding and finishing on stainless steel with minimal discoloration
- Works great on aluminum and non-ferrous materials with minimal loading
- Provides long life while maintaining high stock removal rates
- 40% more material than conventional, regular density flap discs

STAINLESS Stainless steel, high tensile steel, titanium
ALUMINUM Non-ferrous metals (aluminum, copper, brass, etc.)

WHEEL LABELS

The following 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 needed 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

- METAL
- STAINLESS STEEL
- ALUMINUM
- CONCRETE

Product name: SAIT TOUGH GRIND

ANSI marking system to identify wheel type: A24T-BF

Size of wheel: 4-1/2 x 1/4 TYPE 27

Tool icon for ease of selecting application: RIGHT ANGLE GRINDER

Maximum revolutions per minute the wheel can be used at: MAX. RPM 13,300

Safety information: WARNING: EXTREMELY DANGEROUS IMPROPER USE MAY CAUSE WHEEL BREAKAGE AND SERIOUS INJURY. Comply with ANSI B7.1, OSHA and safety guide furnished with package. Do not over speed, abuse or drop wheel. Always use a guard, personal protective equipment and proper mounting procedures.

French safety information: AVERTISSEMENT EXTRÊMEMENT DANGEREUX: UNE UTILISATION INADÉQUATE PEUT PROVOQUER UN RISQUE DE LÉSIONS ET DE GRAVES BLESSURES. Conformez-vous à la norme B7.1 de l'ANSI, à l'OSHA, et au guide de sécurité inclus dans l'emballage. Ne jetez jamais de meule à grande vitesse excessive, ne jetez jamais les fragments. Employez toujours un protecteur, un équipement de protection personnelle et utilisez les méthodes de montage appropriées.

UPC bar code

Part number

Arbor size

UPDATED LABEL

Product name: SAIT Z-TECH .045

Size of wheel: 4-1/2 x .045 Type 27 42

Materials: METAL, STAINLESS STEEL, ALUMINUM, CONCRETE, WOOD

Maximum revolutions per minute the wheel can be used at: 13,300 MAX. RPM

Tool icon for ease of selecting application: RIGHT ANGLE GRINDER

Safety icons:

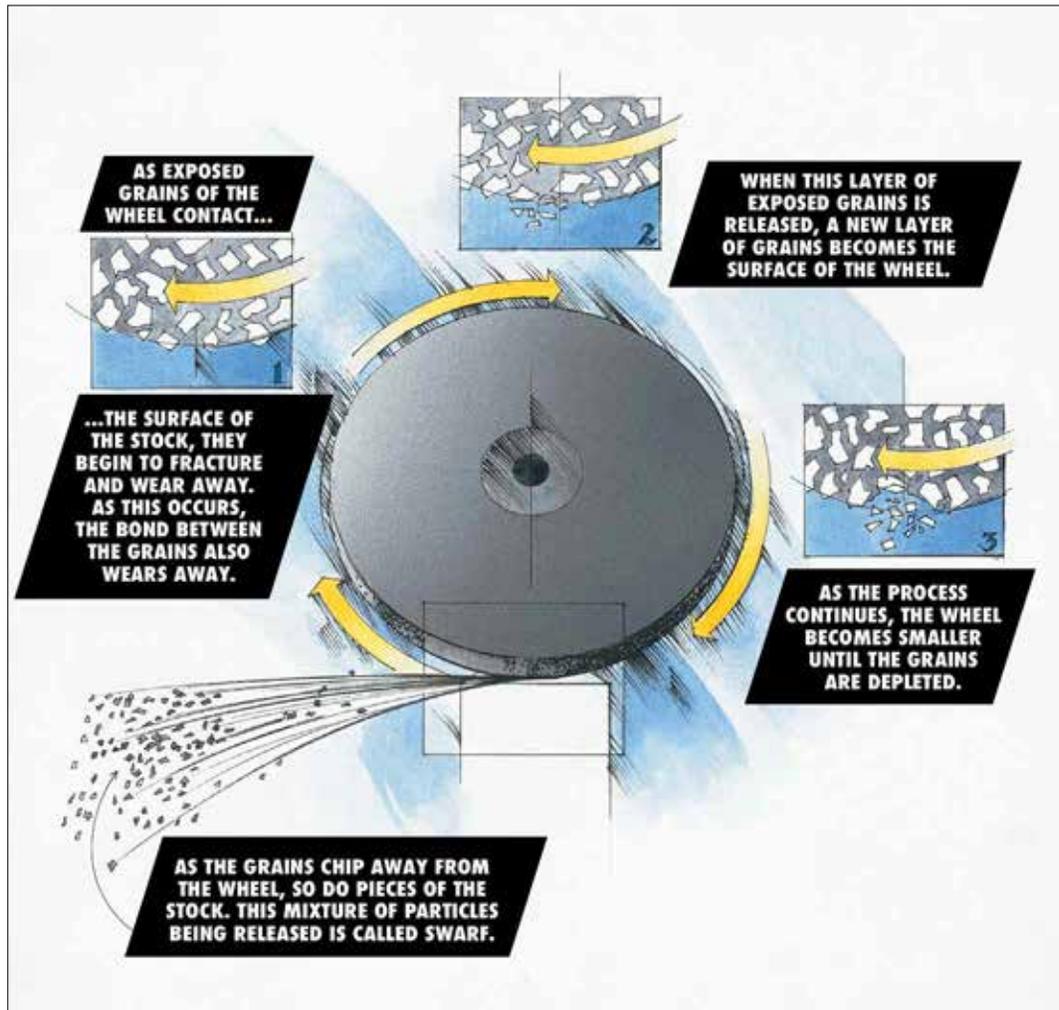
- Protect your face
- Protect your hands
- Use wheel guard
- Protect your eyes, ears and lungs
- No cutting
- Do not use a damaged wheel
- Read information
- Breaking wheel hazard

Arbor size: 7/8 Arbor: 23334

Part number: 5/8-11 Hub: 23322

UPC bar code

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.



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

BONDED ABRASIVES

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.

MAIN COMPONENTS OF RESINOID BONDED ABRASIVES

Abrasive Grains

Abrasive grains, sometimes referred to as grit, are particles of man-made compounds. The chemical structure of the grains determines the physical properties such as the shape and sharpness of each particle along with its hardness and friability (the propensity to break down). 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 - Zirconium: A very fine, dense crystalline grain which can be used for rugged stock removal.

SG - Ceramic: A unique ceramic aluminum oxide that is two or three times tougher than standard aluminum oxide.

Bonding Agent

The bonding agent that holds the grains together determines the resistance of the wheel.

Reinforcement

The reinforcement material provides strength to operate the abrasive product at the marked maximum RPMs and to withstand lateral pressure that is applied during use. This critical element, unseen to the naked eye, determines the structural strength of the product.

COMBINING THE COMPONENTS

During the manufacturing process, these three components are combined to form an abrasive tool. The grains and bonding agents are measured, combined and then pressed in an automated hydraulic press. The items are then cured in temperature controlled ovens.



THE
UNITED
ABRASIVES
SAIT
DIFFERENCE

- Only uses first quality, premium grains that are made to our specifications
- Never uses inferior fillers or bonding agents
- Always uses first quality, heavy duty fiberglass to ensure your safety
- The manufacturing process, from start to finish, incorporates state-of-the-art equipment, quality control analysis and compliance, and rigorous product evaluation to ensure our customers receive the safest, most consistent and best performing wheels on the market

RESIN BONDED ABRASIVES

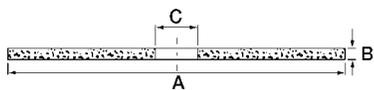
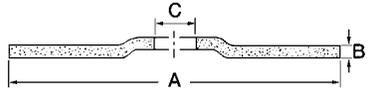
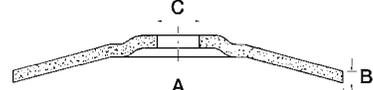
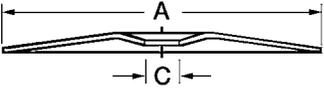
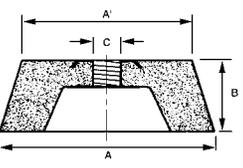
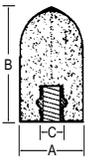
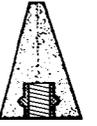
ANSI STANDARD MARKING SYSTEM

The following chart is an example of the ANSI standard marking system for identifying grinding wheels and other bonded abrasives.

A	25				R	BF
Primary grain used to make the wheel	Size of the abrasive grain				Hardness of the bond	Type of bond used
	Coarse	Medium	Fine	Very Fine	Soft	B = Resinoid
A = Aluminum Oxide	8	30	70	220	Medium	BF = Resinoid Reinforced
C = Silicon Carbide	10	36	80	240		N
Z = Alumina Zirconium	12	46	90	280	Hard	O = Oxychloride
SG = Seeded Gel	14	54	100	320		R
	16	60	120	400	T	RF = Rubber Reinforced
	20		150	500	Z	S = Silicate
	24		180	600		V = Vitrified

WHEEL CONFIGURATIONS

Bonded abrasive wheels have different configurations depending upon the tool the wheel is used on and the desired end result. Below are the configurations that a wheel can have:

<p>TYPE 1 / TYPE 41 – STRAIGHT WHEEL</p> 	<p>TYPE 27 / TYPE 42 – DEPRESSED CENTER WHEEL</p> 	<p>TYPE 28 – SAUCER-SHAPED WHEEL</p> 
<p>TYPE 29 – FLEXIBLE WHEEL</p> 	<p>TYPE 11 – FLARING CUP WHEEL</p> 	<p>TYPE 16 – ROUNDED CONE</p> 
<p>TYPE 17 – STRAIGHT-SIDED CONE</p> 	<p>TYPE 18 – PLUG</p> 	<p>TYPE 18R – ROUND PLUG</p> 

A = The diameter of the wheel

B = The width or thickness of the wheel

C = The bore of the wheel

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.

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.

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.

DOs & DON'Ts

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

- **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 and 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 the 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.

STORAGE AND HANDLING

BONDED ABRASIVES

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, shall 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
- Please refer to the Safety Guide accompanying the product and on the previous page of this catalog

COATED ABRASIVES

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



We are a full line distributor of United Abrasives. See our website or call for product selection assistance or technical support.