



# VSM PRODUCT RANGE 2025/2026

Valid as of April 2025



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VSM is the brand name of **VSM · Vereinigte Schmirgel- und Maschinen-Fabriken** 

**AG** founded by Siegmund Oppenheim and Siegmund Seeligmann in 1864, and became a public limited company in 1898.

Its headquarters are located in Hanover-Hainholz, Germany, where the company was founded. VSM has more than 850 employees worldwide.

With **more than 160 years of experience** in the manufacturing of quality abrasives, VSM is one of the global leaders in the abrasives market. Specializing in premium grinding solutions for the metal and wood industries, VSM's market activities are based on a company strategy

that focuses on the success of its customers.

Satisfied customers are the only benchmark for our company's performance. International VSM subsidiaries and a global distribution network ensure that manufacturers can get our full support in every region of the world.



# **VSM Abrasives USA**

As new products are developed in Hanover, Germany, they are shipped to international subsidiaries in the form of jumbo material. These manufacturing facilities then convert the material into the final product form based on end user specifications.

In 1978, the subsidiary known as VSM Abrasives
Corporation was established to meet a growing
demand for coated abrasives in the United States.
Just outside St. Louis, Missouri, this location offers
manufacturing, customer service and technical
support to customers across the country.

VSM employs more than 150 people at our USA location. Together, we work to offer our customers the best possible product portfolio with our wide range of abrasive solutions while making life a little easier for our customers each and every day.

Our customers value our quality and place their trust in our comprehensive understanding of grinding processes, our global advisory expertise in application technology and our reliable and consistent product availability.



# Quality made in Germany – the champion ceramic grain

# An abrasive grain developed and made entirely in-house

Did you know that VSM produces its own ceramic grain at its Hanover site? This makes us one of only a handful of ceramic grain manufacturers worldwide.

By producing our own abrasive grain, we can influence the performance characteristics of our abrasives.

We also utilize our wealth of technical know-how to develop, produce, and continuously optimize new grain technologies in-house – such as the geometrically shaped ceramic grain used in ACTIROX abrasives.



Ceramic grain abrasives are required for demanding grinding tasks. We produce Ceramic grain in-house.

# **Backing materials finished on site**

We also finish the backing materials for our abrasives ourselves, in our own fabric treatment plant. Why go to all this trouble? Because backing material quality is not only essential for abrasive grain adhesion, but also applies the stock removal forces to the respective workpiece. By adjusting the backing material characteristics to perfectly match our abrasives, we can significantly influence both the performance and the service life of the abrasive.

# The perfect bond for VSM abrasives

Synthetic resin bonds ensure the best-possible adhesion of abrasive grain to the backing material. And the use of active abrasive fillers keeps grinding cool or improves chip clearance. These bonds are also manufactured and actively developed at VSM in Hanover. For high-performance high-quality abrasives – Made in Germany.



The backing materials for our abrasives are finished in our own facility in Hanover.

# **Our quality promise**

Finished goods and pre-assembled articles are subjected to continuous quality assurance testing in-house to verify their grinding performance or belt joints. These tests are carried out in our purposebuilt, state-of-the-art Grinding Unit as well as our VSM Competence Center. We have also been certified to the ISO 9001:2015 standard for many years, and are a member of FEPA, oSa and VDS.

# Producing our own raw materials in-house is a special feature of VSM's abrasive production



# **AVSM**

# Why VSM

Our understanding of abrasive processes is second to none. Not only do we grind every surface to a high-precision finish, we also analyze our customers' specific grinding applications to ensure we always find an optimum long-term solution.

Application-specific know-how is a key differentiator for VSM, and is highly valued by industry, trade and retail customers all over the world.

# **Quality. Expertise. Customer focus. This is what** VSM stands for.

Our day-to-day strategy and decision-making is shaped by our company values.

# We make it easy

> Contract Pricing (24-hour turnaround on quotes)

**Certified and recognized internationally** 

- > Minimize account turnover
- > Maximize margins
- > Short lead times on made-to-order items
- > Customized packaging solutions
- > Training workshops available

# Quality

- > Vertically integrated
- > Made in Germany, finished in the USA
- > Controlled supply chain

# **Expertise**

- > Territory Managers to support you and your customers (average 10 years experience)
- > Application Engineers (5) for testing and preparing cost savings reports

# **Customer focus**

- > When you call, we answer
- > Fast, friendly service

# **Our products**

# Promise of quality, with thousands of product and grit combinations

### **Belts**

- > Narrow
- 1/8" 14"
- > Wide

15" - 58"

# **Sheets & Pads**

- > Sheets
- Standard 9" x 11" (custom sizing available)
- > Hand pads

Standard 6" x 9"



# Rolls

- > Shop rolls
- 1" x 50 yds 1½" x 50 yds 2" x 50 yds



# **Discs**

- > Resin fiber
- > Quick change
- > PSA
- > Hook & loop



# **Accessories**

- Quick change
- Resin fiber
- PSA
- Hook & loop
- Gripper



# > Back-up pads

# **Industries worldwide**



**Implants** 





Fittings





Shipbuilding







Furniture

VDS Verband Deutscher

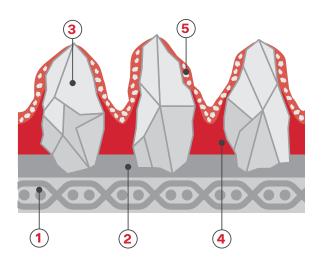


# VSM grinding technology

# Coated abrasives: schematic view

Coated abrasives consist of grains bonded to a flexible substrate. The substrate can have varying degrees of flexibility ranging from extremely flexible (E weight cotton backings) to extremely sturdy (Z weight polyester backings).

These substrates are used as backings for different types of abrasives: rolls, belts, discs and sheets.



# A coated abrasive is made up of four to five different components

- 1. Backing material
- 2. Maker coat
- 3. Abrasive grain
- 4. Size coat
- 5. Optional coat: Additional grinding-active layer (TOP SIZE) Anti-loading layer (ALU-X)

# **Backing material**

The abrasive grain is bonded to a substrate which retains the grain and transfers the cutting forces to the workpiece. The substrates used by VSM as backing materials are:

- > Paper backing
- > Cloth backing
- > Vulcanized fiber

Thanks to **our own cloth finishing plant** in Hanover, we are able to check the quality of the materials we use for each individual production step which ensures that the same high standards are maintained throughout.

This guarantees that we use backing material with the best properties for our abrasives, which translates into optimum performance.

# Maker coat

The maker coat holds the abrasive grain in place. In most cases, phenolic resins or urea resins are used as bonding agents. Specific properties such as flexibility or water-resistance are achieved by adding fillers.

# **Grain technology**

It is the abrasive grain that performs the actual job. It penetrates the workpiece and lifts the chip. High hardness, toughness and sharp edges are the most important characteristics of an abrasive grain.

High-performance abrasives are made from the following synthetic materials:

- > ACTIROX > COMPACTGRAIN PLUS
- > CERAMICS PLUS

> SILICON CARBIDE

> CERAMICS

> XELERION

> COMPACTGRAIN

> DIAMOND/CBN

- > ZIRCONIA ALUMINUM
- > ILUMERON
- > ALUMINUM OXIDE > NON-WOVEN

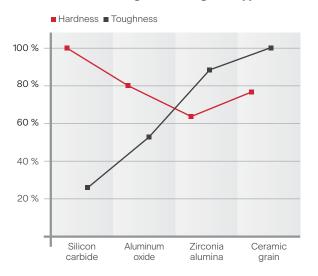
### **VSM** paper

Backing	Paper weight	Typical applications
A-Paper	approx. 70 g/m²	profile + surface polishing (hand)
B-Paper	approx. 100 g/m²	profile + surface polishing (hand)
C-Paper	approx. 120 g/m²	surface polishing (hand)
D-Paper	approx. 160 g/m²	surface polishing (hand, machine)
E-Paper	approx. 250 g/m²	surface polishing (hand, machine)
F-Paper	approx. 300 g/m²	surface polishing (hand, machine)

### **VSM** cloth

Backing	Flexibility	Typical applications
E-Cloth	extremely flexible	profiled workpieces
F-Cloth	very flexible	profiled workpieces
J-Cloth	flexible	profiled workpieces
T-Cloth	semi-sturdy	dynafile, stroke sanding
X-Cloth	sturdy	flat surfaces, edges, cylindrical/centerless
Y-Cloth	very sturdy	flat surfaces, edges, cylindrical/centerless
Z-Cloth	extremely sturdy	edge and surface grinding (machine)

### Hardness and toughness of grain types



# **AVSM**

# The VSM self-sharpening concept

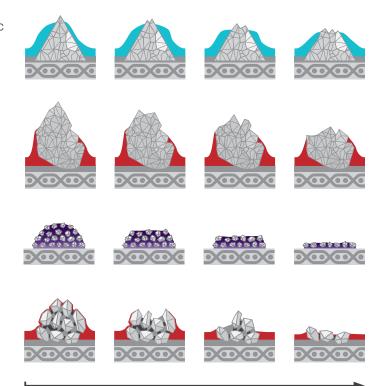
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**ACTIROX** abrasives have geometrically shaped ceramic grains that wear down at a uniform rate, constantly producing new, razor-sharp cutting edges.

**CERAMICS PLUS** and **CERAMICS** feature a microcrystalline structure that allows for a controlled breakdown of the grain, continuously revealing sharper edges — this is known as the optimized self-sharpening effect.

**XELERION** dots consist of multiple layers of sharp abrasive grains embedded in a synthetic resin bond. As the grains wear down, fresh sharp edges are exposed, maintaining high stock removal and a consistent finish.

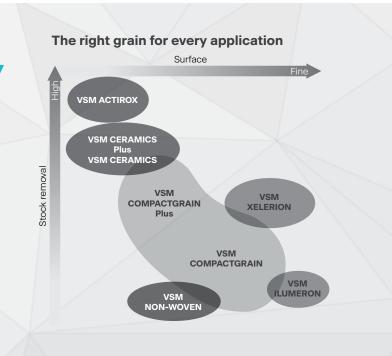
**COMPACTGRAIN PLUS** and **COMPACTGRAIN** abrasives are made of a compact unit of multiple abrasive grains. As the used grains are torn out by cutting forces, fresh grain tips are revealed, ensuring long-term abrasive performance.



# MADE IN GERMANY

VSM is one of the only manufacturers of ceramic grain worldwide.

Thanks to having our own ceramic grain production in Germany, we have a direct influence on the performance of our abrasives.



Grinding time

# **Types of coating**

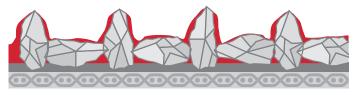
Variations in the coating density of the grain will affect the cutting characteristics of the abrasive product. VSM applies three common coatings including closed, open and split coatings. **Closed coating** is where a full application of abrasive grain is placed on the cloth, paper or fiber carrier. Closed coating is best used for common carbon steels for the longest abrasive life. **Open coating** is where the grain coating is reduced in production to create more space between the individual grains. Open coating reduces grain coverage (30%-70%), creating space to prevent loading when grinding non-ferrous metals, wood and composites. Split coating is an open coat structure using a mix of abrasive grain types and grit sizing. This technology enhances premium grains like zirconia and ceramic for cost efficiency and improved grinding performance.



Closed coating



Open coatir



Split coating

# 4 Size coat

Size coat is the secondary resin applied to abrasive product in the maker to firmly anchor the grain to the backing. Its properties can include extra additives to help improve grinding characteristics for the abrasive.

Depending on the intended application or substrate to be ground, the strength and flexibility of the resin system is engineered to be optimal for the backing carrier or grit size.

# **5** Additional grinding active layer



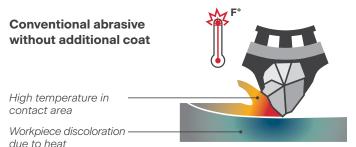
The **TOP SIZE** coat is ideal for dry grinding heatsensitive stainless steels and non-ferrous metals. Its additional layer with grinding additives improves cutting performance, reduces contact area temperature, and significantly extends abrasive life.

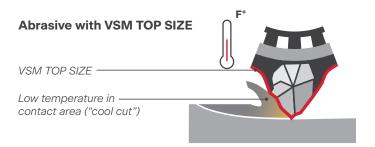


The **ALU-X** additional layer minimizes chip adhesion and clogging, ensuring a longer service life and sustained high stock removal.

**CERAMICS** with **ALU-X** is perfect for rough grinding applications, delivering consistent performance.

**ALUMINUM OXIDE** abrasive belts with **ALU-X** create a matte scratch pattern, making them versatile all-purpose solutions.





# **Grain Technology**

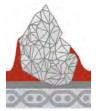
The continuous development of new grain formulations, plus refinement and processing ensures that VSM remains one of the most experienced manufacturers of ceramic grain worldwide. And all "Made in Germany."

# The right grain for every application



### **VSM ACTIROX**

- Geometrically shaped ceramic abrasive grain
- Maximum stock removal and a faster-cut for superalloys and stainless steels
- > Reduced temperature in the contact area extends service life



# VSM CERAMICS PLUS (CER PLUS)

- Optimized self-sharpening effect for grinding high-alloy steels under high contact pressure
- > Reduced temperature in contact area
- > Significantly longer service life



# VSM CERAMICS (CER)

- > Top product with self-sharpening effect for grinding unalloyed steels and stainless steels
- > Very high stock removal
- Cool grinding characteristics minimizes discoloration



# VSM ZIRCONIA ALUMINA (ZA)

- > Abrasive with constant self-sharpening
- > Prolonged and high grinding performance
- > Very high stock removal for medium and high pressure applications



# VSM SILICON CARBIDE (SiC)

- > Very hard
- > Ideal for working titanium, glass, minerals, ceramic, china and stones



# VSM ALUMINUM OXIDE (A/O)

- > General purpose grain for many different metal applications
- Perfect combination of toughness and hardness
- > Ideal for intermediate and finish grinding



# VSM COMPACTGRAIN PLUS (COM PLUS)

- > Extremely long service life
- > Uniform stock removal
- > Reproducible surface finishes and consistent roughness
- > Constant self-sharpening thanks to the granulate structure



# VSM COMPACTGRAIN (COM)

- Uniform stock removal to the backing material extends service life and produces consistent surfaces
- > Improved bonding properties
- Constant self-sharpening thanks to the granulate structure



### **VSM XELERION**

- Randomized dot structure containing fine grit abrasives
- > High initial aggressiveness and constant stock removal
- Flawless and uniform surfaces for high gloss in low pressure applications



### **VSM ILUMERON**

- > Full faced coated long-term abrasive with special applied bonding
- > For fine and consistent surfaces with a high gloss level
- > Developed for stainless steels, superalloys and unalloyed steels

# VSM DIAMOND/CBN (DA/BA)



- > Extremely hard
- > For grinding coated and hard, brittle materials such as titanium/tungsten carbide, glass, marble and granite



# **VSM NON-WOVEN**

- > Perfectly follows the shape of a workpiece
- > For premium scratch patterns which can easily be reproduced
- > Available as A/O and SiC

Additional grinding-active layers for specific applications



The **TOP SIZE** coat is a grindingactive additional layer that reduces the temperature in the grinding zone.



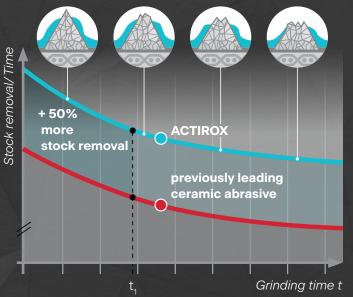
Abrasives with an **antistatic** coat are primarily used for woodworking. They prevent the build-up of an electrostatic charge so that the grinding dust does not adhere to the workpiece or the machine.



The anti-adhesive layer **ALU-X** is primarily designed for non-ferrous metals. It prevents chip adhesion and clogging of the abrasive. It also enhances the service life of the abrasive.



# ACTROX



Thanks to their extremely high stock removal rate, VSM ACTIROX fiber discs can process more workpieces in the same time.

From deburring to grinding cast parts or leveling weld seams, you too can enjoy the benefits offered by **ACTIROX**.

**ACTIROX** utilizes geometrically shaped ceramic abrasive grains that break down in a precise, predictable way. As they do, they constantly produce new, razor-sharp cutting edges. This ensures aggressive grinding and maximum stock removal.

# **YOUR ADVANTAGES**

- > Maximum stock removal per time unit thanks to geometrically shaped ceramic grain
- More workpieces processed per unit of time
- > Cooler grinding, preventing discoloration on stainless steels
- > Improved chip clearance even when grinding aluminum

# Your grinding task

Deburring Beveling Weld seam leveling Removal of imperfections preparation Cast parts

Weld seam preparation Cast parts

# Abrasive grain in top shape!

3 reasons why AK890Y should be an essential part of your operation

- Maximum stock removal resulting in lower operating expenses.
- Low to medium contact pressures minimize noise and vibrations, which helps reduce the strain on operators and machines.
- Faster grinding greatly **reduces processing times** even when deburring and removing sprues or weld seams.



# VSM

# ACTROX

VSM is one of the only ceramic grain manufacturers in **Germany and the rest of the world.** By producing our own abrasive grain at our Hanover site, we can significantly influence the performance characteristics of our VSM abrasives.



Upright abrasive grain for aggressive and faster grinding









The geometrically shaped ceramic abrasive grain wears down in a defined manner, creating a series of new, sharp cutting edges

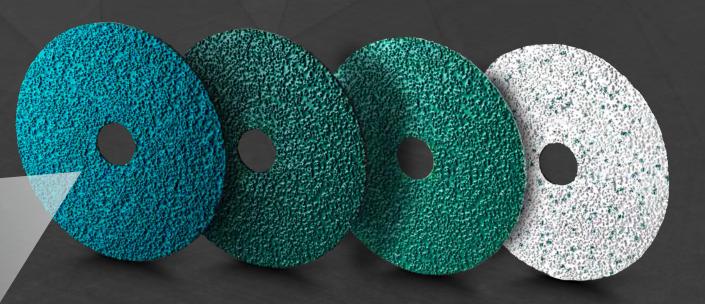


Lower temperatures in the grinding zone thanks to VSM TOP SIZE.

Cloth and vulcanized fiber backing materials have been developed in-house to handle the toughest jobs

# maximum stock removal

Fiber discs for











■ VSM ACTIROX

AF799







Developed for ...







Developed for ...



Developed for ...





# **RECOMMENDED BACK-UP PADS**

**APEX PAD 1** 



Medium • Rubber

APEX PAD 2

APEX PAD 3

Rigid • Rubber

Extra rigid • FRP

TURBO PAD



# XELERION

# Fine polishing - right on point



**New standards** for fine polishing applications. **XELERION** achieves a flawless, reproducible finish, ensures sustained high stock removal and reduces the number of required process steps.

Polishing processes are more efficient and operator fatigue is significantly reduced.

# For maximum productivity

The improved stock removal performance simplifies the polishing process considerably. Even with fine grit sizes, stock removal is high, which means **XELERION** can easily polish out rough surfaces. Furthermore, common grit size steps can be skipped to achieve the desired surface finish with just a few grinding passes.

High performance also means fewer process steps and tool changes. Productivity is massively increased.





Grinding direction



Product data sheet



**VSM XELERION** KK670J

Product data sheet

# Developed for:

# **Randomized structure**

Unlike similar competitor products, the **XELERION dots** are not arranged strictly symmetrically on the backing, but in a randomized manner.

Short, irregular grinding interruptions optimize the distribution of force and heat, resulting in cooler grinding. This helps to prevent discoloration and deformation of the material.

A **perfectly reproducible finish** is achieved – right up to a flawless scratch pattern for high-gloss surfaces.





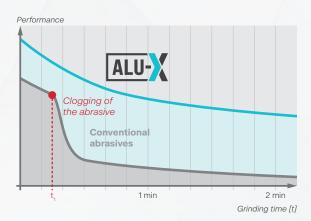
# From X-PERTS for X-PERTS

ALU-X is the new series of abrasives developed by VSM to meet the specific requirements of grinding non-ferrous metals.

Here, the proven **CERAMICS** grain technology with continuous self-sharpening is complemented by the additional grinding-active layer ALU-X. The result: improved chip removal, fewer tool changes, more workpieces per shift, more stock removal and a grease-free workplace.

# Your advantages at a glance

- > Specially developed for grinding aluminum and non-ferrous metals
- > ALU-X significantly reduces chip adhesion and clogging of the abrasive; which reduces the number of tool changes
- > Grease-free and oil-free grinding keeps the workplace clean.



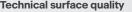
Grinding aluminum alloy bars (Ø 30 mm, AlSi12Cu) using fiber discs with arit size 24.

- > Increased performance enables faster workpiece grinding and lowers the process costs
- > VSM always delivers premium made-in-**Germany quality**



# Your grinding task









# ILUMERON

# **Grinding stainless-steel** surfaces

**ILUMERON** degrades uniformly across its entire surface. This produces much finer surfaces than traditional long-term abrasives.

RK700X VSM ILUMERON (AO) grit size 1200



Competing product grit size 1200



### Product

### Gloss Unit (GU)\*

\*) Gloss Units (GU) are the unit of measure for gloss as measured by a gloss meter. A perfectly satin finish has a gloss level equal to 0 gloss units. High-gloss surfaces usually have a value of more than 70 GU.

# **YOUR ADVANTAGES**

- > Workpieces can be ground and polished in a single step
- > Wild scratches are avoided in the grinding process
- > Particularly high gloss values
- > Significantly extended service life
- > A perfectly prepared surface for subsequent coating processes

# Your grinding task



# Gives your workpiece the perfect shine





# **Stock Removal**

Stock removal is the process of grinding excess material to become close to the desired size before beginning a finishing process. Depending on the substrate being abraded, certain grains and the construction of the abrasive will provide the optimal cutting characteristics for the ideal tool cost.

While there is a wide range of perceived definitions of stock removal, most industrial uses identify grit sizes 20 through 60 to be the typical sizes designated for maximum removal.

# **Choosing the right abrasive**

What is the primary challenge when roughing?

- > Descaling to get a clean surface: Ensuring the workpiece is free from scale or contaminants.
- > Material hardness: Abrasive selection depends on whether the material is soft or hard.

# Our stock removal grains

- > ACTIROX > ZIRCONIA ALUMINA
- > CERAMICS PLUS > DIAMOND
- > CERAMICS > CBN

- > Temperature of workpiece to avoid discoloration: Managing heat to prevent discoloration or damage to the surface.
- > Required material removal: Choosing the right abrasive and process for the volume of material to be removed.



# Your grinding task





Weld seam



Removal of



Weld seam



Grinding of

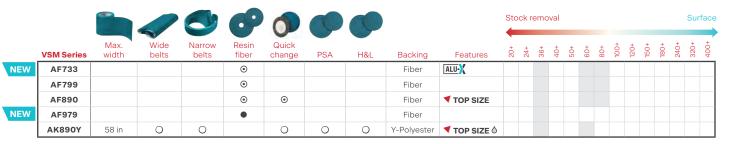






# **Stock Removal**

# **ACTIROX**



# **CERAMICS PLUS**

				0						Sto	ck re	emov	val									Sur	face
VSM Series	Max. width	Wide belts	Narrow belts	Resin fiber	Quick change	PSA	H&L	Backing	Features	20	24	36	40	20	09	80	100	120	P150	P180	P240	P320	P400
XF885				•	•			Fiber	<b>▼</b> TOP SIZE														
XK285T	58 in		•			•		T-Cotton	<b>▼</b> TOP SIZE														T
XK885Y	58 in	•	•		•	•		Y-Polyester	<b>▼</b> TOP SIZE ◊														
XK880Y	58 in	•	•			•		Y-Polyester	<b>▼</b> TOP SIZE ◊														
XP780	57 in	0	0			0	0	F-Paper															

# **CERAMICS**

				60						Sto	ok re	emo	val									Surfac
VSM Series	Max. width	Wide belts	Narrow belts	Resin fiber	Quick change	PSA	H&L	Backing	Features	20	24	36	40	20	09	80	100	120	P150	P180	P240	P320 P400
XF733				•				Fiber	ALU-X													
XF760				•				Fiber														
XF870				•				Fiber	<b>▼</b> TOP SIZE													
XK733X	58 in	•	•			•	•	X-Polyester	△ ALU-X													
XK747Z	58 in	•	•			•		Z-Polyester	٥													
XK760X	58 in	•	•			•	•	X-Polyester	٥													
XK760Y	58 in	•	•			•		Y-Polyester	٥													
XK770Z	58 in	•	•			•		Z-Polyester	٥													
XK850X	58 in	•	•			•		X-Polyester	<b>▼</b> TOP SIZE ◊													
XK870F	58 in		0			0		F-Cotton	<b>▼</b> TOP SIZE													
XK870J	58 in	•	•			•		J-Polyester	<b>▼</b> TOP SIZE ◊													
XK870T	58 in		0			0		T-Cotton	<b>▼</b> TOP SIZE													
XK870X	58 in	•	•		•	•	•	X-Polyester	<b>▼</b> TOP SIZE ◊													
XK875X	58 in	•	•			•		X-Polyester	<b>▼</b> TOP SIZE ◊													
XK877Z	58 in	•	•			•		Z-Polyester	<b>▼</b> TOP SIZE ◊													
XK888Z	58 in	•	•			•		Z-Polyester	<b>▼</b> TOP SIZE ◊													

# **ZIRCONIA ALUMINA**



# **DIAMOND/CBN**



# Key

- O for low to medium contact pressure
- o for medium contact pressure
- for medium to high contact pressure
- also suitable for wet grinding

Grinding-active additional layer reduces the temperature in the grinding zone.

Prevents chip adhesion to avoid clogging up the abrasive. also results in longer service life.

Achieve higher stock removal than expected with the specified grit size without a rougher surface.

# **Cotton and Polyester**

### Flexibility of the backing material:

- E extremely flexible
- J flexible
- T moderate
- **X** sturdy
- Y very sturdy
- **Z** extremely sturdy

### Diamond/CBN Coating FIF fine island finishing FULL full coating

Flexibility of the backing material:

- A approx. 70 g/m<sup>2</sup>
- B approx. 100 g/m<sup>2</sup>
- C approx. 120 g/m<sup>2</sup>
- D approx. 160 g/m<sup>2</sup>
- E approx. 250 g/m<sup>2</sup>
- F approx. 300 g/m<sup>2</sup>



# **Finishing**

Finishing, often referred to as polishing, involves refining the surface of a workpiece to achieve the desired quality. Depending on the industry and customer specifications, the finish of the workpiece may be defined by visual finish or numerical measure.

The finishing process typically includes multiple steps, utilizing abrasives of progressively finer grit sizes to meet the specified standards. Grit sequences can start as coarse as 80 grit and progress to exceptionally fine finishes, exceeding 2500 grit.

# **Choosing the right abrasive**

What is the primary goal when finishing?

- > **Visual finish:** Achieving the desired surface appearance, such as mirror, matte, or blended finishes.
- > **Technical finish:** Meeting specific roughness parameters, including Roughness Average (Ra, Rz, Rzmax).
- > Consistent finish between production batches:
  Ensuring a uniform finish across all parts for improved quality and repeatability.
- > **Required material removal:** Selecting abrasives that efficiently remove the necessary amount of material.

# **Our finishing abrasives**

- > COMPACTGRAIN PLUS
- > CORK
- > COMPACTGRAIN
- > ILUMERON

> XELERION



# Your finishing task

Cylindrical polishing



Planetary polishing



Dual action orbital sanding



Flat polishing



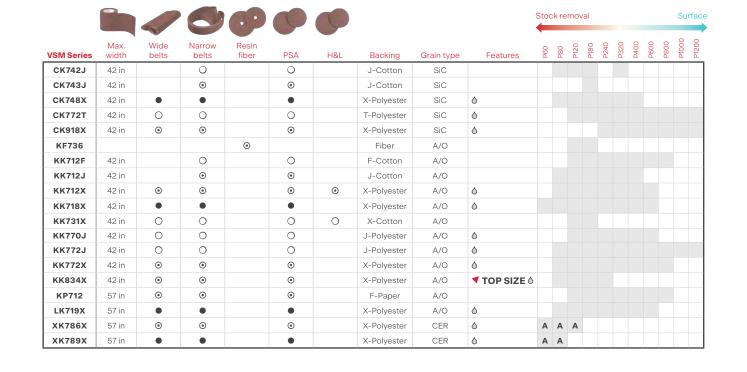


# **Finishing**

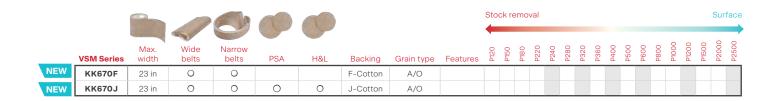
# **COMPACTGRAIN PLUS**



# **COMPACTGRAIN**



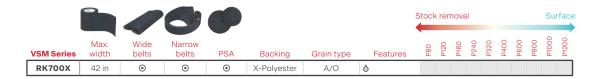
# **XELERION**



# **CORK**



# **ILUMERON**



# Key

- O for low to medium contact pressure
- for medium contact pressure
- for medium to high contact pressure
- also suitable for wet grinding
- A ANSI graded

### **▼** TOP SIZE

Grinding-active additional layer reduces the temperature in the grinding zone.

### Cotton and Polyester

### Flexibility of the backing material:

- E extremely flexible
- F very flexible
- **J** flexible
- T moderate
- **X** sturdy
- Y very sturdy
- **Z** extremely sturdy

### Paner

Flexibility of the backing material:

- A approx. 70 g/m²
- B approx. 100 g/m²
- C approx. 120 g/m²
- D approx. 160 g/m²
- E approx. 250 g/m²

F approx. 300 g/m²

35



# **General Purpose**

General purpose abrasives are designed for versatility, making them suitable for a wide range of applications. While specialized grains excel in specific tasks, such as achieving an optimal cut rate or a precision finish, general-purpose abrasives offer a more economical solution for achieving desired results.

These abrasives typically perform at a lower level than specialized products in high-production settings but provide a cost-effective option for short-term sanding tasks. Their grit range covers the full spectrum but is most commonly 80 grit or finer.

# **Choosing the right abrasive**

The key factors influencing the choice of general purpose grain include:

- > **Flexibility:** A general purpose abrasive should provide adaptability, allowing it to be used across various applications and materials.
- > Waterproof: The abrasive's resistance to water is essential, ensuring consistent performance even in wet conditions.

# Our general purpose grains

- > ALUMINUM OXIDE
- > SILICON CARBIDE

- > **Convenience:** A good general purpose abrasive should be easy to use, minimizing setup time and effort during application.
- > **Cost point:** Cost-effectiveness plays a crucial role in choosing the right abrasive, balancing quality with budget considerations.



# Your grinding task

Cylindrical grinding



Hand sanding



Backstand grinding

lat grinding

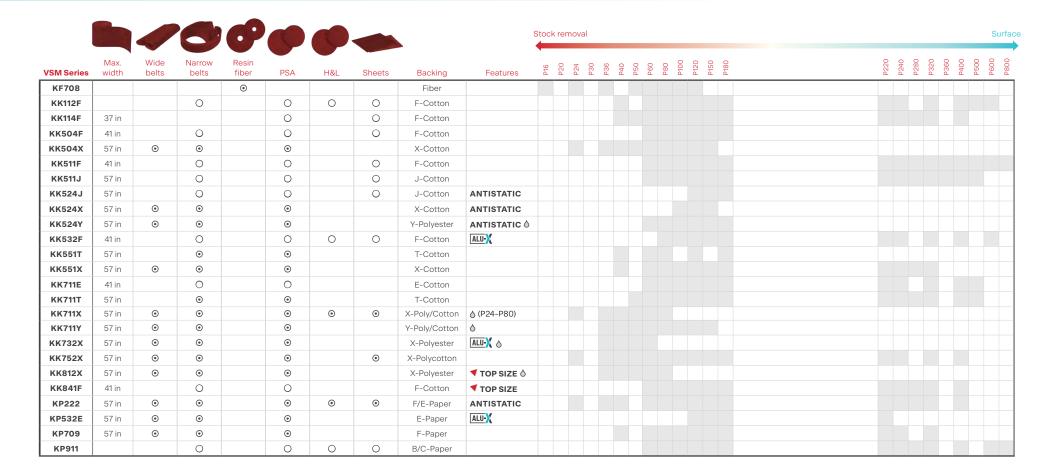






# **General Purpose**

# **ALUMINUM OXIDE**



# **SILICON CARBIDE**

[			0	0	<b>(</b> )		•		Stock	rem	ioval																	Surface
VSM Series	Max. width	Wide belts	Narrow belts	PSA	H&L	Sheets	Backing	Features	P16	P20	P24	P36	P40	P50	P80 80	P100	P120	P150	P220	P240	P280	P320	P360	P400	P500	P800	P1000	P1500
CK721J	57 in		0	0			J-Cotton																					
CK721X	57 in	•	•	•			X-Poly/Cotton	٥																				
CK722Y	57 in	•	•	•			Y-Polyester	ANTISTATIC Ó																				
CP501	57 in	•	•	•	•	0	E-Paper																					
CP918A	65 in			0	0	0	A-Paper	٥																				
CP918C	65 in		0	0	0	0	C-Paper	٥																				

# Key

- O for low to medium contact pressure
- for medium contact pressure
- for medium to high contact pressure
- also suitable for wet grinding

### **▼** TOP SIZE

Grinding-active additional layer reduces the temperature in the grinding zone.

### ALU-X

the abrasive. Also results in longer service life.

Prevents the build-up of an electrostatic charge.

### Cotton and Polvester

Flexibility of the backing material:

- E extremely flexible
- F very flexible J flexible
- T moderate
- Y verv sturdv
- **Z** extremely sturdy

Flexibility of the backing material:

- B approx. 100 g/m<sup>2</sup>
- C approx. 120 g/m² D approx. 160 g/m<sup>2</sup>
- E approx. 250 g/m<sup>2</sup>
- F approx. 300 g/m<sup>2</sup>



# **Surface Conditioning**

Surface conditioning products are a more forgiving type of abrasive, designed to provide a gentler approach to sanding and finishing. Through the way the abrasive grain is presented to the workpiece, surface conditioning products are a general purpose type product for handwork and mechanical sanding.

Surface conditioning products are typically graded using general terms such as Coarse (Brown), Medium (Maroon), Fine (Green), Very Fine (Black), and Ultra Fine (Gray), with each color corresponding to a specific grit size for easy identification.

# **Choosing the right abrasive**

How to choose the best grit:

- > **Grit correlation:** Surface conditioning abrasives have corresponding grit sizes, but they produce a finer scratch compared to conventional abrasives of the same grit size due to their construction.
- > **Selection process:** Choose the grit by using a finer surface conditioning abrasive after a coarser conventional abrasive to achieve the desired finish.

# **Our surface conditioning grains**

- > NON-WOVEN
- > PROSTRIP



# Your grinding task Die grinding Rotary grinding Backstand grinding Flat grinding Flat grinding



# **Surface Conditioning**

# **NON-WOVEN**



# **PROSTRIP**

				Stock removal		Surface
VSM Series	Diameter	Discs	Quick change	Неаvу	Med.ium	Light
PROSTRIP RED	2 in		0			
	3 in		0			
	4 ½ x ⅓ in	0				
	5 x 1/3 in	0				
	7 x ⅓ in	0				
PROSTRIP BLACK	2 in		0			
	3 in		0			
	4 ½ x ⅓ in	0				
	5 x ⅓ in	0				
	7 x ⅓ in	0				
PROSTRIP BROWN	2 in		0			
	3 in		0			
	4 ½ x ⅓ in	0				
	5 x ⅓ in	0				
	7 x % in	0				

# Key

- O for low to medium contact pressure
- for medium contact pressure
- for medium to high contact pressure
- also suitable for wet grinding



# In stock and ready to ship

VSM understands the importance of quick delivery to keep your operations running smoothly. That's why we've made sure to stock the most essential abrasive products, ensuring faster turnaround times for all of our customers.

- > Faster turnaround times: Immediate availability of high-demand abrasives means less waiting and more working.
- > **Reliable quality:** Every item is carefully selected to provide superior performance and consistency.
- > Variety and flexibility: With a wide range of products in stock, we ensure we have the right abrasives for your specific needs.

# Our finished goods

# **Quick Change Discs**

Convenient and efficient abrasive solutions

The quick-change mechanism of these discs allows for rapid disc swaps without tools, minimizing operator downtime. These discs offer enhanced control, making them ideal for detailed work or finishing in small areas, such as edges, corners and intricate parts.

### **Back-up Pads**

Reliable support for optimal abrasive performance

Back-up pads provide a secure and stable base for various abrasive discs, ensuring consistent pressure and smooth operation. Designed for durability and flexibility, they help extend disc life.

### **Resin Fiber Discs**

High-performance for a variety of applications

Resin fiber discs are suitable for tasks like grinding, deburring, blending and finishing. The resin bond provides a strong and durable structure, ensuring the abrasive grains stay adhered during use while their fiber backing adds another layer of toughness.

### **MRO**

Solutions for maintenance, repair and operations

MRO abrasive products are designed to tackle a wide range of industrial maintenance and repair tasks, from grinding and deburring to surface preparation and finishing. These products ensure ease, efficiency and reliability in demanding environments.



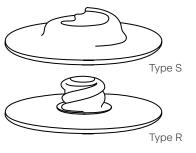




# **Stocked Quick Change Discs**

# **Quick and easy attachment**

Quick change discs are ideal for small work areas and are commonly used with die grinders. They feature an easy twist-on/twist-off fastening system (as pictured) which simplifies disc and grit replacement. Common applications include stock removal, deburring and blending.



This illustration represents the coated abrasive disc hub.

# The right grain for every application

### Stock removal

ACTIROX	
CERAMICS PLUS	
CERAMICS	
ZIRCONIA ALUMINA	<b>A A</b>
ALUMINUM OXIDE	<b>A</b>

### **Finish**

<b>A A</b>
<b>A</b>
<b>A</b>

### **Surface cleaning**

PROSTRIP	
NON-WOVEN	<b>A A</b>
ALUMINUM OXIDE	<b>A</b>

# **Back-up pads**





### **APEX features**

- > Extended abrasive life and reduced heat thanks to rubber ridges
- > Increased vibration damping
- > Best for contoured workpieces
- > Fixed shaft molded into pad

VSM Series	Diameter	Type	Shank dia.	Features
APEX	1½ in	S	1/4	Rigid, rubber
	2 in	S	1/4	Rigid, rubber
	3 in	S	1/4	Rigid, rubber
	1½ in	R	1/4	Rigid, rubber
	2 in	R	1/4	Rigid, rubber
	3 in	R	1/4	Rigid, rubber



### **Standard features**

- > Reduced heat and extended abrasive life thanks to cooling fins
- > Cambering for increased stock removal and reduced vibration
- > Increased stock removal

VSM Series	Diameter	Type	Shank dia.	Features
Standard	1½ in	S	1/4	Extra Rigid, FRP
	2 in	S	1/4	Extra Rigid, FRP
	3 in	S	1/4	Extra Rigid, FRP
	1½ in	R	1/4	Extra Rigid, FRP
	2 in	R	1/4	Extra Rigid, FRP
	3 in	R	1/4	Extra Rigid, FRP



# **Stocked Quick Change Discs**

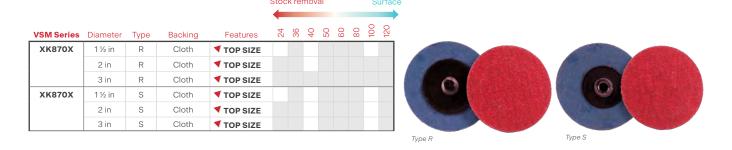
# ACTIROX Stock removal Surface

					St	ock re	emov	/al		5	Surfac
/SM Series	Diameter	Type	Backing	Features		36+	40+	+09	+09	80+ 100+	120+
AF890	1½ in	R	Fiber	<b>▼</b> TOP SIZE							
	2 in	R	Fiber	<b>▼</b> TOP SIZE							
	3 in	R	Fiber	<b>▼</b> TOP SIZE							
AF890	1½ in	S	Fiber	<b>▼</b> TOP SIZE							
	2 in	S	Fiber	<b>▼</b> TOP SIZE							
	3 in	S	Fiber	<b>▼</b> TOP SIZE							
AK890Y	1½ in	R	Cloth	<b>▼</b> TOP SIZE							
	2 in	R	Cloth	<b>▼</b> TOP SIZE							
	3 in	R	Cloth	<b>▼</b> TOP SIZE							
AK890Y	1½ in	S	Cloth	<b>▼ TOP SIZE</b> META	L	M					
	2 in	S	Cloth	▼ TOP SIZE META	L	M					
	3 in	S	Cloth	<b>▼</b> TOP SIZE							

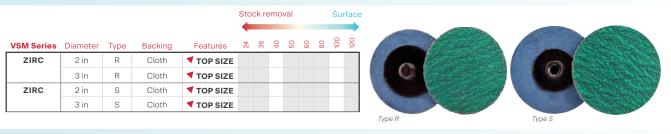
# **CERAMICS PLUS**



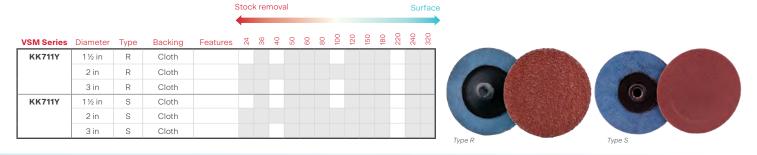
# **CERAMICS**



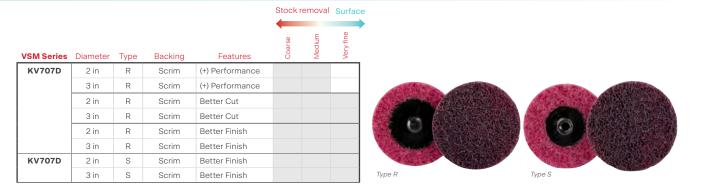
# **ZIRCONIA ALUMINA**



# **ALUMINUM OXIDE**



# **NON-WOVEN**



# **PROSTRIP**



# Key

▼ TOP SIZE

Grinding-active additional layer reduces the temperature in the grinding zone.

Achieve higher stock removal than expected with the specified grit size without a rougher surface.

Metal hub option available.

Shaded cells indicate stocked items. Other dimensions and grit sizes available upon request.



# **Stocked Resin Fiber Discs**

# Stock removal with durability

Resin fiber discs are heavy-duty coated abrasive discs designed for aggressive grinding, blending and finishing applications.

They consist of a strong, vulcanized fiber backing coated with abrasive grains and bonded with a resin system, providing durability and heat resistance.

# The right grain for every application

### Stock removal

# ACTIROX CERAMICS PLUS CERAMICS ZIRCONIA ALUMINA ALUMINUM OXIDE

### **Finish**

ALUMINUM OXIDE	
ACTIROX	<b>A A</b>
CERAMICS PLUS	<b>A</b>
CERAMICS	<b>A</b>

# **Back-up pads**



### **APEX features**

- > Cooling fins reduce heat
- > Less pressure required for operators
- > Aggressive stock removal

VSM Series	Diameter	Thread	Features
APEX 1	4 ½ in	5/8 - 11	Flexible, rubber
	5 in	5/8 - 11	Flexible, rubber
	7 in	5/8 - 11	Flexible, rubber
	9 in	5/8 - 11	Flexible, rubber
APEX 2	4 ½ in	5/8 - 11	Medium, rubber
	5 in	5/8 - 11	Medium, rubber
	7 in	5/8 - 11	Medium, rubber
	9 in	5/8 - 11	Medium, rubber
APEX 3	4 ½ in	5/8 - 11	Rigid, rubber
	5 in	5/8 - 11	Rigid, rubber
	7 in	5/8 - 11	Rigid, rubber
	9 in	5/8 - 11	Rigid, rubber



### **TURBO** features

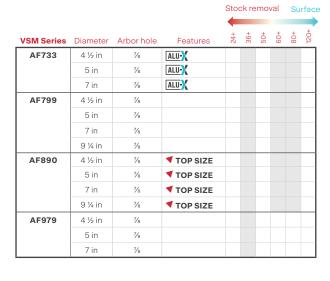
- > Cooling fins reduce heat
- > Less pressure required for operators
- > Aggressive stock removal

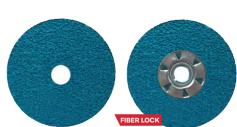
VSM Series	Diameter	Arbor hole	Features		
TURBO	4 ½ in	7∕8	Extra rigid, FRP		
	5 in	7∕8	Extra rigid, FRP		
	7 in	7∕8	Extra rigid, FRP		



# **Stocked Resin Fiber Discs**

# **ACTIROX**





# **CERAMICS PLUS**







# **CERAMICS**

				Stock Terrioval				Tace			
VSM Series	Diameter	Arbor hole	Features	24	36	40	20	09	80	100	120
XF760	4 ½ in	7∕8									
	5 in	7∕8									
	7 in	7∕8									
XF870	4 ½ in	7∕8	<b>▼</b> TOP SIZE								
	5 in	7∕8	<b>▼</b> TOP SIZE								
	7 in	7∕8	<b>▼</b> TOP SIZE								
	9 ¼ in	7/8	<b>▼</b> TOP SIZE								

Stock removal



# **ZIRCONIA ALUMINA**





# **ALUMINUM OXIDE**

				Stoc	Stock removal					Surface		
VSM Series	Diameter	Arbor hole	Features	24	36	40	20	09	80	100	120	
KF708	4 ½ in	7∕8										
	5 in	7/8										
	7 in	7/8										
	9 ¼ in	7/8										



# **PROSTRIP**









# Key

### **▼** TOP SIZE

Grinding-active additional layer reduces the temperature in the grinding zone.

Fiber lock option available.



Prevents chip adhesion to avoid clogging up the abrasive. Also results in longer service life.

Achieve higher stock removal than expected with the specified grit size without a rougher surface.

Shaded cells indicate stocked items. Other dimensions and grit sizes available upon request.



# **Stocked Back-up Pads**

# **RESIN FIBER PADS**



### **APEX features**

- > Cooling fins reduce heat
- > Less pressure required for operators
- > Aggressive stock removal
- > Does not include retaining nut

VSM Series	Item no.	Diameter	Thread	Features
APEX 1	151302	4 ½ in	5∕8 - 11	Flexible, rubber
	151303	5 in	5/8 - 11	Flexible, rubber
	151304	7 in	5∕8 - 11	Flexible, rubber
	151305	9 in	5/8 - 11	Flexible, rubber
APEX 2	151306	4 ½ in	5∕8 - 11	Medium, rubber
	151307	5 in	5/8 - 11	Medium, rubber
	151308	7 in	5/8 - 11	Medium, rubber
	151309	9 in	5/8 - 11	Medium, rubber
APEX 3	151310	4 ½ in	5⁄8 − 11	Rigid, rubber
	151311	5 in	5/8 - 11	Rigid, rubber
	151312	7 in	5/8 - 11	Rigid, rubber
	151313	9 in	5⁄8 − 11	Rigid, rubber



### **TURBO** features

- > Cooling fins reduce heat
- > Less pressure required for operators
- > Aggressive stock removal
- > Includes retaining nut

VSM Series	Item no.	Diameter	Arbor hole	Features
TURBO	150481	4 ½ in	7∕8	Extra Rigid, FRP
	150482	5 in	7∕8	Extra Rigid, FRP
	150483	7 in	7∕8	Extra Rigid, FRP

VSM Series	Item no.	Thread
RETAINING NUT	129404	5/8 - 11

# **QUICK CHANGE PADS**



# **APEX features**

- > Extended abrasive life and reduced heat thanks to rubber ridges
- > Designed for reduced vibration
- > More forgiving due to rubber composition

VSM Series	Item no.	Diameter	Type	Shank dia.	Features
APEX	151320	1½ in	S	1/4	Rigid, rubber
	151321	2 in	S	1/4	Rigid, rubber
	151322	3 in	S	1/4	Rigid, rubber
	151315	1½ in	R	1/4	Rigid, rubber
	151316	2 in	R	1/4	Rigid, rubber
	151317	3 in	R	1/4	Rigid, rubber



# Standard features

- > Cooling fins reduce heat
- > Designed for reduced vibration
- > Cambered for increased stock removal

SM Series	Item no.	Diameter	Type	Shank dia.	Features
Standard	71715	1½ in	S	1/4	Extra Rigid, FRP
	70812	2 in	S	1/4	Extra Rigid, FRP
	70815	3 in	S	1/4	Extra Rigid, FRP
	80639	1½ in	R	1/4	Extra Rigid, FRP
	70814	2 in	R	1/4	Extra Rigid, FRP
	70817	3 in	R	1/4	Extra Rigid ERP

# **PSA PADS**



### **Features**

- > Flexible DA pad
- > Durable PVE face

VSM Series	Item no.	Diameter	Thread	Features
PSA	129398	5 in	Male 5/16 - 24	Low profile, vinyl
	147631	5 in	Male 5/16 - 24	High profile, vinyl
	129400	6 in	Male 5/16 - 24	Low profile, vinvl

# **HOOK & LOOP PADS**



### **Features**

- > Secure J-hooks
- > Rigid backing plate

VSM Series	Item no.	Diameter	Thread	Features
ноок	147727	4 in	Male 5/16 - 24	Low profile, D/A
& LOOP	129399	5 in	Male 5/16 - 24	Low profile, D/A
	129401	6 in	Male 5/16 - 24	Low profile, D/A
	148467	5 in	Female % -11	J-hook, right angle

# **GRIPPER PADS**



### **Features**

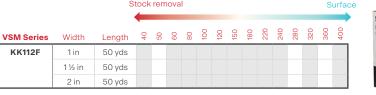
- > Right angle grinder compatible
- > Extra secure T-hooks for surface conditioning scrim backing

VSM Series	Item no.	Diameter	Thread	Features
GRIPPER	148409	4½ in	Female % -11	T-hook
	148410	5 in	Female % -11	T-hook
	149071	7 in	Female 5% -11	T-hook

# **AVSM**

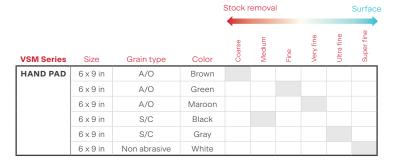
# **Stocked MRO**

# **SHOP ROLLS**



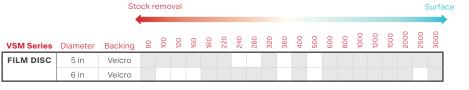


# **HAND PADS**



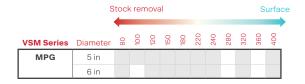


# **FILM DISCS**





# **MPG**





# Key

Shaded cells indicate stocked items. Other dimensions and grit sizes available upon request.

# **Notes**

 _

# Notes



# **VSM – More than just three letters**

# **Quality. Expertise. Customer focus.** This is what VSM stands for.

Very few others understand grinding processes like we do. Not only do we grind every surface to precision, we also analyze the specific grinding applications of our customers so that we can always find the best, long-term solution. Process-related expertise is one of the distinguishing features of VSM.

# We know abrasives

VSM develops and produces all the main components such as backing fabrics, resin bonds and abrasive grains at its Hanover site. By doing so, we fulfill our high, self-imposed requirements in industrial, the commercial and trade sectors. The continuous development of further grain compositions, their refinement and processing ensures that VSM remains one of the most experienced manufacturers of ceramic grain worldwide.

# **Application-based expertise**

We see all grinding processes of our customers as the challenge. A global network of VSM specialists provides expert advice wherever it is needed irrespective of

whether your company is large or small. Thanks to our close collaboration with machine manufacturers, cutting fluid experts, and research institutes, we ensure that our customers can benefit from technological trends.

# We make our expertise available for you

The VSM Technical Center (TC) in Hanover provides an opportunity for product training, seminars and extensive application tests. Customer applications can be adjusted and results reviewed. This service from VSM reduces downtimes and productivity losses for our customers.

# Certified and recognized worldwide

VSM has been certified to ISO standard 9001:2008 as its basis for quality assurance for many years. In addition, it is a member of FEPA, oSa and the German Abrasives Association (VDS).







# Closer to you



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