



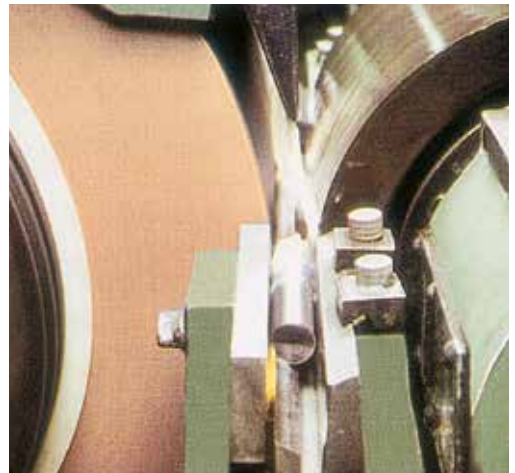
GRIND TODAY,
HEAR TOMORROW,
OUTPERFORM ALWAYS



As pressure increases on businesses to do more with less; to produce more parts with less cost, less downtime for changeovers, less inventory and less risk to operator safety, **we hear the need to give you more.**

Using fewer wheels that are more productive on a greater variety of products is critical in improving production efficiency. Norton Century45 technology offers reduced cycle times (of up to 50%), longer wheel life and the versatility to grind a wide range of materials efficiently.

Safety and wellbeing is a high priority and Norton Century45 technology, unique in the industry, offers a significant reduction in noise levels to help you meet ISO standards even when grinding hard alloys like Inconel 718. Norton Century45 wheels are available with ceramic, aluminum oxide, silicon carbide grain or various abrasive blends to maximize your grinding and safety efficiency.



KEY APPLICATIONS

- Bar grinding
- Shafts - Rods
- Pins grinding
- High production throughfeed grinding
- Fastener and tool grinding

KEY MARKETS

- Steel and rolling mills
- Automotive/
Auto components
- Bearing
- Aerospace
- General Engineering

FEATURES AND BENEFITS

- Longer wheel life (up to 50%) versus standard grinding wheels
- Increased material removal rate (MMR), up to 50%
- Reduced cycle time, up to 50%
- Significant grinding noise and vibration reduction
- High versatility to grind a wide range of materials
- Improved surface finish on the part

(NOT) HEARING IS BELIEVING

In tests, the Norton Century45 wheel was shown to reduce grinding noise by a staggering 23.2 dB.

To put this reduction in context, many commercially available foam ear plugs offer noise reduction in the range of 25 to 28 dB.



All Norton Century45 wheels are custom made to your exact requirements.
Contact your Norton representative to find out how you can benefit, today.

CASE STUDY 1

OPERATION: CENTERLESS BAR GRINDING – SPAIN MARKET: GENERAL ENGINEERING

Heat treatment	No
Working piece	
Material	AISI 300 Series Austenitic – Mainly 304-303
Workpiece	Bars D 40-100mm x 2000 - 6000
Hardness	35Hrc
Stock removal	0,1 – 0,3 on D Rough
Required roughness	Ra 1,3-1,5 µm

The Century45 wheel	
Shape and dimension	SET_600x300x305
Specification	1NQG60RB45
UPC number	69078649561
MOS	50 m/s

Results	
Gratio	+20% Vs comp
MRR	+25% Vs comp
Roundness	< 6 µm
Roughness	< 1,5 Ra
Reduced dressing frequency	N/A

Machine	
OEM	SHUMAG SHLEIPO II 2 Opposite Operating Wh
Coolant	WSO 4-6%
Dresser	MP

Competitor	
Dimension	SET_600x300x305
Specification	CUB/ALOX # 60-B



CASE STUDY 2

OPERATION: CENTERLESS BAR GRINDING – SPAIN MARKET: STEEL & ROLLING MILLS

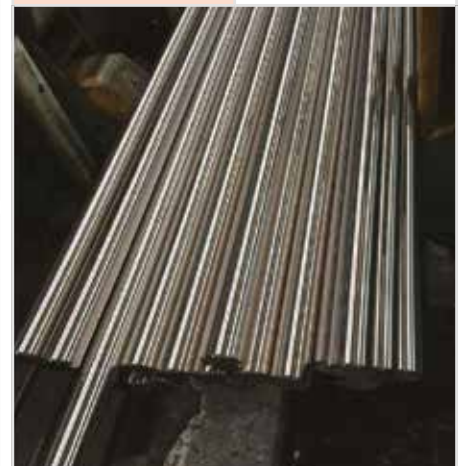
Working piece	
Material	SS - 75% Austenitic 25 Martensitic
Heat treatment	Yes on Martensitic
Piece	Bars D 10-100 L 3000-7000
Hardness	45 - 50 Hrc
Stock removal	0,1 - 0,2mm dep on D
Surface roughness	Ra 1,5 - 2

The Century45 wheel	
Shape and dimension	SET_660x400x304.8
Specification	3NQG54-SB45
UPC number	66253491472
Periferical speed	50 m/s

Results	
Higher MRR	Reduced cycle time -20%
Gratio	+15% Vs std Wheel


Machine	
OEM	DANOBAT
Coolant	WSO 3-5%
Dresser	N/A

Competitor	
Brand	Norton
Dimension	SET_660x400x304.8
Specification	3NQG54QBQN24




CASE STUDY 3

OPERATION: CENTERLESS GRINDING – FRANCE MARKET: GENERAL ENGINEERING

Working piece		The Century45 wheel		Results	
Material	FeCo-Alloy 24%Co	Shape and dimension	05_508x205x304,8	Gratio	+20%
Heat treatment	No	Specification	3XGA801-0B45	MRR	+50%
Workpiece	Axles 6,4x36	UPC number	66253467494	Prod	25 pcs/min to 38 pcs/min
Hardness	30 Hrc	MOS	50 m/s	Roundness	< 3 µm
Stock removal	0,4mm on D – 4 passes			Roughness	< 1 Ra
Required roughness	Ra 1 max				
Machine		Competitor		 <p>Rough</p> <p>Ground</p>	
OEM	CINCINNATI	Brand	NORTON ABO		
Coolant	WSO 3%	Dimension	05_508x205x304,8		
Dresser	SP	Specification	XG81A70K6B150		

CASE STUDY 4

OPERATION: CENTERLESS BAR GRINDING – ITALY MARKET: GENERAL ENGINEERING

Working piece		The Century45 wheel		Results	
Material	C40-39NCd3 - 42NCD4	Shape and dimension	SET_610x355x304.8	Gratio	+20% Vs comp
Heat treatment	Tempered - Hardened	Specification	2NQM460B45	MRR	N/A
Workpiece	Bars D 60-180mm x 6000	UPC number	69078644617	Roundness	< 5 µm
Hardness	55 Hrc	MOS	50 m/s	Roughness	< 0,8 Ra
Stock removal	0,1 on D Rough 0,05 on D Finish			Reduced dressing frequency	N/A
Required roughness	Ra 0,8 max				
Machine		Competitor			
OEM	Monzesi 620	Dimension	01_610x355x304.8		
Coolant	WSO 3%	Specification	A46-B (1300€)		
Dresser	MP				



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