



FLAT SURFACE GRINDING

Surface grinding
in metalworking

VSM – Your specialist for flat surface grinding

Benefit from VSM's high-performing abrasives:

- > High stock removal per time unit
- > Extended service life and low set-up costs as a result
- > Consistent and reproducible surface finishes
- > Defined scratch patterns, roughness and gloss value
- > **VSM TOP SIZE** products achieve:
 - > Enhanced machining capacity
 - > A reduced temperature in the grinding area and because of this structural changes are avoided

With VSM you can rely on receiving:

- > High-performance products made in Germany
- > On-site application-based advice
- > Reliable delivery performance
- > Analyses of problems and preliminary tests in the VSM Technical Center
- > Expertise based on co-operating with more than 60 machine manufacturers worldwide
- > A global distribution network with subsidiaries and partners in more than 70 countries

Your application

Buildings and facades



Shipbuilding



Lifts and elevators



Food containers



Table legs



Large-scale catering facilities



VSM grain technologies in the spotlight

Top grain technologies for high stock removal rates

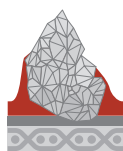
VSM ACTIROX

NEW



- > **Geometrically formed ceramic grain**
- > Maximum stock removal and a faster cut for superalloys and stainless steels
- > Cool grinding extends the service life thanks to VSM TOP SIZE

VSM CERAMICS Plus · (CER Plus)



- > **Optimised self-sharpening effect** when processing high-alloyed steels ensures very high stock removal rates
- > Reduced temperature in the contact area
- > Significantly extended service life

VSM CERAMICS · (CER)



- > Top product with **self-sharpening effect** for processing non-alloyed steels and stainless steels
- > High removal rate
- > Cool grinding allows longer contact times

Top grain technologies for perfect surface finishes

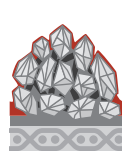
VSM ILUMERON

NEW



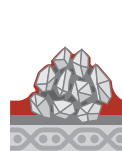
- > **Full faced coated long-term abrasive** with special bonding
- > For fine and consistent surfaces with high gloss levels
- > Developed primarily for processing stainless steels, superalloys and non-alloyed steels

VSM COMPACTGRAIN Plus · (COM Plus)



- > **Long-term abrasive** that wears uniformly down to the backing material and achieves a consistent surface finish
- > Optimised reserve grain capacity
- > Improved bonding properties
- > Continuous self-sharpening thanks to the granulate structure

VSM COMPACTGRAIN · (COM)

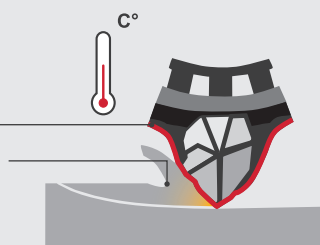


- > **Long-term abrasive** achieves reproducible surface finishes and consistent roughness
- > Uniform stock removal
- > Continuous self-sharpening thanks to the granulate structure

VSM grinding-active additional layers

VSM TOP SIZE

Less heat generated in the grinding zone ("cool grinding")

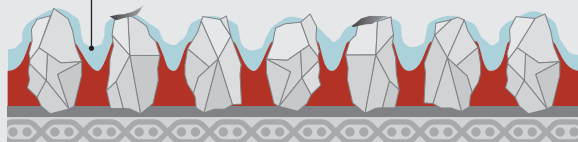


VSM TOP SIZE is recommended for dry machining heat-resistant stainless steels and non-ferrous metals. The grinding-active additional layer improves the cutting performance whilst reducing the temperature in the contact zone. This significantly extends the service life of the abrasive.

The new **VSM ALU-X** additional layer reduces chip adhesion and thus reduces clogging of the abrasive. The service life is assured and extended so that excellent stock removal is achieved even after longer periods of use.

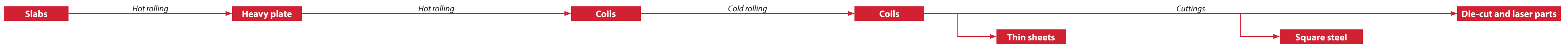
NEW

ALU-X



VSM ALU-X

Grinding throughout the whole production process



Repair grinding of slabs $t \geq 100$ mm

Wide belt grinding with conveyor table



Stroke sanding machine with upper belt



Product recommendations for slab grinding

VSM Series	Grain type	Grit size	VSM Series	Grain type	Grit size
AK890Y	ACX	36+	XK880Y	CER Plus	20-120
XK885Y	CER Plus	20-120	XK760X	CER	40, 60
XK880Y	CER Plus	20-120	ZK713X	ZA/AO	24-60
XK760X	CER	40, 60	XP780	CER Plus	60, 80, 100, 120
ZK713X	ZA	24-60	KP709	AO	36-120
XP780	CER Plus	60, 80, 100, 120	CP501	SIC	40-120
KP709	AO	36-60			

Repair grinding of coils and heavy plates $t \geq 3$ mm

Wide belt grinding with support roller



Stroke sanding machine with upper belt



Product recommendations for coil grinding

VSM Series	Grain type	Grit size	VSM Series	Grain type	Grit size
AK890Y	ACX	36+	XK880Y	CER Plus	20-120
XK880Y	CER Plus	20-120	XK870X	CER	24-60
XK785Y	CER Plus	36-120	XK760X	CER	24-120
XK870X	CER	24-60	ZK713X	ZA/AO	24-60
ZK713X	ZA	24-60	XP780	CER Plus	60, 80, 100, 120
XP780	CER Plus	60, 80, 100, 120	KK711Y	AO	36-60
KP709	AO	36-60			

Product recommendations for heavy plates

VSM Series	Grain type	Grit size	VSM Series	Grain type	Grit size
XK880Y	CER Plus	20-120	XK880Y	CER Plus	20-120
XK870X	CER	24-60	XK870X	CER	24-120
XK760X	CER	24-120	ZK713X	ZA/AO	24-320
ZK713X	ZA/AO	24-60	KP712	COM (AO)	120-800
XP780	CER Plus	60, 80, 100, 120	KK711Y	AO	36-500
KP709	AO	36-60	CK721X	SIC	24-600

Customer-specific grinding of coils and sheet metal $t \geq 2.99$ mm

Wide belt grinding



Belt grinding with belt conveyor



Product recommendations for coils

VSM Series	Grain type	Grit size	VSM Series	Grain type	Grit size
XK880Y	CER Plus	20-120	XK870X	CER	24-120
XK870X	CER	24-120	XK760Y	CER	24-120
ZK713X	ZA/AO	24-320	XK786X	COM (CER)	60, 80, 120
KP712	COM (AO)	120-800	ZK713X	ZA/AO	24-320
KK711Y	AO	36-500	KK772X	COM (AO)	80-800
CK721X	SIC	24-600	CK772T	COM (SIC)	120-1200
			KP712	COM (AO)	120-800

Product recommendations for fine sheet metal

VSM Series	Grain type	Grit size	VSM Series	Grain type	Grit size
XK870X	CER	24-120	XK870X	CER	24-120
XK760Y	CER	24-120	XK760X	CER	60, 80, 120
XK786X	COM (CER)	60, 80, 120	ZK713X	ZA/AO	24-320
ZK713X	ZA/AO	24-320	KK772X	COM (AO)	80-800
KK772X	COM (AO)	80-800	KK712X	COM (AO)	80-600
CK772T	COM (SIC)	120-1200	XP780	CER Plus	60, 80, 100, 120
KP712	COM (AO)	120-800	KP712	COM (AO)	120-800
			KP709	AO	36-320

Stroke sanding machine with upper belt



Product recommendations for fine sheet metal

VSM Series	Grain type	Grit size	VSM Series	Grain type	Grit size
XK870X	CER	24-120	XK880Y	CER Plus	20-120
XK760X	CER	60, 80, 120	XK870X	CER	24-120
ZK713X	ZA/AO	24-320	XK760X	CER	24-120
KK772X	COM (AO)	80-800	XK786X	COM (CER)	60, 80, 120
KK712X	COM (AO)	80-600	ZK713X	ZA/AO	24-320
XP780	CER Plus	60, 80, 100, 120	KK772X	COM (AO)	80-800
KP712	COM (AO)	120-800	KK790Y	COM Plus (AO)	60-800
KP709	AO	36-320	KK791Y	COM Plus (AO)	60-800
			KK712X	COM (AO)	80-600
			CK772T	COM (SIC)	120-1200
			XP780	CER Plus	60, 80, 100, 120
			CK772T	COM (SIC)	120-1200
			RK700X	IL	80-1200
			KV710X	Non-woven (AO/SIC)	coarse-very fine

Customer-specific grinding of square, die-cut and laser parts

Belt grinding with belt conveyor



Product recommendations for square steel, die-cut and laser parts

VSM Series	Grain type	Grit size	VSM Series	Grain type	Grit size
XK880Y	CER Plus	20-120	XK885Y	CER Plus	20-120
XK870X	CER	24-120	XK870X	CER	24-120
XK760X	CER	24-120	XK760X	CER	60, 80, 120
XK786X	COM (CER)	60, 80, 120	ZK713X	ZA/AO	24-320
ZK713X	ZA/AO	24-320	KK772X	COM (AO)	80-800
KK772X	COM (AO)	80-800	KK712X	COM (AO)	80-600
KK790Y	COM Plus (AO)	60-800	CK772T	COM (SIC)	120-1200
KK791Y	COM Plus (AO)	60-800	XP780	CER Plus	60, 80, 100, 120
KK712X	COM (AO)	80-600	KP712	COM (AO)	120-800
CK772T	COM (SIC)	120-1200	KP709	AO	240, 320
XP780	CER Plus	60, 80, 100, 120			
CK772T	COM (SIC)	120-1200			
RK700X	IL	80-1200			
KV710X	Non-woven (AO/SIC)	coarse-very fine			

Grinding with drum sander



Product recommendations for square steel, die-cut and laser parts

VSM Series	Grain type	Grit size	VSM Series	Grain type	Grit size
XK880Y	CER Plus	20-120	XK885Y	CER Plus	20-120
XK870X	CER	24-120	XK870X	CER	24-120
XK760X	CER	24-120	XK760X	CER	60, 80, 120
XK786X	COM (CER)	60, 80, 120	ZK713X	ZA/AO	24-320
ZK713X	ZA/AO	24-320	KK772X	COM (AO)	80-800
KK772X	COM (AO)	80-800	KK712X	COM (AO)	80-600
KK790Y	COM Plus (AO)	60-800	CK772T	COM (SIC)	120-1200
KK791Y	COM Plus (AO)	60-800	XP780	CER Plus	60, 80, 100, 120
KK712X	COM (AO)	80-600	KP712	COM (AO)	120-800
CK772T	COM (SIC)	120-1200	KP709	AO	240, 320
XP780	CER Plus	60, 80, 100, 120			
CK772T	COM (SIC)	120-1200			
RK700X	IL	80-1200			
KV710X	Non-woven (AO/SIC)	coarse-very fine			

Legend

ACX	ACTIROX	IL	ILLUMERON	AO	VSM ALUMINIUM OXIDE
CER Plus	VSM CERAMICS Plus	COM (CER)	VSM COMPACTGRAIN CERAMICS	SIC	VSM SILICON CARBIDE
CER	VSM CERAMICS	COM (AO)	VSM COMPACTGRAIN ALUMINIUM OXIDE	Non-woven	VSM NON-WOVEN
ZA	VSM ZIRCONIA Alumina	COM (SIC)	VSM COMPACTGRAIN SILICON CARBIDE		

Flexibility of the backing material (last letter of the series name):

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

VSM – for flawless surfaces

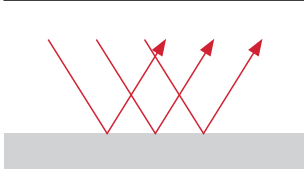

VSM abrasives are characterised by consistent and reproducible surface finishes. Gloss is one important parameter to describe the visual appearance of an object. It is an optical property which indicates how well a surface reflects light in a mirror-like direction. The intensity of the reflection can be technically measured.



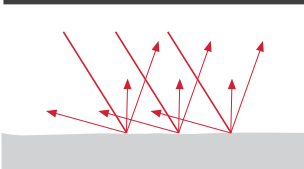
Scratch patterns in 1G, 2G or with a fine hairline finish can be achieved using VSM abrasives.

VSM's comprehensive range of abrasives produce a large variety of different gloss units and scratch patterns. Please feel free to contact us to find out more!

High-gloss (stainless steel)

Reflection of light	Scratch pattern	VSM series	Gloss Unit (GU)*
		CK772T VSM COMPACTGRAIN (SIC) Grit size 1000	80

Mid gloss (stainless steel)

Reflection of light	Scratch pattern	VSM series	Gloss Unit (GU)*
		CK772T VSM COMPACTGRAIN (SIC) Grit size 400	40

Matt (stainless steel)

Reflection of light	Scratch pattern	VSM series	Gloss Unit (GU)*
		XP780 VSM CERAMICS Grit size 80	5

*) The **measurement scale, Gloss Units (GU)**, is measured using a Gloss Meter also known as a Glossmeter. The defined standard for a perfectly satin finish is equal to 0 gloss units. High-gloss surfaces with a mirror finish achieve readings of more than 70 GU.

A worldwide leader in abrasives.



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