

# **SA** SUPER**A**BRASIVES



**Product Line Catalog**

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# About Us

Founded in 1977, SuperAbrasives, Inc. specializes in the design, manufacture and application of diamond and CBN grinding and finishing products and services for a wide range of industries. These include: Automotive, Aerospace, Medical, Electronics, Custom Job Production, Cutting Tool Fabrication, Wood Working, as well as many others.

Since our beginning we have prided ourselves on effectively providing our customers with the most cost-efficient solution for the job. Today, our product line includes Vitrified Ceramic, Resin, Metal and Electroplated bond systems, along with accessory items like metal bond dressing wheels, wheel adapters, quills and dressing sticks all designed for both manual and CNC machines.

Our goal is to educate our customers on who we are, the services we offer and the products we manufacture. Our technical sales staff and application engineers all have years of hands on experience in all types of grinding applications and are available for consultation any time problems occur to ensure the solutions we provide meet all of your needs.



SA's main office and manufacturing facility are located in Wixom, Michigan. This direct link between sales and manufacturing enables us to have constant communication and provide up to date information to our customers. We work hard at providing timely delivery and responding quickly in emergencies. All of this plays a role in our total commitment to customer satisfaction. Although other companies also supply superabrasive products, we believe this commitment gives us **the "Distinctive Edge."**

**SuperAbrasives, Inc. means superabrasives**

# Products & Services

At SA we manufacture diamond and CBN grinding wheels and honing stones used in a vast variety of applications. All of our products are engineered around application specific requirements and designed for optimal performance. Our products range from small diameter mounted wheels used for ID grinding to large diameter form wheels used in automotive production applications like camshaft and crankshaft grinding. Whether your need is big or small, we have the knowledge and desire to work with you and get you the best product for your job.

## Product Development

SA's constant development and enhancement process for all our bond structures assures that our customers are getting the best products available. You see, at SA, we don't try to make the application fit our wheels, we make our wheel fit your application. As a result, we work with our customers tirelessly to establish the best wheel for your need, for your application every time. We work hand in hand with our customers to achieve the goals set for each application and we continue this partnership throughout the entire life of the job. We take great pride with each success and always strive to improve. Please speak to your sales representative or visit our website at [www.superabrasives.com](http://www.superabrasives.com) to learn of our success stories and to find out how our services can work for you.

## Technical Support

At SA we like to help our customers not only with providing them with a product, but also with providing them with insight on how to use our products. We'll work with you to **EVALUATE** your application and operation; **RECOMMEND** target operating parameters; **INSTALL** and **IMPLEMENT** our grinding wheels; and **MONITOR** and **SUPPORT** the operation.

We have compiled some useful information and tools to help you in different areas of wheel use; from truing and dressing, to feeds and speeds and more. Our proprietary software applications and calculators provide useful insight into your operations and gives us a proven method to follow to analyze and optimize your operation.

Being a manufacturer ourselves we know problems can arise quickly and without warning. That's why SA offers two types of technical support to our customers: Remote and On-site. Remote assistance is available Monday through Friday to assist customers with all of your immediate needs and is available via phone or email. For On-site service, arrangements can be made with your sales representative to work with you at your facility and around your schedule. Depending upon the depth of service that you require, be sure to speak with your sales representative about our power load and acoustic sensing monitoring service as well as the other information and services listed above.

In the pages that follow you'll get some insight into the different products we manufacture and how they can work for you. **For more detailed product information and copies of our Case Studies ask your sales representative, give us a call directly at 800-341-4426, or email us at [sales@superabrasives.com](mailto:sales@superabrasives.com).**

**EVALUATE | ANALYZE | RECOMMEND | IMPLEMENT | SUPPORT**

# VITRIFIED CERAMIC BOND

Vitrified bond CBN and Diamond wheels are a specialty at SA. We have developed numerous bond systems designed for precision applications of high performance materials. Whether it is in the Aerospace, Automotive, Bearing, Custom Job Production or Tool Fabrication industry, we have the experience and the products to help you.



Our high concentration **Vitrified CBN** grinding wheels are designed for use in high production settings where rotary dressing is utilized and have been successfully implemented into numerous production applications at global automotive manufacturers for engine applications like camshaft and crankshaft grinding, transmission applications such as gear and shaft grinding and in the aerospace industry for precision grinding of turbine engine blades and OD grinding of flame sprayed carbide components, just to name a few.

Our **Vitrified Diamond** grinding wheels are proven winners for grinding difficult materials in sensitive applications like Flame sprayed materials and PCD & PCBN.

We divide our vitrified diamond product line into 2 categories: Ceramics and Diamond

For ceramic based materials our HP bond system is the right choice. This bond system is rotary dressable, produces excellent stock removal rates, offers excellent grind ratios and is available in both our standard continuous rim and our segmented rim designs based upon the wheel diameter and style.

For diamond based materials we have too many options to list here. We've been manufacturing this product line with great success for over 20 years and our performance speaks for itself. No matter what your requirement is – superior edge quality, extended wheel life, fast stock removal rates – we have a bond that will meet your expectations.

Whatever your need is we can help you with it. Speak with your sales representative or contact us directly to get more information and find out what product is best for your application.

**INCREASE PRODUCTIVITY | REDUCE CYCLE TIMES | INCREASE PROFITS**

# VITRIFIED CERAMIC: MAXIMIZER PRODUCTS

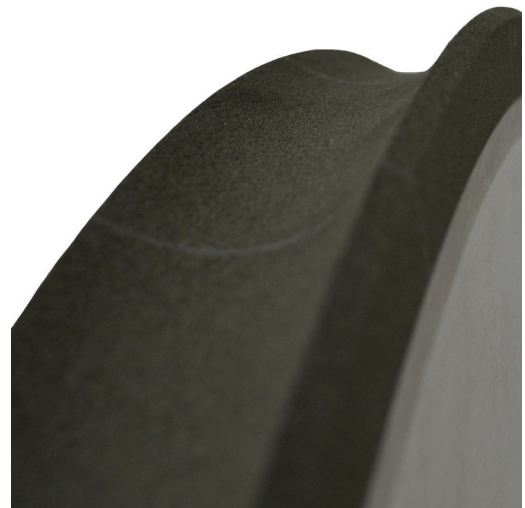
The Maximizer product line includes Vitrified bond CBN grinding wheels designed for use in both rotary and single point technology dressing applications. The unique characteristics of this bond structure produce a product that is flexible and versatile allowing for seamless integration into Custom Job Production, Tool Room and Production run environments.

The namesake of this product line, The Maximizer, is for use in both rotary and single point dress applications where the need for a traditional high concentration vitrified CBN product isn't necessary but the end results are. Applicable in both standard and production grinding settings, The Maximizer can adapt to many grinding variables with minimal adjustments required to your operation. Because of the porous structure of The Maximizer, faster cutting speeds can be achieved while maintaining low grinding pressures. Perfect for lower horsepower machines!

The other option, The MaximizerST, can also be dressed with both single point technology or rotary and be used on both new and older machinery without requiring alterations to your current grinding conditions. Part finishes and tolerances are maintained while also providing a burn free part. The MaximizerST can take deeper cuts with faster traverse rates with no wheel breakdown and reduced dressing. The versatility of the MaximizerST allows for grinding of a vast variety of materials with one wheel specification — no need to change the wheel when you change the material being ground. This results in decreased down time, increased productivity and reduced cycle times.

## THERE'S ONLY ONE WHEEL FOR THE JOB

Both The Maximizer and MaximizerST products can produce the exact finish you require without the need for multiple wheels and operations for roughing and finishing. All that's needed is adjustments to the dress traverse rate and exact finishes can be achieved using **one wheel and one mesh size.**



**INCREASE PRODUCTIVITY | REDUCE CYCLE TIMES | INCREASE PROFITS**

# RESIN BOND

At SA we've been manufacturing resin bond grinding wheels since day one. Our resin bond systems are developed with our customers in mind and with over 50 different bonds to choose from - we have the right bond for your application.



We have years of experience in them all. Depending upon the material type, machine set-up, coolant type and delivery system, stock removal and finish requirements we can manufacture a premium wheel for your job.

Our resin bond wheels are available in most of the industry standard shapes and a variety of sizes. ID wheels start at 1/8" diameter and our peripheral wheels range up to 20" in diameter with a continuous rim and up to 36" with our segmented design. While there are standard sizes depending upon the wheel style, we can make alternate sizes provided we have available tooling. If your needs fall outside of the norm, just check with us because we may be able to meet your needs.

The most recent addition to our resin bond family of products is our line of wheels designed for the cutting tool fabrication and saw blade industries. We worked hand in hand with our customers to develop 2 bond systems that provide the right combination of performance and price – ask us about our SuperSaver and SuperPerformance line of products.

Unsure of what is the right choice for you? Ask your sales representative, give us a call directly at 800-341-4426, or email us at [sales@superabrasives.com](mailto:sales@superabrasives.com).

**SUPER SAVER | SUPER QUALITY | SUPER PERFORMANCE**

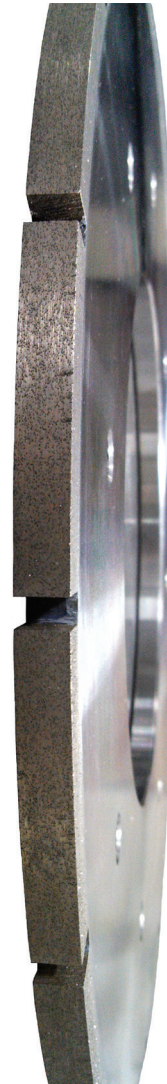
# METAL BOND

Our experience and success with our metal bond products is an area of great pride for us. Over the years we have worked jointly with several machine builders to design bond systems centered around specific high-profile applications including medical and surgical tools. Our standard metal bond systems are excellent; our application engineered systems are superior.

Tried and true, our special bond systems engineered for jig and die grinding have been proven winners for decades. With various bond systems to choose from, you can achieve your exact requirements – whether they are part finish, part quality, cycle times, etc...

Form holding grinding applications are extremely precise and require a high degree of attention to the part finish. We understand this requirement and have engineered unique metal bond systems specifically for these types of applications. Recognizing that part contamination is a critical concern and depending upon the sensitivity of the material you're grinding we have an option that will provide a contamination free grind.

No matter what type of application you have, we have a solution for you. For more detailed information on any of the products mentioned above contact your sales representative, call us directly at 800-341-4426, or email us at [sales@superabrasives.com](mailto:sales@superabrasives.com).



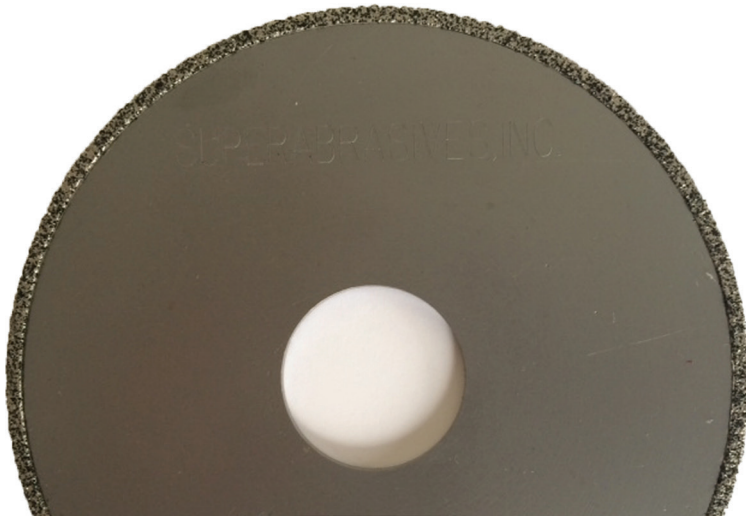
**BURR FREE PARTS | SURFACE INTEGRITY | FORM RETENTION**

# ELECTROPLATED BOND

Our diamond and CBN single layer abrasive electroplated products are used in a variety of applications – like broach, drill form, slotting, cut-off, chain saw, sharpening, hob, and all production grinding. All of these products are unique and each has specific requirements and tolerances that must be held in order to achieve accurate and consistent part geometry.

When ordering new custom designed products from us, two options are available to you – our Design Service or Your Provided Designs. Our application engineers are familiar with the requirements associated with the use and manufacturing of plated wheel cores and will work with you to get the proper design. But if you prefer to do all of the design work yourself that's not a problem for us either

and we'll work with your designs and your staff to confirm the final design.



Going hand in hand with our Design Service, our machining service provides our customers with a worry free solution for core manufacturing. Because we know how critical form tolerances are on the cores themselves, our machining and grinding services are a worry-free solution for any product requirement. Ask us how this service can benefit you.

Diamond and CBN Electroplated Products are available ranging from small I.D. mandrels to large face style wheels up to 24" in diameter. And our strip and replate service is proven to provide fast turn-around times when the need to keep production running becomes the most critical part of your project.

For more detailed information on any of the products and services mentioned above talk with your sales representative, call us directly at 800-341-4426, or email us at [sales@superabrasives.com](mailto:sales@superabrasives.com).

**TIGHT FORM TOLERANCES | DESIGN SERVICE | STRIP & REPLATE SERVICE**



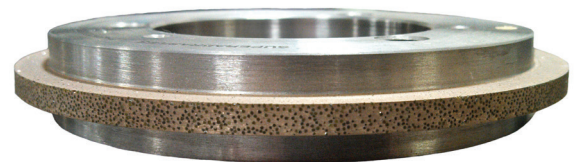
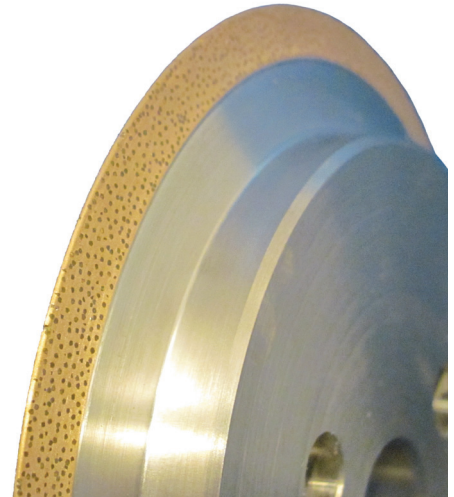
# DRESSERS & DRESSING TOOLS

We have a line of Metal Bond Rotary Diamond Dressing Wheels that are designed specifically for dressing our vitrified CBN and diamond wheels. These products are available in most industry standard shapes and sizes and provide a cost-effective solution to your dressing needs.

Some characteristics of our dressing wheels include a hard metal bond matrix that provides excellent life while still providing superior conditioning of the grinding wheel. This product line is ideal for truing the OD and face of vitrified wheels using a traverse application but is not recommended for any type of profile dressing operation or for dressing conventional abrasive wheels.

Our Relap and Resize Service provides an excellent benefit that can extend the dresser life multiple times over by reconditioning the matrix - no more throwing away the dresser after the initial use. Now you can extend the life of the dresser to get the most return on your investment and reduces the lead time when compared to ordering a brand new tool.

We also have numerous single point type dressing tools and nibs that are ideal for multiple bond types and dressing applications. These tools come in standard industry shapes and sizes and like our metal bond dressing wheels are engineered specifically to dress our vitrified CBN and diamond wheels. BUT the added benefit is that they also dress most grinding wheel bond types used in the field today. For more detailed information on the products and services mentioned above ask your sales representative, call us directly at 800-341-4426 or email us at [sales@superabrasives.com](mailto:sales@superabrasives.com).



**COST EFFECTIVE | REQUALIFY & REUSE | EXTENDED LIFE**

# OUR QUALITY

## Quality Statement

*We are committed to continuous improvement and customer satisfaction, while meeting the requirements of the ISO standard and our quality management system.*

Inspection of the final product is not our solution to quality control at SA. Our goal is to build quality into the product through a series of process improvements that will ensure our customers a consistent, high quality product every time.

There are several methods and philosophies that we use at SA to build quality into the product. First, we recognize that it's a continuous task. Second, product quality improvement typically leads to follow up opportunities. So with both of these objectives in mind, our personnel are encouraged to identify and act on all opportunities to improve quality and value for our customers.

We've made a strong commitment to quality at all levels of the organization with several key members of our staff having certified training related to statistical process control and other aspects of quality assurance. SPC has become an important tool for determining process capability and setting limits. We use these standards throughout our manufacturing process including raw material inspection and vendor compliance.

In 2012 we introduced a new component to our quality program that now provides more transparency and understanding of our processes which then allows us to react faster and apply fixes with increased accuracy and effectiveness.

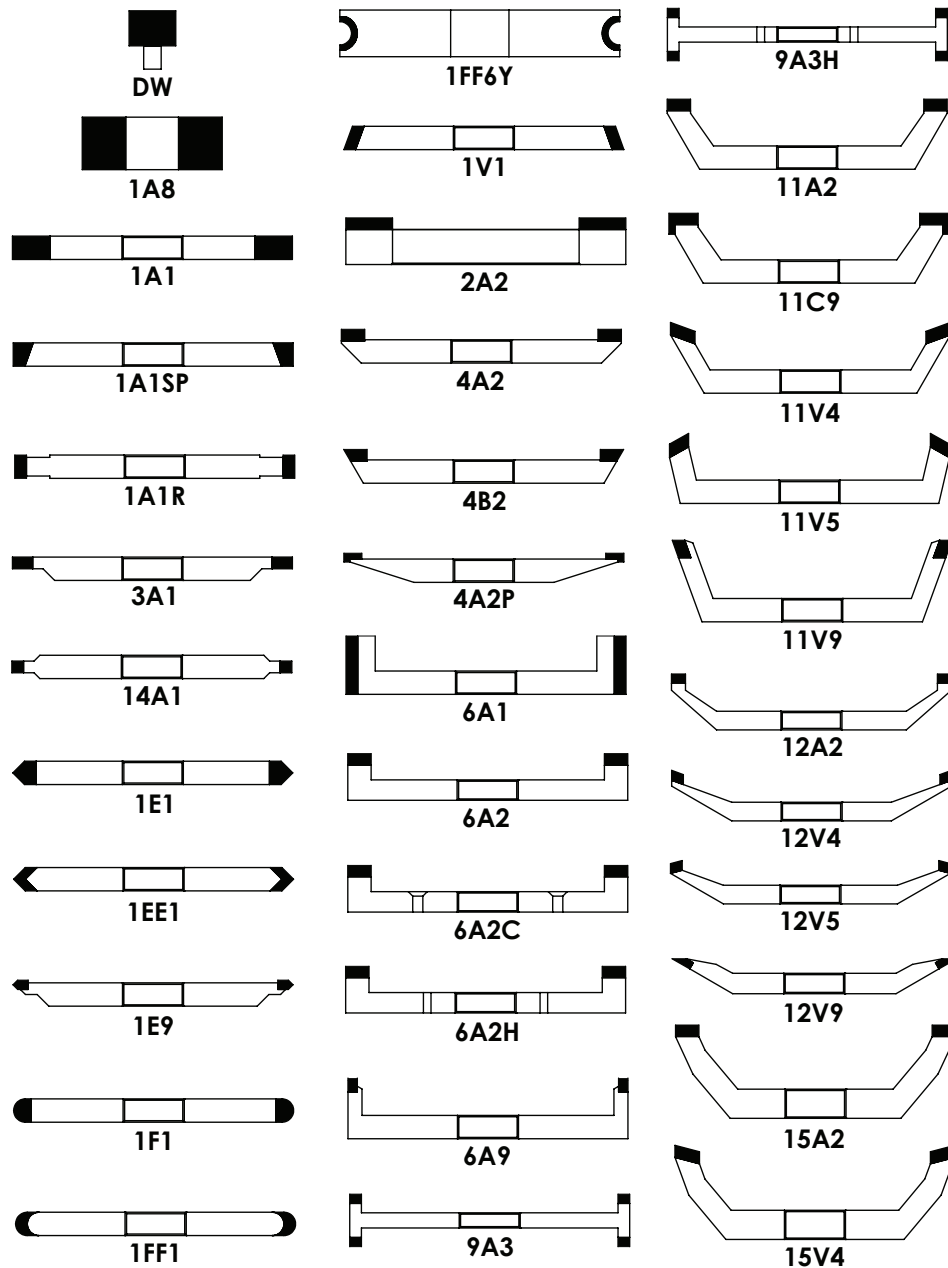
The End Results? Your assurance that we're making a consistently high quality product for you every time you order it.

Ask your sales representative or contact us directly to learn more about our quality program.



**SuperAbrasives, Inc. means superabrasives**

# STANDARD SUPERABRASIVE GRINDING WHEEL SHAPES



All products shown in this section are available in diamond and CBN. And in most cases, all products are available in resin, metal, porous vitrified and electroplated bonds, but some limitations do apply. Please contact your sales representative, call us directly at 800-341-4426 or email us at [sales@superabrasives.com](mailto:sales@superabrasives.com) for further details.

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