



PRODUCT TRAINING



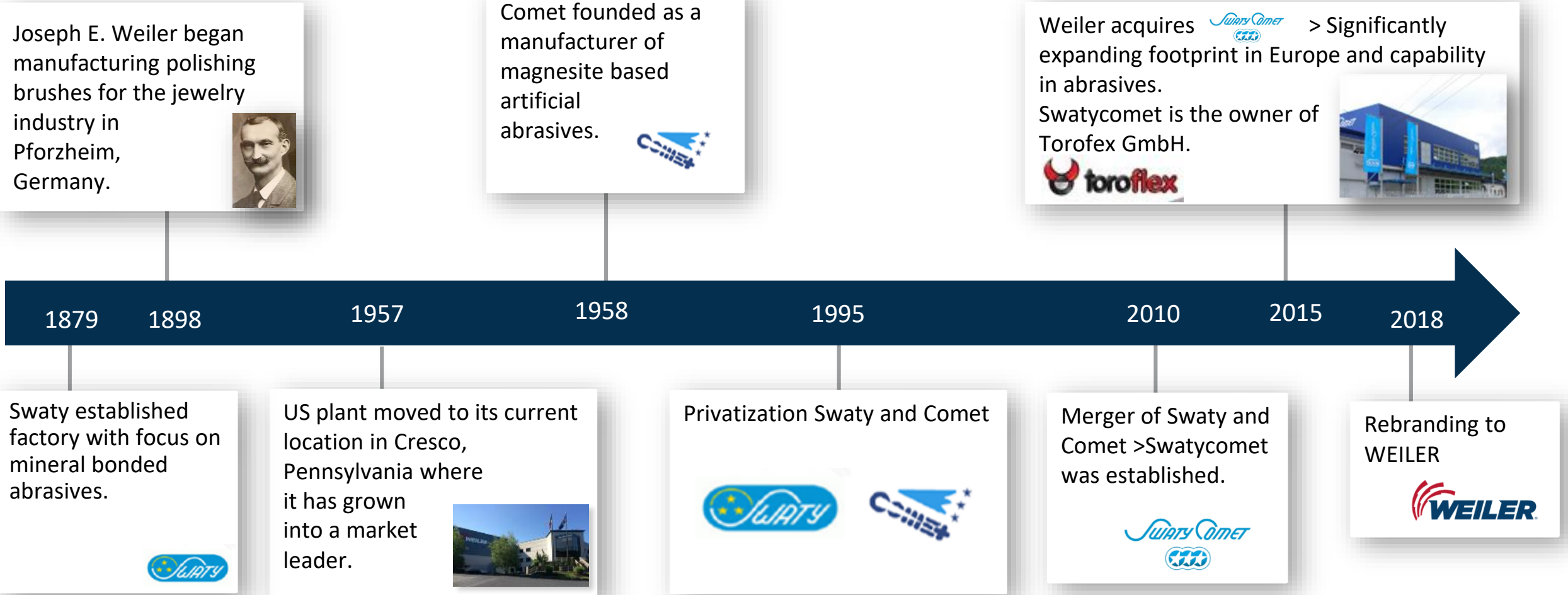
March 2019



Doris Vrečko, product manager



A Tradition of Family Ownership and Growth WEILER



Weiler's Global Footprint

Grupul de materiale abrazive Weiler

Locația globală
Cresco, PA SUA



Weiler în Germania

Bindlach, Germania



Weiler în Slovenia

- Maribor
- Zreče
- Loče



Weiler în Suzhou

Suzhou, China



LEADERS

Weiler din Mexic

Queretaro, Mexic



Weiler în Brazilia

Vinhedo, Brazilia



World class R&D

- **New Bonding System and Material Development**

- Grain specification control
- In-House bonding system design and testing
- Tailor made recipe solutions for customer needs



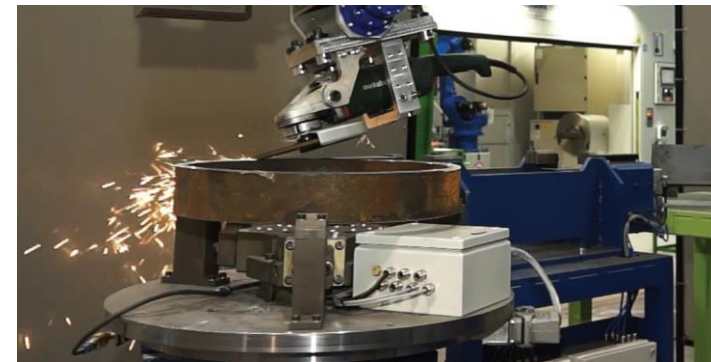
- **Modern production**

- World-class automated mixig lines
- Comptuer contolled curing ovens
- Fully automated presses



- **Product Test Equipment**

- Robotic testing of new products
- All inhouse safety tests for oSa, EN and ANSI compliance



Quality and Safety without Compromise

Quality

- Our operations comply with the quality standard **ISO 9001/2008** and the environmental standard **ISO 14001/2004**.
- Creditworthiness Rating **Golden AAA Certificate of Excellence**



Safety

- Certification from independent global alliance for safe abrasives „oSa“
- Active member of FEPA alliance for safety and standardization of abrasives



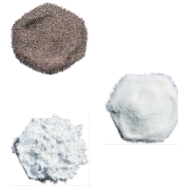
The Symbol of Safety



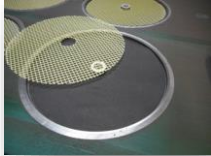
Bonded Abrasives

- Mixture

- Grain
- Powder resin
- Liquid resin
- Fillers
- Additives



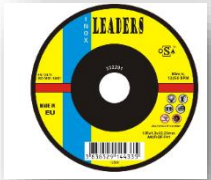
- Fiberglass



- Metal rings



- Labels



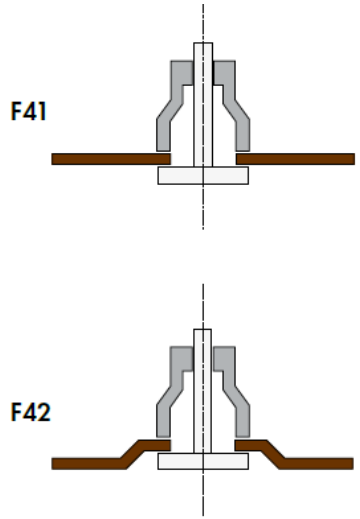
Incoming inspection
Testing of raw materials –
according to the latest
standards



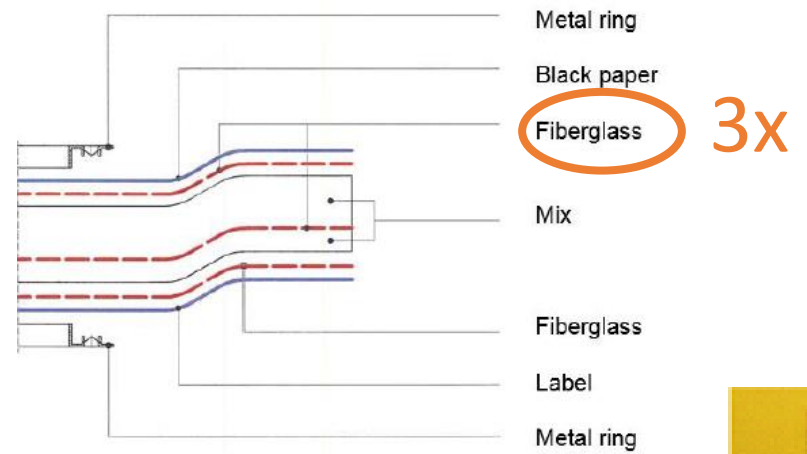
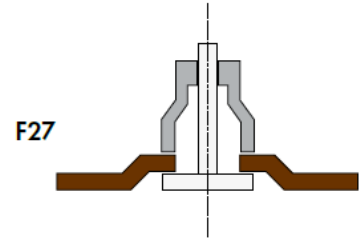
PRODUCTS RANGE

D 50-400

CUTTING WHEELS 80%
T: 0,75 – 3,8 mm
D: 50 - 400 mm



GRINDING WHEELS 20%
T: 4 - 10 mm
D: 75 - 230 mm

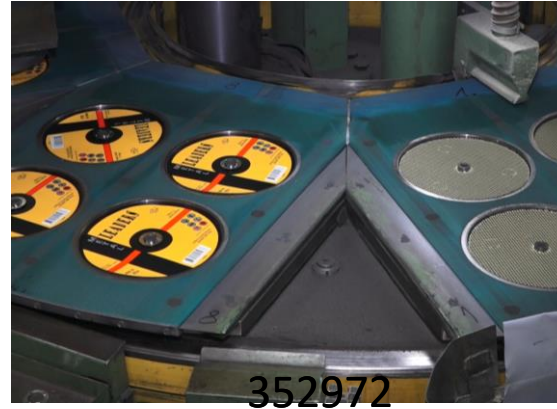


Production process

Mixing



Forming and pressing



Thermal processing



Inspection (safety, quality)



Packing



PROFESSIONAL - EXTRA - SPECIAL

WHAT IS DIFFERENT BETWEEN QUALITY LINES?

- Different grain quality
- Different bonding systems (fillers, resins)
- Different thermal treatment
- Different pressing conditions



PROFESSIONAL	EXTRA	SPECIAL
● ● ● ○ ○	● ● ● ● ○	● ● ● ● ●
● ● ● ○ ○	● ● ● ● ○	● ● ● ● ●

* Cutting or grinding capabilities

* Life



QUALITY MARKINGS



PROFESSIONAL		EXTRA		SPECIAL	
Quality	Materials	Quality	Materials	Quality	
A	steel, metal	EA	steel, metal		
16A	steel + stainless steel	E16A	steel + stainless steel		
20A	stainless steel	E20A	stainless steel		
C	stone				
19A	casts				
		E54A	aluminum		
				UC	ultracut
				ZA	zirconia
				EZA	zirconia + ceramic grain
				CER	ceramic grain



RIGHT WHEEL FOR THE JOB

- Application (cutting, grinding,..)
- Workpiece- type (metal, inox) , dimensions
 - **Harder Bond**
 - Best on softer metals/alloys
 - Last Longer
 - Don't cut as fast
 - **Softer Bond**
 - Best on harder metals/alloys
 - Cut Faster
 - Don't last as long
- Machine: power, speed, guard, dimensions, arbor, type of machine (manual angle grinder, stationary machines)
 - HIGH POWER MACHINE**
 - + choose harder wheel
 - + for wheels with ceramic
 - soft product on stronger machine: the wheel is used to soon due to soft bond.
 - LOW POWER MACHINE**
 - + choose softer wheel: a new grain is released sooner to do the job. Advantage of softer wheel is faster removal rate.
 - If the wheel is too hard low power machine is not strong enough to release a new grain with sharp edge. Grinding is less effective, the wheel structure closes
- Reinforcement (external, internal)
- Quality level



Innovation in Cutting Wheel Technology



Lightning Fast Cuts — 20% faster than the closest competitor

Long Life — Maximize cuts per wheel, reducing change-overs and cost of use

Reduced Burrs — Super smooth cuts create smaller, cleaner seams for easier welding

Consistency — A TRUE 1 mm thickness delivers consistency for precision cutting

Greater Stability — Increased wheel density through SOLID CORE technology provides superior wheel stability and optimum safety

CUTS
20%
FASTER
than the closest
competitor

PROPRIETARY
SOLID
CORE
TECHNOLOGY

increases wheel density,
resulting in longer life,
reduced friction, &
superior stability

A TRUE
1 mm
THICKNESS

delivers precise, consistent
cuts you can count on



TRUE 1 mm

STANDARD 1,2 mm



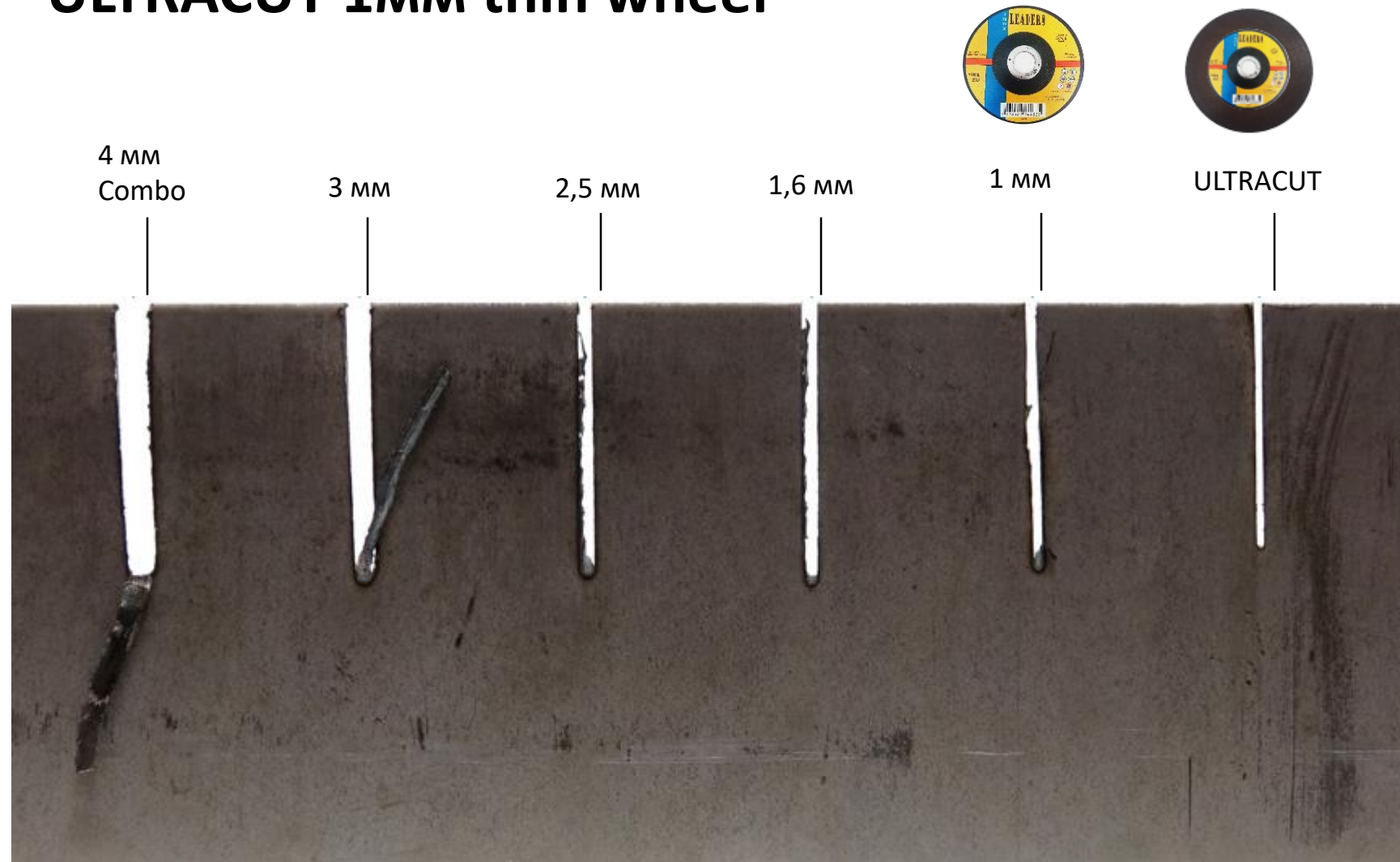
ULTRACUT 1mm Cutting Wheels- extremely fast

ULTRACUT 125x1 vs standard 125x1 cutting wheel

Testing method: manual cutting, 1000x1 mm stainless steel sheet

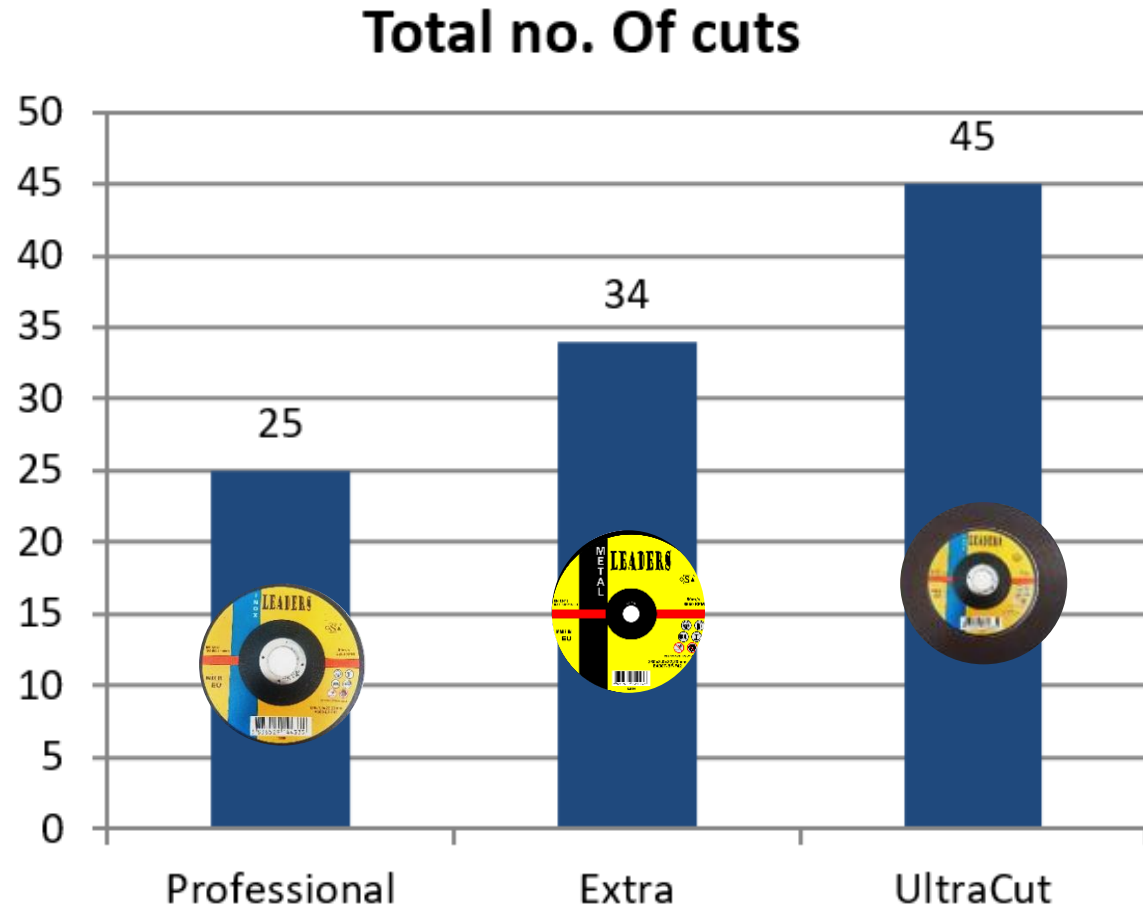


ULTRACUT 1mm thin wheel



QUALITY LEVELS - THIN WHEELS 125x1x22,23

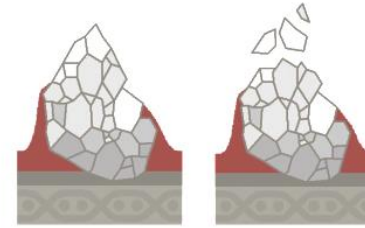
Method: automatic, inox, 60x5, 8500 RPM



SPECIAL CERAMIC GRINDING WHEEL

Main benefits

- Self-Sharpening grains
- Ceramic grains resist heat better than other grains
- Harder Bond / Grade
- Less effort Required
- Tool Speed and Power
 - Ceramic grains require high power tools that can maintain tool speed



115X6 PRO vs CER

Robot, S235JRG

CER



2500g

PRO



600g

Removed material in life of a wheel



Thin wheels for cordless angle grinders

- dimensions:
F41 115 X1 x22,23; 80m/s
F41 125x1x22,23; 80m/s
- For high and low power machines
- Packing: box (25 kos) and tins (10 kos)
- Minimum loss of power

2 in 1

One disc for battery-powered and electric-powered grinders



Battery-powered



Electric-powered

ADVANTAGES


- Minimum loss of power
- Maximum performance in both steel & inox applications
- Free of iron, sulphur and chlorine
- Optimised cutting performance for all battery powered angle grinders
(short cutting times and low thermal load)




EXTRA Aluminium

- Advantages:

- Special composition of the grinding tool prevents the adhesion of the workpiece to the grinding wheels

Product name	Quality level	Quality	Stainless steel	Alloys	Aluminium	Colour metals
EXTRAALUMINIUM	EXTRA	E54A 	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

Form	D mm	T mm	Peripheral speed m/s
F41, F42	100-230	1-1.9	80
F41, F42	100-230	2-3	

Product name	Quality level	Quality	Stainless steel	Alloys	Aluminium	Colour metals
EXTRAALUMINIUM	EXTRA	E54A 	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

Form	D mm	T mm	Peripheral speed m/s
F27	100-230	4	80
F27	100-230	7	





Cutting & grinding wheels

2X2 COMBO

The **2x2 COMBO** products enable safe cutting and grinding. Additionally, they feature integrated third layer of reinforcement, which allows significantly higher side loads, and therefore they can be safely used for grinding. Because they do not contain Fe, S or Cl, they are suitable for cutting metals, steel and stainless steel.

ADVANTAGES

- Safe cutting and grinding without having to change the grinding wheel,
- time savings,
- reduced labour costs,
- fast cut.

		Steel	Metals	Stainless steel
PROFESSIONAL	EXTRA			
20A46S-BF 	E20A46S-BF 	●	●	●



CUTTING WHEELS DIAMETER 300- 400

Dimension

D/mm	T/mm	H/mm
300 - 400	2.8 - 3.2	20 - 32

D/mm	T/mm	H/mm
300 - 400	3.7 - 4.5	20 - 80

D/mm	T/mm	H1/mm	H2/mm
300 - 400	6 - 8	20 - 32	32 - 80

D/mm	T/mm	H/mm
300 - 400	3.7 - 4	20 - 32

Type of the machine

Desktop machine



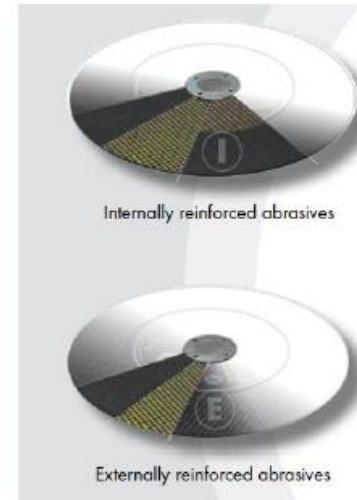
Fixed sliding machine



Gasoline-powered machine



Prescribed speed and reinforcement



Speed (m/s):

63

80

100

Third layer of reinforcement



Items for chop saw (desktop machine)

- 350X2,8X25,4 A36S-BF
- 400X3,0X25,4 A36S-BF

Desktop
machine



Items for stationary machines

- 300X3,5X25,4 A24/30R-BF
- 350X4X25,4 A24/30R-BF
- 400X4,0X25,4 A24/30R-BF

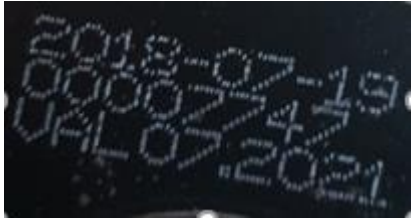
Fixed
sliding
machine





Only for diameters D:100-125

Product	Why will X-LOCK be purchased?
<p>RELEASE LEVER Faster change</p> <p>X-LOCK holder Secures the wheel</p>	<p>No losable parts: 2-piece solution makes mounting equipment obsolete.</p> <p>Quick wheel exchange: Accessories can be mounted with one move.</p> <p>Secure Fit: Click sound to confirm that the blade is fixed.</p>



Year-month-day
Serial number
VAL month.year

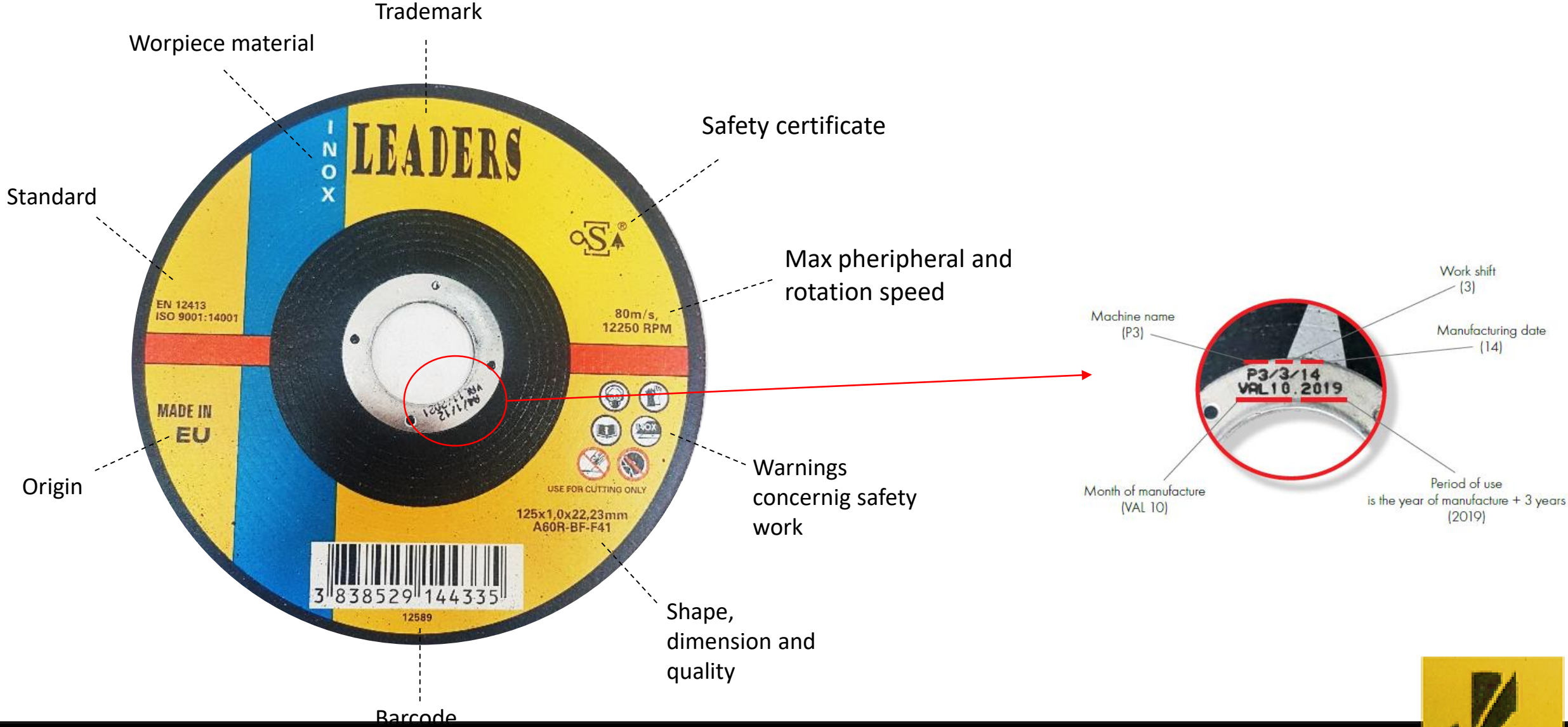


WHY IS SAFETY SO IMPORTANT?

- Sparks
- High working speed
- Chipping
- Wheel breakage
- Injuries



MARKS on the LABEL and TRACEABILITY



PACKAGING MARKINGS

Trademark



Shape

Dimensions, Quality

Traceability
(work order, controller mark,

Pieces in the box



SAFE PRODUCT BURST SPEED TEST



SPEED TEST

No.	1	Ø	115	Note	41800882
Type	Job round	Break rounds	Time	Acc	
CUT	13000	23100	10	12	
	TEST	TIME	STOP		
	STOP	0			
	ROUNDS	BREAK	STOP		
	25839	28410			
	Alarm	Door	Pin	Ptc	32000
					g/m

ESC



SAFE PRODUCT

SIDE LOAD CAPACITY

Demand from 2007: EN 12413

Just for products used on MANUAL CUTTING OR GRINDING MACHINES

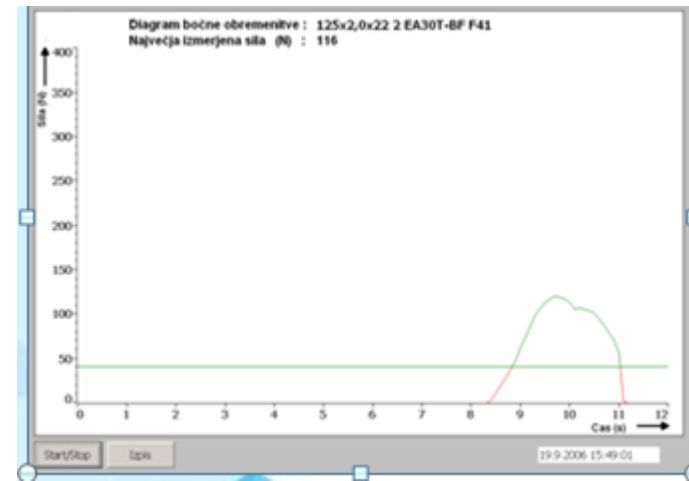
Abrasive product	Maximum operating speed v_s m/s	Outside diameter D mm	Side-load testing		
			Single-point test	Three-point test	Impact test
			Single-point side-load F_{s1} , N	Three-point side-load F_{s3} , N	Impact resistance A, Nm
Depressed centre grinding wheels F27, F28, F29 ^a	≤ 80	≥ 115	290	-	-
		150	290	-	4.5
		180	290	-	5.4
		230	290	-	6.9
Flat and depressed centre grinding wheels F41, F42 ^a	≤ 80	≥ 115	40	-	-
		150	50	-	1.2
		180	50	-	1.5
		230	50	-	2.0
		300	125	150	5.4
		350/356	125	150	5.4
	$80 < v_s \leq 100$	400/406	125	150	5.4
		300	125	150	5.4

^a - in accordance with ISO 525



SAFE PRODUCT SIDE LOAD

EN12413, OSA



STORAGE

- Quality of resin bonded products decreases with time.
- **Important:** FIFO (FIRST IN- FIRST OUT)
- Optimal storage conditions :
Dry and well- ventilated warehouse
Temperatures between 10 and 30°C
relative humidity 50 - 60%, max. 70%
- Aging process is faster if storage conditions are not optimal.



Checking

!!!Important!!!



Protection



Read the instructions



Wear eye protection



Wear hearing protection



Wear gloves



Wear a respirator

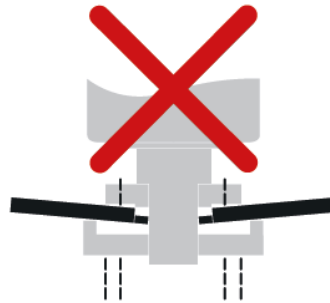


MOUNTING

Different forms: F41



5

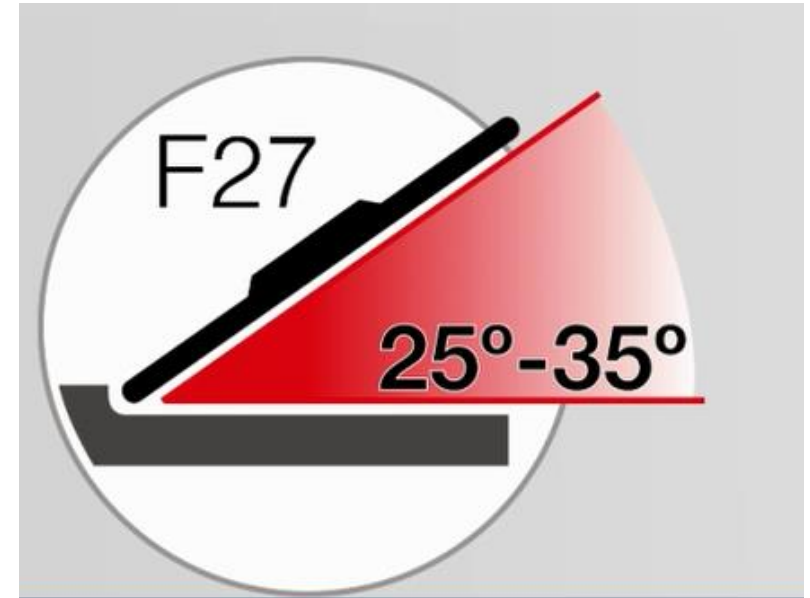


The fixed and loose flanges should have the same diameter



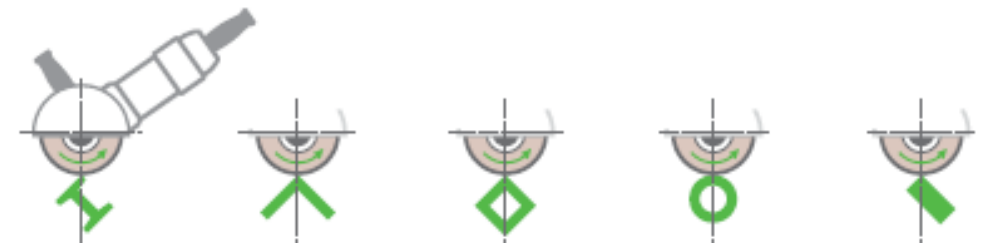
Proper grinding

- ALWAYS maintain the prescribed angle 25-35 °
- NEVER grind laterally or using the flat part of the grinding wheel
- During grinding be careful not to contact any surfaces which you don't want grind
- Make grinding contact without 'bumping' or impact
- Never force grinding so that motor slows noticeably or work gets hot.

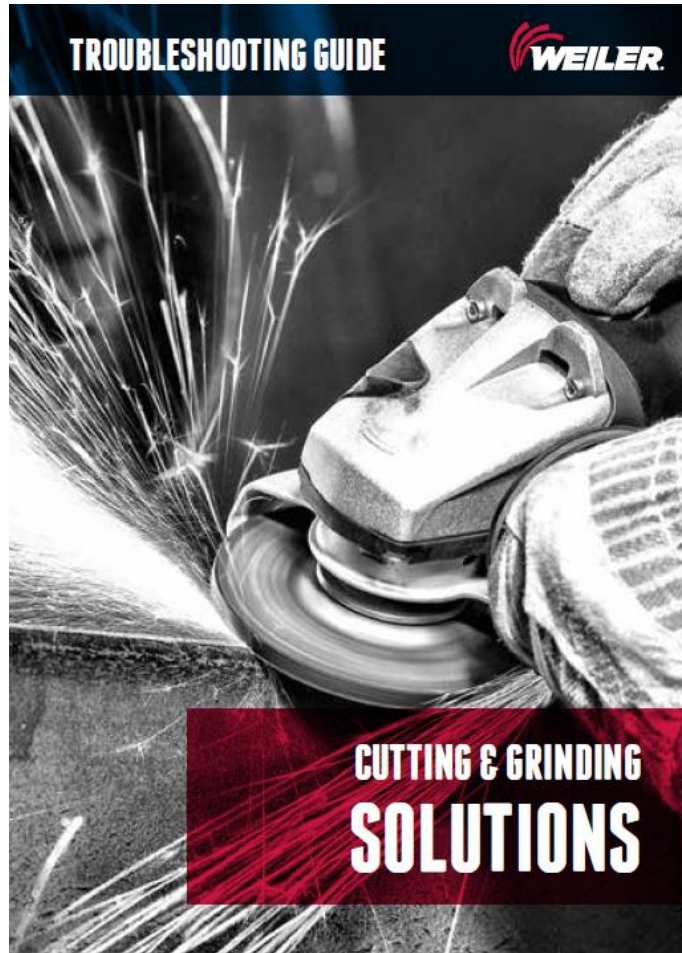


Proper cutting

- ALWAYS maintain the prescribed angle 90 °.
- The workpiece fixed.
- Grinding with cutting discs is not allowed.
- Most sensitive products are thin wheels F41
- F42 wheels can stand more side pressure than flat (same thickness).
- Approach like on the picture: **on edge**




Troubleshooting guide




SHORT LIFE

CUTTING



- ✓
- ✗ Cutting without movement
- ✗ Vibrations

Cause	Solution
Excessive force	Cut with lower force
Abnormal voltage	Ensure appropriate voltage
Expiry date has passed	Replace the wheel
Inappropriate storage	Ensure proper storage
RPM too low; drop in RPM too big	Cut under higher revolutions (max. 80m/s), use a stronger machine, do not use force
Product too soft	Use a harder product



www.weilercorp.com/metalynx


CRACKS

GRINDING



- ✗

Cause	Solution
Product too hard	Use a softer product



www.weilercorp.com/metalynx



Thank you 😊

