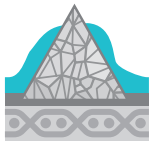


VSM
WE KNOW ABRASIVES

BEVELLING

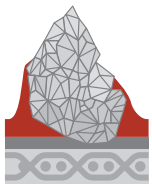
Preparation of a welding seam by grinding

VSM grain technologies for weld seam processing



VSM ACTIROX

> **Geometrically shaped** 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

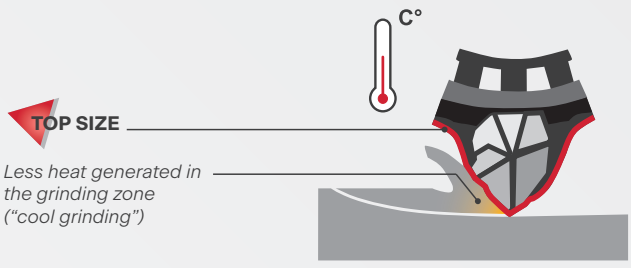
> **Optimised self-sharpening effect** when processing high-alloyed steels ensures very high stock removal rates
> Reduced temperature in the contact area
> Significantly extended service life



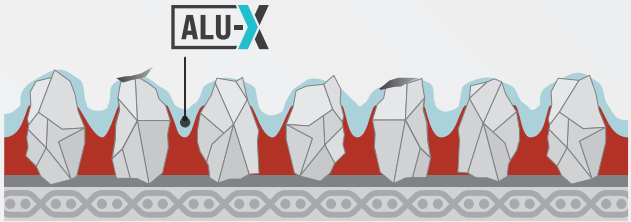
VSM CERAMICS

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

VSM grinding-active additional layers



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.



VSM ALU-X significantly reduces chip adhesion when processing non-ferrous metals and thus also reduces clogging of the abrasive. The service life is assured and extended so dramatically that excellent stock removal is achieved even after longer periods of use.

VSM – Your specialist for the preparation of welding seams

Benefit from VSM's high-performing abrasives:

- High stock removal per time unit
- Extended service life and low set-up costs as a result
- Smooth and clean surfaces with no traces of slag or other impurities
- Optimum extraction due to very fine shavings
- **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 Competence 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



Cranes



Construction machinery



Excavator buckets



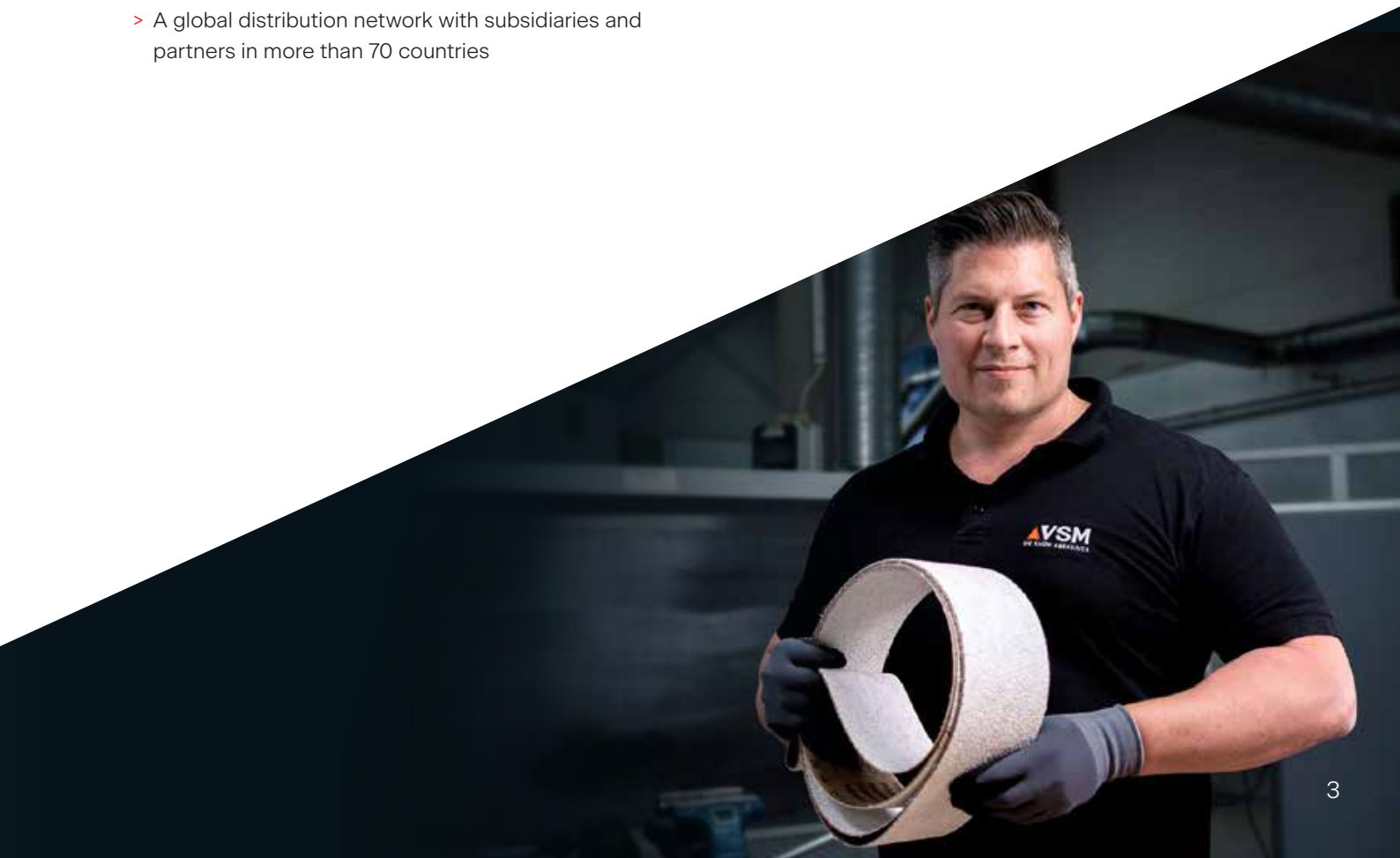
Machine frames and racks



Shipbuilding



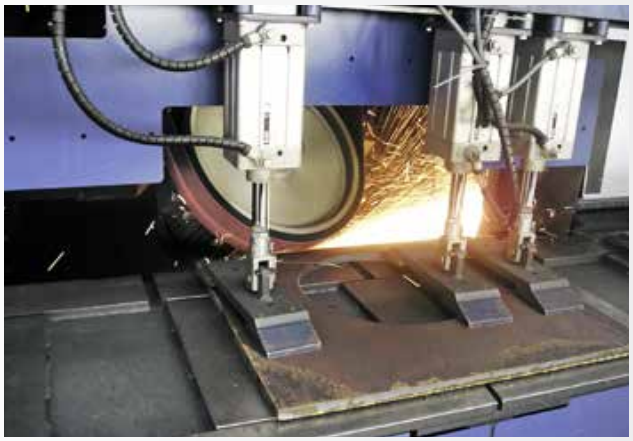
Steel bridges



Case studies

Grinding of mild steel plates







Series	VSM CERAMICS XK888Z
Workpiece	Panels 15 mm thick
Material	Structural steel
Grinding machine	Bevelling machine
Contact wheel	> 400 mm diam. > hardness: 95° Shore A > serration: 1:1
Cutting speed	30 m/s
Feed rate	1.5 m/min
Belt dimensions	120 × 2,500 mm
Grit size	24, 36
Lubricants	None
Grinding task	Bevelling

Characteristics:

- Extremely strong cutting capacity thanks to the sturdy backing and the consistent production of fresh cutting edges
- Extremely sturdy belt joints on abrasive tools
- VSM ceramic grain and **VSM TOP SIZE** ensure cool grinding



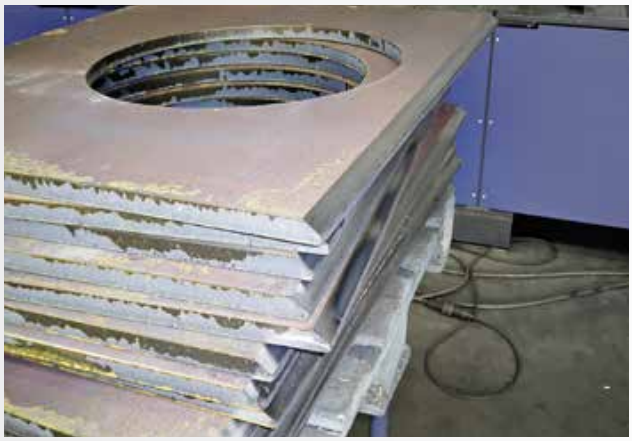
Grinding of structural components

Serie	VSM CERAMICS XK885Y
Workpiece	Structural components
Material	Steel
Grinding machine	Bevelling machine
Contact wheel	> 400 mm diam. > hardness: 90° Shore A > serration: 2:1
Cutting speed	30 m/s
Feed rate	14 m/min
Belt dimensions	100 × 3,200 mm
Grit size	20, 24
Lubricants	None
Grinding task	Bevelling

Characteristics:

- High-performing bevelling even for hard, high-alloyed steels
- Optimum belt joints
- VSM ceramic grain and **VSM TOP SIZE** ensure cool grinding



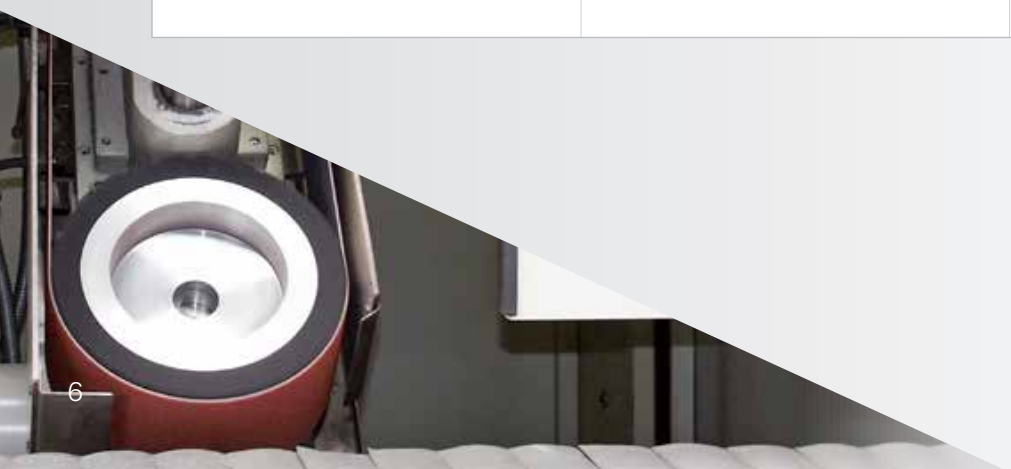




Bevelling with abrasives

Coated abrasives provide many advantages for the bevelling of welding seams as compared to other methods such as plasma and laser cutting, shearing, turning and milling.

Method	Advantages	Disadvantages
Grinding	> Suitable for all types of steel and bevel angle > Suitable for widths with high quality bevels > Utmost quality, speed and precision	
Oxy-fuel cutting	> Low investment and wear part costs > Covering a wide range of material thicknesses from medium to large	> Only suitable for structural steel > Poor cuts for thicknesses under 5 mm > Material distortion, straightening work required > High heat transfer, large impacted area > Low dimensional stability
Plasma cutting	> Cutting of alloyed steels and aluminium from thin to medium thicknesses > High cutting speeds	> Heat-related distortion of workpieces > Limited range up to 30 mm > Wide kerf
Laser cutting	> High degree of part accuracy for thin and medium sheet metal thicknesses > Small kerf width (0.2 – 0.4 mm)	> High investment and operational costs > Limited range of sheet metal thicknesses
Water jet	> No metallurgical changes on cut surfaces	> High investment and operational costs
Shearing	> No heat transfer	> Limited range up to 10 mm
Milling / Turning	> Clean, oxid-free cut surfaces without burrs	> High wear and tear for stainless steel > Limited range of sheet metal thicknesses



VSM abrasives for bevelling in preparation of welding seams





Stock removal ← → Surface

	VSM Series	Backstand	Bevelling machine	Angle grinder	Backing	Grain technology	Features	20	24	36	40	50	60	80	100	120
NEW	AK895Y	◉	◉		Cloth	VSM ACTIROX	TOP SIZE, 💧			+						
	XK885Y	●	●		Cloth	VSM CERAMICS Plus	TOP SIZE, 💧									
	XK880Y	⊙	⊙		Cloth	VSM CERAMICS Plus	TOP SIZE, 💧									
	XK785Y	●	●		Cloth	VSM CERAMICS Plus	💧									
	XK888Z	●	●		Cloth	VSM CERAMICS Plus	TOP SIZE, 💧									
	XK877Z	●	●		Cloth	VSM CERAMICS Plus	TOP SIZE, 💧									
	XK870X	⊙	⊙		Cloth	VSM CERAMICS Plus	TOP SIZE, 💧									
	XK850X	⊙	⊙		Cloth	VSM CERAMICS Plus	TOP SIZE, 💧									
	XK760X	⊙	⊙		Cloth	VSM CERAMICS Plus	💧									
	KK815Y	●	●		Cloth	VSM ZIRCONIA ALUMINA	TOP SIZE, 💧									
	ZK744X	⊙	⊙		Cloth	VSM ZIRCONIA ALUMINA	TOP SIZE, 💧									
	KK715X	●	●		Cloth	VSM ZIRCONIA ALUMINA	💧									
	KK716	●	●		Cloth	VSM ZIRCONIA ALUMINA	💧									
	AF733			●	Fibre	VSM ACTIROX	ALU-X			+			+	+		
	AF890			●	Fibre	VSM ACTIROX	TOP SIZE			+			+	+		
NEW	AF979			●	Fibre	VSM ACTIROX				+						
	AF799			●	Fibre	VSM ACTIROX				+			+	+		
	XF733			○	Fibre	VSM CERAMICS	ALU-X									
	XF885			●	Fibre	VSM CERAMICS Plus	TOP SIZE									
	XF870			●	Fibre	VSM CERAMICS	TOP SIZE									
	XF850			⊙	Fibre	VSM CERAMICS	TOP SIZE									
	XF760			⊙	Fibre	VSM CERAMICS										
	ZF713			○	Fibre	VSM ZIRCONIA ALUMINA										

Last revised: 06/2026

Other dimensions and grit sizes upon request.

Features

- ○ for low to medium contact pressure
- ⊙ for medium contact pressure
- ● for medium to high contact pressure
- ◉ for high to very high contact pressure
- 💧 also suitable for wet applications

Flexibility of the backing material

(last letter of the series name):

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

TOP SIZE

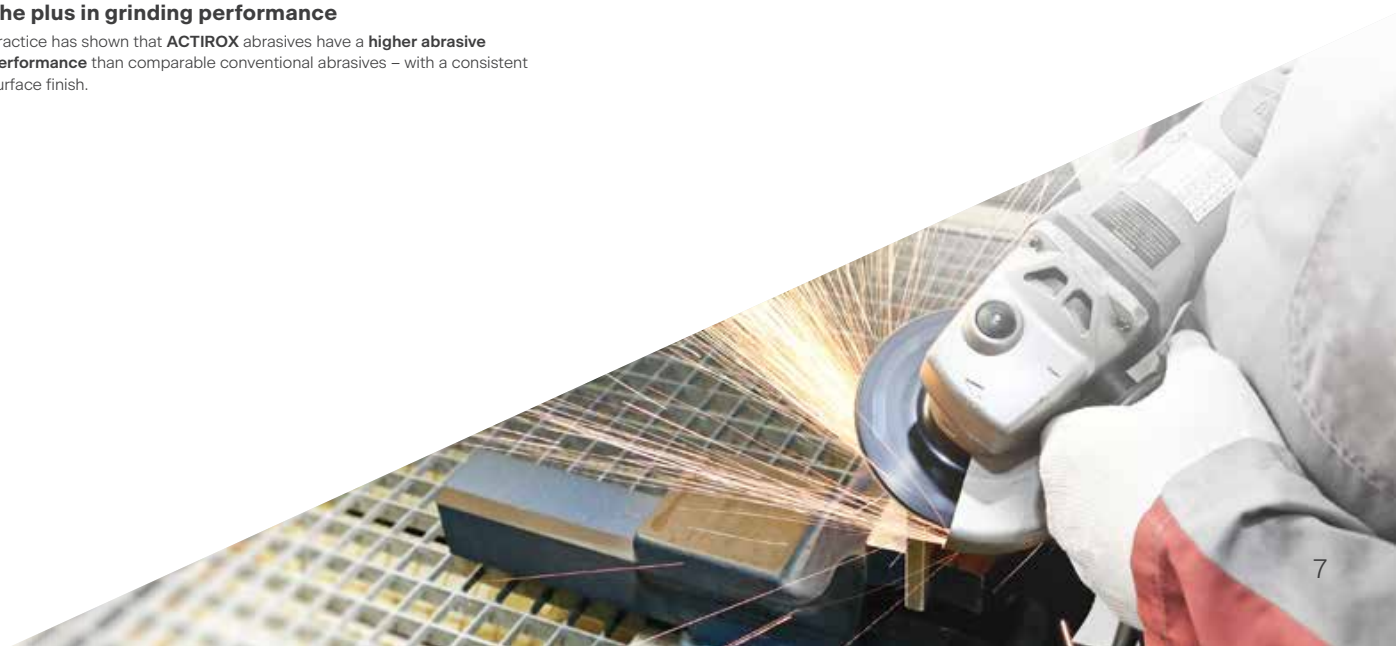
Grinding-active additional layer reduces the temperature in the grinding zone

ALU-X

The ALU-X additional layer significantly reduces chip adhesion

+ The plus in grinding performance

Practice has shown that **ACTIROX** abrasives have a **higher abrasive performance** than comparable conventional abrasives – with a consistent surface finish.



Closer to you



Europe

Germany (Headquarters)
VSM · Vereinigte Schmirgel- und Maschinen-Fabriken AG
Siegmundstraße 17
30165 Hanover, Germany
T +49 511 3526 478
www.vsmabrasives.de

Czech Republic
VSM Abrasives s.r.o.
River Garden II
Rohanské nábřeží 678/23
CZ 18600 Praha
P: +420 277 015 300
www.vsmabrasives.cz

France
VSM Impavide S.A.S.
52 Avenue Marcel Paul
93297 Tremblay en France
T +33 1 4151 0300
www.vsmabrasives.fr

Great Britain
VSM Abrasives Ltd.
Unit 5, Joplin Court Sovereign
Business Park, Crownhill
Milton Keynes, MK8 0JP
T +44 19 0831 0207
www.vsmabrasives.co.uk

Hungary
VSM Abrasives Hungary Ltd.
Leshegy út 31
2310 Szigetszentmiklós
T + 36 24 519223
www.vsmabrasives.hu

Poland
PFERD-VSM Sp. z o.o.
Ul. Polna 1A
62-025 Kostrzyn Wielkopolski
T +48 61 8970 480
www.pferdvsm.pl

Spain
VSM · VITEX ABRASIVOS IBERICA, S.A.U.
Ctra. de Molins de Rei,
79A, Nave 8
08191 Rubí (Barcelona)
T +34 93 697 3411
www.vsmabrasives.es

Sweden
VSM Abrasives Sverige AB
Stockholm
Sweden
M +46 73 077 70 32
www.vsmabrasives.se

Switzerland
PFERD-VSM (Schweiz) AG
Zürichstr. 38 B
8306 Brüttisellen
T +41 44 805 2828
www.pferd-vsm.ch

Turkey
STARCKE VSM VITEX Zimpara Teknolojisi Sanayi ve Dis Ticaret Ltd. Sti.
AYOSB Gazi Bulvari 8.
Sokak No: 5, Tuzla Istanbul
T +90 216 591 06 17
T +90 216 591 07 01
www.starckevsm.com

Americas

USA
VSM Abrasives Corp.
1012 East Wabash St.
O'Fallon, MO 63366
T +1 636 272 7432
us.vsmabrasives.com

Canada
VSM Abrasives Canada Inc.
2425 Wyecroft Road Unit #1
Oakville, Ontario, L6L 6R5
T +1 905 827 0005
www.vsmabrasives.ca

Latin America
VSM Latinoamérica S.A.S.
Carrera 7 No. 116 – 50.
WeWork Building, Floor 5
Office 5-115
Bogotá, Colombia
M +57 317 641 6748
www.vsmabrasivos.com

Asia-Pacific

Singapore
VSM Abrasives Asia Pacific Pte. Ltd.
9 Raffles Place #24-01
Republic Plaza Tower 1
Singapore 048619
T +66 2 513 7441
www.vsmabrasives-apac.com

China
VSM Abrasives (China) Co. Ltd.
Rooms 203/205, Building C,
No. 38, Xuxiang Road, Qingpu
District, Shanghai, P.R. China
Postal Code: 201702
T +86 21 5976 2011
www.vsmabrasives.com.cn

Thailand
VSM Abrasives Asia Pacific Pte. Ltd. Thailand Representative Office
444 Olympia Thai Tower, 13th FL
Ratchadaphisek Rd., Samsennok
Huay Kwang, Bangkok 10310
T +66 2 513 7441
www.vsmabrasives-apac.com

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