

Non-woven tools PNER and PNK

The professionals for high-grade surfaces



**YOU KNOW HOW.
WE KNOW
WOW!**



TRUST BLUE

- Broad product range for surface finishing
- Four special types for applications from coarse to fine
- Optimum surface finish due to perfect product design

Non-woven tools PNER

General information

Non-woven tools PNER consist of multiple heavily compressed, non-woven layers, which are bonded together by a special grain/resin system. This particular bond results in non-woven products with a very good surface finish, high stock removal rate and long tool life.

Four different types are available:

Type	Colour code	Properties
Soft		Soft variant with outstanding adaptability. At the same time, durability, abrasive performance and very high surface quality are all maintained. Ideally suited to machining contours.
Medium-soft		Medium-soft variant with increased edge strength and extended tool life, for tough blending and polishing applications. Well suited to machining contours.
Medium-hard		Medium-hard variant with increased edge strength and extended tool life, for tough deburring and cleaning applications.
Hard		Hard variant with very high stock removal rate, good edge strength and long tool life, for tough deburring and polishing applications.



Comparison table

PFERD PNER		3M	Standard Abrasives	Norton	BIBIELLE		
Type	Colour code	Abrasive	Grain				
Soft		SiC	Fine	EXL 2S fine	532	UW1-2SF or Nex-2SF	BUH 2SF
		A	Coarse	EXL 2A medium	521	UW1-2AM or Nex-2AM	BUH 2AM
Medium-soft		SiC	Fine	EXL 4S fine or SST 3S fine	632	UW1-4SF	BUH 3SF
		A	Fine	EXL 4A fine or SST 3A fine	631	UW1-4AF	-
Medium-hard		A	Fine	Cut & polish 5A fine or SST 5A fine	731	UW1-6AF or Nex-6AF	-
Hard		A	Fine	Cut & polish 7A medium or 9A medium	821	UW1-8AM or Nex-8AM	BUH 6AM
		A	Coarse	Cut & polish 7A coarse or 9A coarse	811	UW1-8AC or Nex-8AC	BUH 8AC

Overview of PFERD non-woven tools PNER and PNK

Non-woven tools PNER	POLINOX unitized wheels and discs PNER	Non-woven tools PNK
COMBICLICK 3	POLINOX unitized wheels 11	POLINOX convolute wheels 15
COMBICLICK non-woven discs 4	PNER type 11	POLINOX convolute wheels PNK 16
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Non-woven tools PNER

COMBICLICK – General information

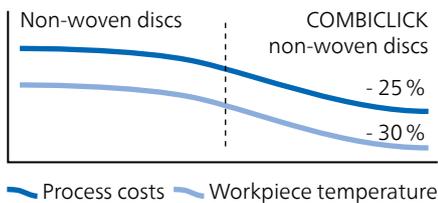
The patented quick-mounting and cooling system from PFERD is suitable for use with fibre, non-woven and felt discs.

The COMBICLICK system consists of a specially developed backing pad and a rugged mounting system at the back of the tool. With the backing pad, COMBICLICK tools can be used on commercially available angle grinders.

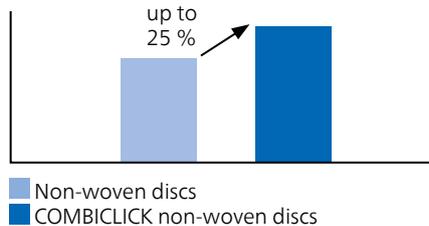
The special geometry of the cooling slots ensures high air throughput, which in turn considerably reduces the thermal load on the abrasive material and the workpiece.

Compared to conventional tools, the quick-mounting system, the robust holder, the safe fixing of the tool and the integrated cooling system together achieve a workpiece temperature that is 30 % lower, a stock removal rate that is 25 % higher, a tool life that is 30 % longer and better exploitation of the abrasive material.

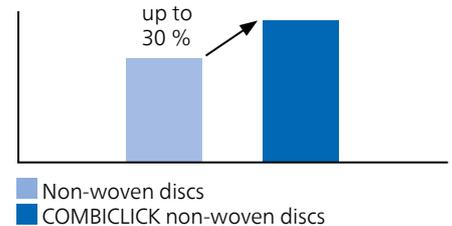
Lower process costs and workpiece temperature



Higher stock removal rate



Longer tool life



Advantages:

System



Very easy and convenient handling.

Clamping



Extremely fast and simple tool changing reduces process costs.

Cooling effect



Very good cooling of the tool and workpiece.

A very low angle to the workpiece is possible with COMBICLICK!



Using COMBICLICK helps to avoid scratches caused by protruding clamping pieces, and exploits the abrasive material that is available.



PFERDVIDEO:

Learn more about the advantages of using COMBICLICK tools.

PFERDVALUE:

PFERDERGONOMICS recommends COMBICLICK as an innovative tool solution to sustainably reduce vibration, noise and dust levels produced by tools, and to improve working comfort.



PFERDEFFICIENCY recommends COMBICLICK for long, fatigue-free and resource-saving work, with perfect results in the shortest possible time. The patented quick-mounting system reduces tool change and setup times.



GERMAN FEDERAL AWARD
FOR OUTSTANDING INNOVATION IN THE CRAFTS SECTOR
INTERNATIONALE HANDWERKSMESSE (INTERNATIONAL CRAFTS FAIR)



The whole COMBICLICK product range can be found in the brochure "COMBICLICK – Perfect results thanks to a well-designed system" on www.pferd.com.

Non-woven tools PNER

COMBICLICK non-woven discs

COMBICLICK non-woven discs are used for face-down grinding.

Advantages:

- Innovative quick-mounting system guarantees convenient handling and cool grinding.

Materials that can be worked:

- Can be used on nearly all materials.

Applications:

- Roughening
- Deburring
- Surface work
- Cleaning
- Work on weld seams
- Structuring surfaces
- Step-by-step fine grinding

Recommendations for use:

- Use COMBICLICK non-woven discs with COMBICLICK backing pads on speed-adjustable angle grinders.

Matching tool drives:

- Angle grinders
- Cordless angle grinders

Ordering notes:

- Please order COMBICLICK backing pads separately. More detailed information and ordering data for backing pads can be found on page 5.
- When ordering, please state the EAN or the full description.

Ordering example:

EAN 4007220**936023**

CC-PNER **H** 115 A F

Ordering example explanation:

CC-PNER = COMBICLICK non-woven discs
PNER

H = hard type

115 = Outer diameter D [mm]

A = Abrasive

F = Grit size

Safety notes:

- For safety reasons, the specified maximum permitted rotational speed must never be exceeded.



Accessories:

- COMBICLICK backing pads



CC-PNER type

For achieving a very fine, uniform surface finish which, depending on requirements, is a sufficient preparation for high-gloss polishing. Especially suitable for work on larger surfaces on components made of stainless steel (INOX).

The different thicknesses/hardnesses of the non-woven material are colour-coded:
W (soft) = grey, MW (medium-soft) = light blue, MH (medium-hard) = dark blue, H (hard) = red

Advantages:

- High edge strength thanks to extreme durability.
- Can be profiled as desired, enabling optimal adjustment to the contour.

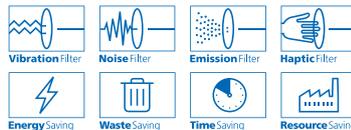
Abrasive:

Aluminium oxide A
Silicon carbide SiC

Recommendations for use:

- For the best results, use at a recommended cutting speed of 15–35 m/s. This provides an ideal compromise between stock removal rate, surface quality, thermal load on the workpiece and tool wear.

PFERDVALUE:



D [mm]	Abrasive	Type				Grit size	Opt. RPM	Max. RPM		Description
		W (soft)	MW (medium-soft)	MH (medium-hard)	H (hard)					
EAN 4007220										
100	SiC	948187	948194	948200	-	fine	5,700	9,550	5	CC-PNER ... 100 SiC F
	A	-	-	-	948217	fine	5,700	9,550	5	CC-PNER ... 100 A F
115	SiC	935989	936009	936016	-	fine	5,000	8,350	5	CC-PNER ... 115 SiC F
	A	-	-	-	936023	fine	5,000	8,350	5	CC-PNER ... 115 A F
125	SiC	935996	936030	936047	-	fine	4,500	7,650	5	CC-PNER ... 125 SiC F
	A	-	-	-	936054	fine	4,500	7,650	5	CC-PNER ... 125 A F

Non-woven tools PNER

COMBICLICK backing pad

CC-GT, CC-H-GT types

With this backing pad, COMBICLICK tools can be used on commercially available angle grinders.

The different hardnesses are colour-coded:

- CC-GT (medium) = black
- CC-H-GT (hard) = blue



Advantages:

- The geometry of the cooling slots significantly reduces the thermal load.
- High economic efficiency due to minimized tool change times.

Recommendations for use:

- Type CC-H-GT is mainly used to work on stainless steel (INOX). It features very high edge strength, which enables a higher contact pressure.

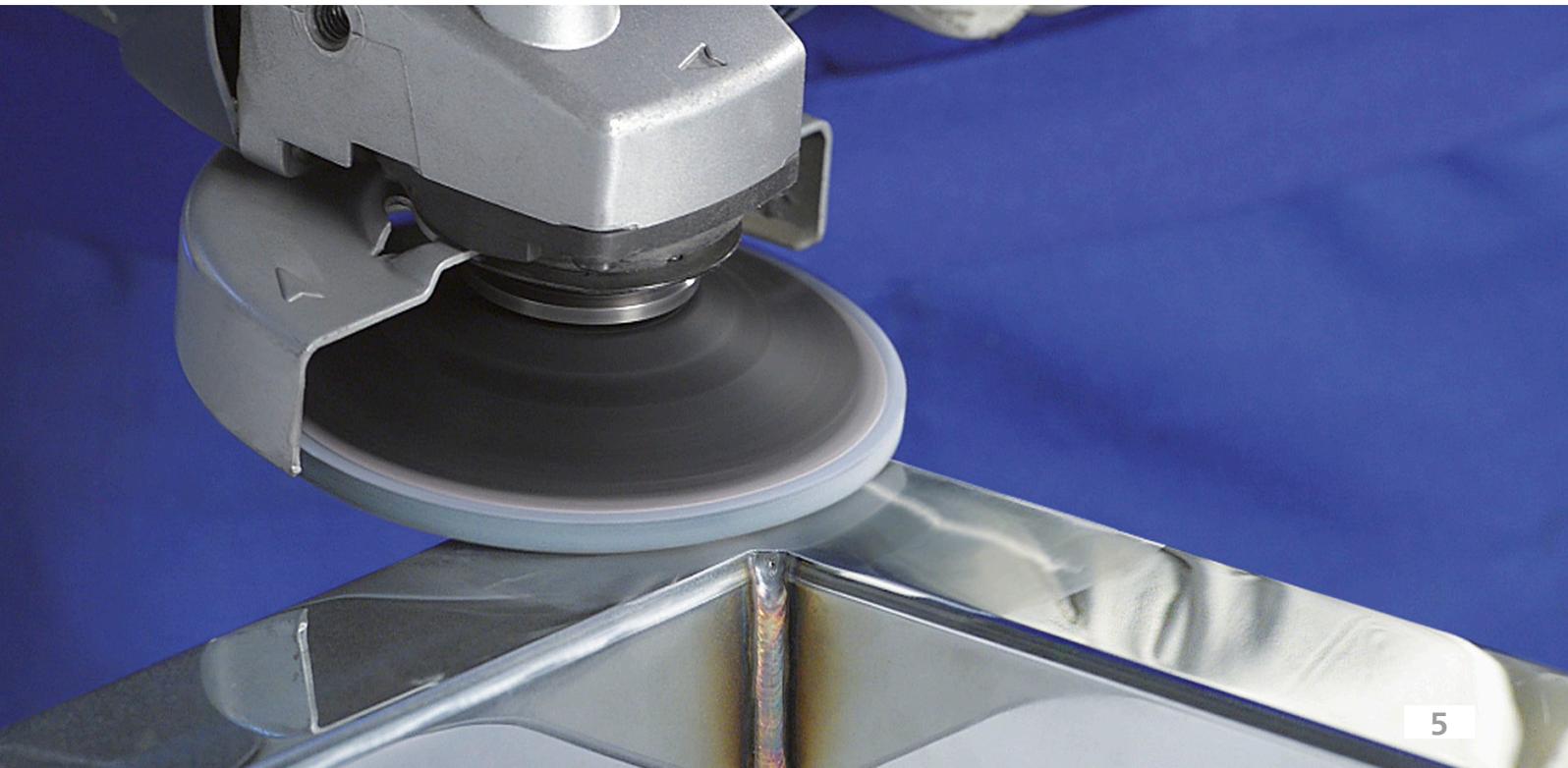
Safety notes:

- The maximum peripheral speed is 80 m/s.
- For backing pads with a diameter of 180 mm, do not apply too high a contact pressure in order to prevent the backing pad from overstretching.

PFERDVALUE:



Suitable for CC diameter [mm]	Thread	Hardness	Suitable for machine types	EAN 4007220	Max. RPM		Description	
100	M10	medium	Angle grinders 100, spindle M10	836200	15,300	1	CC-GT 100 M10	
115, 125	M14	medium	Angle grinders 115 / 125, spindle M14	725764	13,300	1	CC-GT 115-125 M14	
		5/8	medium	Angle grinders 115 / 125, spindle 5/8"	725771	13,300	1	CC-GT 115-125 5/8
	5/8	M14	hard	Angle grinders 115 / 125, spindle M14	835869	13,300	1	CC-H-GT 115-125 M14
		5/8	hard	Angle grinders 115 / 125, spindle 5/8"	841419	13,300	1	CC-H-GT 115-125 5/8
125	M14	medium	Angle grinders 125, spindle M14	223413	12,200	1	CC-GT 125 M14	
		5/8	medium	Angle grinders 125, spindle 5/8"	223468	12,200	1	CC-GT 125 5/8
	5/8	M14	hard	Angle grinders 125, spindle M14	223451	12,200	1	CC-H-GT 125 M14
		5/8	hard	Angle grinders 125, spindle 5/8"	223475	12,200	1	CC-H-GT 125 5/8
180	M14	medium	Angle grinders 180, spindle M14	725788	8,500	1	CC-GT 180 M14	
		5/8	medium	Angle grinders 180, spindle 5/8"	725795	8,500	1	CC-GT 180 5/8



Non-woven tools PNER

COMBIDISC – General information

The COMBIDISC product range contains a wide selection of grinding tools for surface finishing. The range provides the best tool, even for complicated applications.

Advantages:

- High profitability thanks to quick tool changes.
- Great convenience thanks to simple handling and low-vibration working.
- No operational disruptions caused by sticking, slipping or disengaging.

Applications:

- Roughening
- Deburring
- Surface work
- Cleaning
- Work on weld seams
- Structuring surfaces
- Step-by-step fine grinding

Recommendations for use:

- Use COMBIDISC grinding tools with arbors or abrasive disc holders on flexible shaft drives with angle handpieces, compressed-air or electric angle grinders.

Matching tool drives:

- Flexible shaft drives
- Straight grinders
- Angle grinders
- Cordless angle grinders

Ordering notes:

- Please order arbors or COMBIDISC abrasive disc holders separately. More detailed information and ordering data can be found on page 9.
- When ordering, please state the EAN or the full description.
- **Ordering example:**
EAN 4007220**832783**
CD PNER-**W** 5006 A G
- **Ordering example explanation:**
CD = COMBIDISC
PNER = Non-woven discs PNER
W = Type soft
5006 = Outer diameter D_1 x thickness [mm]
A = Abrasive
G = Grit size

Safety notes:

- The maximum permitted peripheral speed is 50 m/s.
- For safety reasons, the specified maximum permitted rotational speed must never be exceeded.



Accessories:

- COMBIDISC abrasive disc holders
- COMBIDISC DUST REMOVER

PFERDVALUE:

PFERDERGONOMICS recommends COMBIDISC tools as a solution to sustainably reduce vibration, noise and dust levels produced by tools and to improve working comfort.



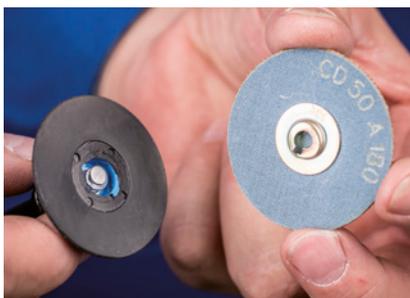
PFERDEFFICIENCY recommends COMBIDISC tools to reduce tool change and setup times.



PFERD offers two alternative clamping systems:



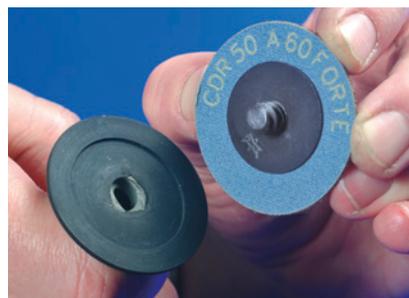
CD system



Tool side: Threaded connection with female thread (metal/plastic)
Also suitable for the following systems used on the market: PSG, Power Lock Type II "turn on", SocAtt, Turn-On



CDR system



Tool side: Threaded connection with male thread (plastic)
Also suitable for the following systems used on the market: Roloc™, Lockit, Speed Lok TR, Power Lock Type III, Fastlock-System B, Roll-On



The whole COMBIDISC product range can be found in the brochure "COMBIDISC grinding tools – The product line for many applications" on www.pferd.com.



PFERDVIDEO:

Learn more about the advantages of using COMBIDISC tools.

Non-woven tools PNER

COMBIDISC – General information

Recommended rotational speed range

Example:

CD-PNER-W 5006 A G

Application:

Working on stainless steel (INOX)

Cutting speed: 20–25 m/s

Rotational speed: 7,600–9,500 RPM

D ₁ [mm]	Cutting speed [m/s]								
	5	10	15	20	25	30	35	40	50
50	1,900	3,800	5,700	7,600	9,500	11,400	13,300	15,200	19,000
75	1,200	2,500	3,800	5,000	6,300	7,600	8,900	10,100	12,700

The fast way to the best tool

Material group ▼		Abrasive ►	Aluminium oxide A	Silicon carbide SiC
Steel, cast steel	Non-hardened, non-heat-treated steels	Construction steels, carbon steels, tool steels, non-alloyed steels, cast steel	●	
	Hardened, heat-treated steels	Tool steels, tempering steels, alloyed steels, cast steel	○	
Stainless steel (INOX)	Rust- and acid-resistant steels	Austenitic and ferritic stainless steels		
Non-ferrous metals	Soft non-ferrous metals, non-ferrous metals	Soft aluminium alloys	○	
		Brass, copper, zinc	●	
	Hard non-ferrous metals	Hard aluminium alloys	●	○
		Bronze, titanium		●
	High-temperature-resistant materials	Nickel-based and cobalt-based alloys		
Cast iron	Grey cast iron, white cast iron	Cast iron with flake graphite EN-GJL (GG), with nodular graphite/nodular cast iron EN-GJS (GGG), white annealed cast iron EN-GJMW (GTW), black cast iron EN-GJMB (GTS)	●	
Plastics, other materials		Fibre-reinforced plastics, thermoplastics, wood, chipboard, paintwork	●	●

● = highly suitable

○ = suitable



Non-woven tools PNER

COMBIDISC non-woven discs CD, CDR

PNER type

For achieving a very fine, uniform surface finish which, depending on requirements, is a sufficient preparation for high-gloss polishing. Particularly suitable for work on small and medium-sized surfaces of stainless steel (INOX) components.

The different thicknesses/hardnesses of the non-woven material are colour-coded:

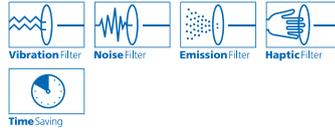
- W (soft) = grey
- MH (medium-hard) = dark blue
- H (hard) = red



Abrasive:

- Aluminium oxide A
- Silicon carbide SiC

PFERDVALUE:



Ordering notes:

- Please complete the description with the desired grit size.
- The non-woven discs are supplied with a thickness of 6 mm.

D ₁ [mm]	Abrasives	Type			Grit size	Opt. RPM	Max. RPM		Description
		W (soft)	MH (medium-hard)	H (hard)					
EAN 4007220									

CD system

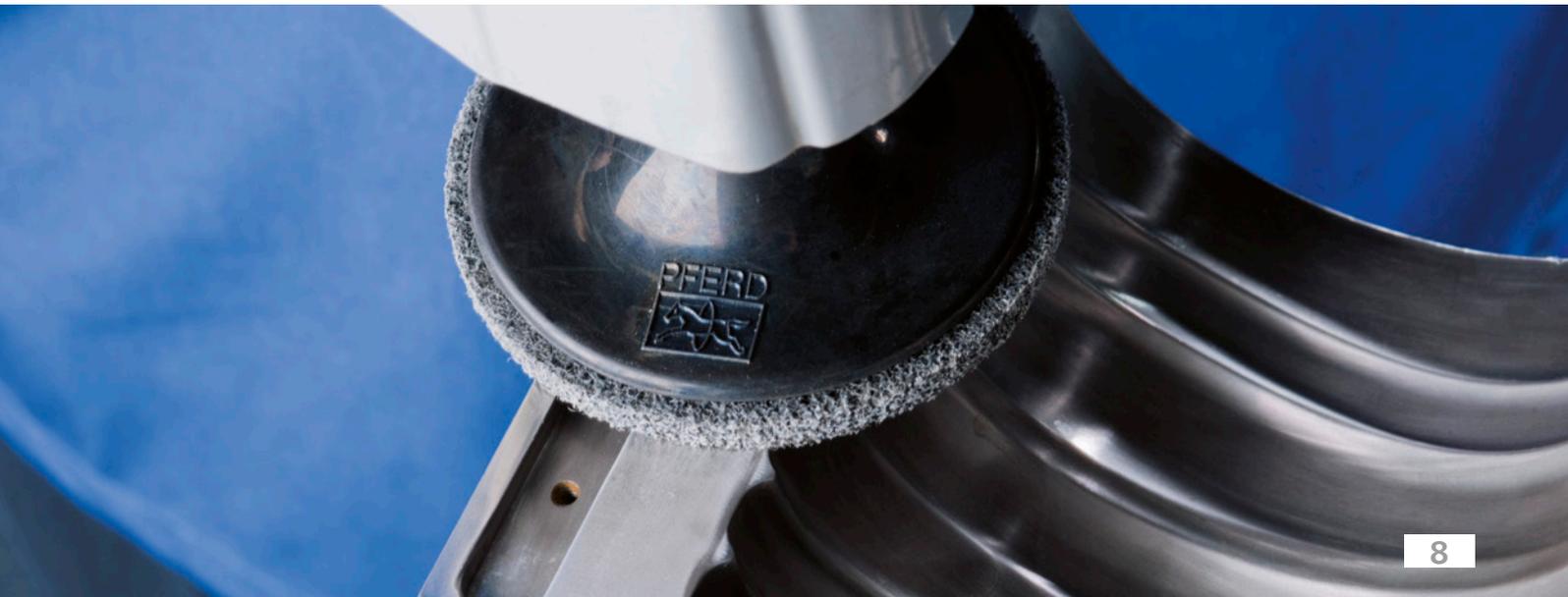


50	A	832783	-	832851	coarse	9,500	19,100	25	CD PNER-... 5006 A G
	SiC	832776	832790	-	fine	9,500	19,100	25	CD PNER-... 5006 SiC F
	A	-	832806	832813	fine	9,500	19,100	25	CD PNER-... 5006 A F
75	A	832868	-	832905	coarse	6,400	12,500	25	CD PNER-... 7506 A G
	SiC	832837	832875	-	fine	6,400	12,500	25	CD PNER-... 7506 SiC F
	A	-	832882	832899	fine	6,400	12,500	25	CD PNER-... 7506 A F

CDR system



50	A	832660	-	832707	coarse	9,500	19,100	25	CDR PNER-... 5006 A G
	SiC	832653	832677	-	fine	9,500	19,100	25	CDR PNER-... 5006 SiC F
	A	-	832684	832691	fine	9,500	19,100	25	CDR PNER-... 5006 A F
75	A	832721	-	832769	coarse	6,400	12,500	25	CDR PNER-... 7506 A G
	SiC	832714	832738	-	fine	6,400	12,500	25	CDR PNER-... 7506 SiC F
	A	-	832745	832752	fine	6,400	12,500	25	CDR PNER-... 7506 A F



Non-woven tools PNER

COMBIDISC abrasive disc holders

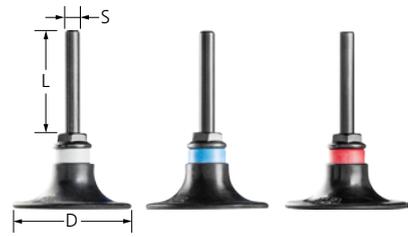
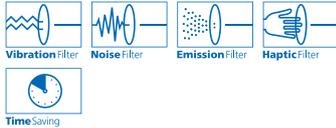
SBH and SBHR types

Matching arbors for COMBIDISC grinding tools. Available in three different hardness grades.

Ordering notes:

- The different hardness grades are colour-coded: W (soft) – grey; M (medium) – blue; H (hard) – red
- Please complete the description with the desired hardness grade.

PFERDVALUE:



D [mm]	S [mm]	L [mm]	Hardness			Max. RPM		Description
			W (soft)	M (medium)	H (hard)			
CD system 								
50	6	40	266793	266809	266816	19,000	1	SBH 50 ...
75	6	40	266823	266830	266847	12,500	1	SBH 75 ...
CDR system 								
50	6	40	776360	597064	776353	19,000	1	SBHR 50 ...
75	6	40	776384	597071	776377	12,500	1	SBHR 75 ...

Adapters:

The shank of the abrasive disc holders can be replaced by suitable adapters. This enables the abrasive disc holder to be mounted directly to the drive spindle of the tool drive.

The following adapters are available:



AF 14-1/4 CD,
(EAN 4007220**302026**)
Female thread M14,
male thread 1/4-20 UNC.
Suitable for drives with
spindle M14.



SPV-20 CD 1/4-20 UNC,
(EAN 4007220**333167**)
Female thread 1/4-20 UNC,
male thread 1/4-20 UNC.
Suitable for drives with
spindle 1/4-20 UNC, e.g. for
PW 3/120 DH.



AF M5 CD 1/4-20 UNC
(EAN 4007220**064702**)
Male thread M5,
male thread 1/4-20 UNC.
Suitable for cordless angle
grinder, dia. 75, with spindle
M5 (female thread).

Ordering notes:

More detailed information and ordering data for adapters can be found in our Tool Manual 23, catalogue section 9 or on www.pferd.com.



Non-woven tools PNER

POLINOX unitized wheels and discs PNER – General information

POLINOX unitized wheels PNER and unitized discs PNER are particularly suitable for deburring, blending, finishing and polishing soft metals, alloyed and high-alloy steels, in addition to titanium alloys.

Advantages:

- High profitability thanks to high abrasive performance and long tool life.
- For achieving very good surface quality standards.
- Perfect adaptation to contours thanks to free profiling.

Applications:

Cleaning

- Universal cleaning before painting.
- Removal of rust, scratches, coatings, heavy scaling, oxide layers of aluminium and heat discolouration.

Deburring

- Deburring of gear components, aircraft wing spars and turbine blade edges.
- Removal of heavy burrs, in addition to moderate blemishes and scratches.
- Edge breaking and rounding.

Blending

- Blending and finishing work on engine blade surfaces, turbine blades and rotor blades.
- Removal of smaller blemishes, scratches and joints on cast workpieces.

Polishing

- Polishing of fillet welds on turbine blades and aircraft parts.
- Polishing of soft metals before the coating process, and of hardened steel when repairing moulds and dies.
- Polishing and finishing of surgical instruments and implants.

Recommendations for use:

- Considerably reduce cutting speed for work on materials with poor heat-conducting properties, e.g. titanium and stainless steel.
- For best performance, use with a recommended cutting speed of 15–35 m/s. This provides an ideal compromise between stock removal rate, surface quality, thermal load on the workpiece and tool wear.

Matching tool drives:

- Flexible shaft drives
- Straight grinders
- Bench grinders

Ordering notes:

- When ordering, please state the EAN or the full description.
- **Ordering example:**
EAN 4007220355473
PNER-H 7506-6 A G
- **Ordering example explanation:**
PNER = POLINOX unitized wheels
H = Type
7506 = Outer diameter D x width T [mm]
6 = Centre hole diameter H [mm]
A = Abrasive
G = Grit size



Safety notes:

- For safety reasons, the specified maximum permitted rotational speed must never be exceeded.

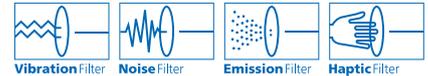


Accessories:

- Arbor for POLINOX unitized wheels

PFERDVALUE:

PFERDERGONOMICS recommends POLINOX unitized wheels PNER to sustainably reduce vibration, noise and dust levels produced by tools and to improve working comfort.



Recommended rotational speed range

Example:

PNER-H 7506-6 A G
Cutting speed: 25 m/s
Rotational speed: 6,300 RPM

Tool dia. [mm]	Cutting speed [m/s]						
	15	20	25	30	32	35	50
	Rotational speeds [RPM]						
25	11,400	15,200	19,000	22,900	24,400	26,700	38,100
50	5,700	7,600	9,500	11,400	12,200	13,300	19,000
75	3,800	5,000	6,300	7,600	8,100	8,900	12,700
100	2,800	3,800	4,700	5,700	6,100	6,600	9,500
115	2,400	3,300	4,100	4,900	5,300	5,800	8,300
125	2,200	3,000	3,800	4,500	4,800	5,300	7,600
150	1,900	2,500	3,100	3,800	4,000	4,400	6,300

Non-woven tools PNER

POLINOX unitized wheels

PNER type

Type for straight grinders, flexible shafts and bench grinders:
Particularly suitable for work on smaller surfaces.

Type for speed-adjustable angle grinders and fillet weld grinders:
They are especially suitable for work on fillet welds and very hard-to-reach slots or indentations.

Abrasive:

Aluminium oxide A
Silicon carbide SiC

Recommendations for use:

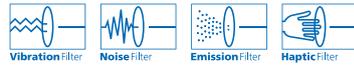
- Grinding wheels with a diameter of 150 mm can also be used on bench grinders, for reworking surgical instruments, for example.

Ordering notes:

- An adapter is included with the 150 x 25 mm diameter grinding wheels, which allows the centre hole diameter to be reduced from 25.4 mm to 20 mm.
- Please complete the description with the desired hardness grade.



PFERDVALUE:



D [mm]	T [mm]	H [mm]	Grit size	Abra-sives	Type				Opt. RPM	Max. RPM	Suitable arbors	Description
					W (soft)	MW (medium-soft)	MH (medium-hard)	H (hard)				
EAN 4007220												

Type for straight grinders, flexible shafts and bench grinders

25	25	6	coarse	A	-	-	-	440438	19,000	30,500	BO PNER 25 S6	10	PNER... 2525-6 A G
			fine	A	-	-	440452	440445	19,000	30,500	BO PNER 25 S6	10	PNER... 2525-6 A F
50	3	6	fine	A	-	-	-	505700	9,500	15,300	BO 6/6 3-10	10	PNER... 5003-6 A F
			75	3	6	coarse	A	136775	-	-	136812	6,400	10,200
fine	A	-				-	136805	505717	6,400	10,200	BO 6/6 3-10	10	PNER... 7503-6 A F
6	6	coarse		A	476307	-	-	355473	6,400	10,200	BO 6/6 3-10	5	PNER... 7506-6 A G
		fine		A	-	355534	355503	-	6,400	10,200	BO 6/6 3-10	5	PNER... 7506-6 A F
		SiC		355626	355558	-	-	6,400	10,200	BO 6/6 3-10	5	PNER... 7506-6 SiC F	
		coarse		A	476314	-	-	355480	6,400	10,200	BO 6/6 3-10	5	PNER... 7513-6 A G
6	6	fine	A	-	355565	355510	-	6,400	10,200	BO 6/6 3-10	5	PNER... 7513-6 A F	
		SiC	476338	355589	-	-	6,400	10,200	BO 6/6 3-10	5	PNER... 7513-6 SiC F		
150	25	25.4	coarse	A	-	-	-	355497	3,200	5,100	BO 12/20 10-50	1	PNER... 15025-25,4 A G
			fine	A	-	476291	355527	-	3,200	5,100	BO 12/20 10-50	1	PNER... 15025-25,4 A F
			SiC	355633	355602	-	-	3,200	5,100	BO 12/20 10-50	1	PNER... 15025-25,4 SiC F	

Type for angle grinders and fillet weld grinders

125	6	22.23	coarse	A	-	-	-	833179	4,500	6,100	-	5	PNER... 12506-22,2 A G
			fine	A	-	833148	833155	833162	4,500	6,100	-	5	PNER... 12506-22,2 A F
			SiC	-	833131	-	-	4,500	6,100	-	5	PNER... 12506-22,2 SiC F	
150	3	25.4	fine	A	-	-	-	895733	3,800	5,100	-	5	PNER... 15003-25,4 A F
			SiC	-	895719	895726	-	3,800	5,100	-	5	PNER... 15003-25,4 SiC F	
			6	25.4	fine	A	-	-	-	895764	3,800	5,100	-
SiC	895740	895757			-	-	3,800	5,100	-	5	PNER... 15006-25,4 SiC F		



Non-woven tools PNER

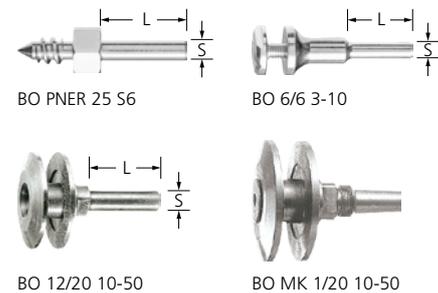
Arbors for POLINOX unitized/convolute wheels

Arbors BO

Matching arbor for POLINOX unitized wheels.

Advantages:

- High economic efficiency as the tool can be changed quickly.



Suitable for centre hole dia. [mm]	S [mm]	L [mm]	Clamping width [mm]	EAN 4007220		Description
6	6	25	-	440469	1	BO PNER 25 S6
			3-10	297650	1	BO 6/6 3-10
20	12	35	10-50	297674	1	BO 12/20 10-50
	-	-	10-50	297681	1	BO MK 1/20 10-50

POLINOX unitized discs PNER

PNER discs

POLINOX unitized discs are used for face-down grinding on speed-adjustable angle grinders. Especially well-suited to work on larger surfaces. The compressed, non-woven material is bonded to a glass-fabric base.

Abrasive:

Silicon carbide SiC

PFERDVALUE:



D [mm]	T [mm]	H [mm]	Abrasives	Type			Grit size	Opt. RPM	Max. RPM		Description
				W (soft)	MW (medium-soft)	MH (medium-hard)					
EAN 4007220											
115	13	22.23	SiC	824337	824344	824351	fine	6,000	10,000	5	DISC PNER-... 115-22,2 SiC F
125	13	22.23	SiC	824368	824375	824382	fine	5,400	10,000	5	DISC PNER-... 125-22,2 SiC F



Non-woven tools PNER

POLINOX unitized wheels set

SET PNER

Set with handy electric fillet weld grinder and PFERD tools for brushing, cleaning, weld dressing and very fine grinding of fillet welds and hard-to-reach places on stainless steel (INOX) components.

Contents:

- 1 pc. each of:
 - Electric fillet weld grinder
KNER 5/34 V-SI with electronic rotational speed control (1,400–3,200 RPM)
 - POLINOX unitized wheels:
 - PNER-MW 15003-25,4 SiC F
 - PNER-MH 15003-25,4 SiC F
 - PNER-H 15003-25,4 A F
 - PNER-W 15006-25,4 SiC F
 - PNER-MW 15006-25,4 SiC F
 - PNER-H 15006-25,4 A F
 - Dressing stone SE 702212 CU 46 M5V
 - POLINOX discs:
 - PVR 15008-13 A 100
 - PVR 15008-13 A 280
 - Wheel brush RBU 15016/12,0 SiC 80 1,00 incl. arbor hole adapter 22.2 mm

Advantages:

- Optimal, stepless rotational speed regulation for the use of different tools.
- Coordinated selection of the most common versions.

Recommendations for use:

- Please note the different recommended rotational speeds:
POLINOX unitized wheels PNER = 2,000–3,800 RPM;
POLINOX discs PVR = 1,500–3,100 RPM;
wheel brush RBU = 2,400–3,900 RPM

Ordering notes:

- Detailed information and ordering data on tool drives can be found in our Tool Manual 23, catalogue section 9 or on www.pferd.com.



PFERDVALUE:



D [mm]	L x B x H [mm]	EAN 4007220		Description
150	587 x 285 x 162	936306	1	SET PNER 15003/06 KNER 5/34 230 V



Non-woven tools PNK

General information



POLINOX non-woven tools PNK consist of spiral-shaped, non-woven abrasive which is wound around a core and foamed up. The foam supports the non-woven component and positively impacts its tool life and abrasive performance. This particular bond results in non-woven wheels with a very good surface finish, high stock removal rate and long tool life.

The wheels can be used on automated appliances and bench grinders, in addition to portable tool drives such as straight grinders. By dressing the wheels, they can also be adapted to the geometry of special workpieces.

Five different types are available:

Type	Colour code	Properties
Soft		Soft variant with very good abrasive performance on contours. Very good for blending surfaces.
Medium-soft		Medium-soft variant with increased flexibility and extended tool life for tough blending applications and for light deburring and polishing work. Well suited to machining contours.
Medium-hard		Medium-hard variant with increased edge strength and extended tool life, for tough deburring applications and other deburring, blending and cleaning work.
Hard		Hard variant with very high stock removal rate, good edge strength and long tool life, for moderate to heavy-duty deburring and polishing applications.
Extra-hard		Extra-hard variant with very high edge strength for demanding deburring work.

Comparison table

PFERD PNK				3M	Standard Abrasives	Norton	BIBIELLE
Type	Colour code	Abrasive	Grain				
Soft		A	Coarse	CP-WL 5AM	MF CV 5AM	MF CF 5AM	BCW-MF 5AM
Medium-soft		SiC	Fine	LDW 7SF	LDW 7SF	Series 2000 7SF	BCW-DB 7SF
Medium-hard		SiC	Fine	EXL Deburring 8SF	Deburring 8SF	Series 1000 8SF	BCW-DB 8SF
		A	Coarse	EXL Deburring 8AM	GP Plus 8AM	Series 1000 8AM	BCW-DB 8AM
Hard		SiC	Fine	Deburring 9SF	EXL Deburring 9SF	Series 1000 9SF	BCW-DB 9SF
Extra-hard		SiC	Fine	XP-WL 10SF	GP Plus 10SF	Series 4000 9SF	BCW-DB 9SF-R



Non-woven tools PNK

POLINOX convolute wheels – General information

POLINOX convolute wheels PNK are particularly suitable for deburring, blending, finishing and polishing soft metals, alloyed and high-alloy steels, in addition to titanium alloys.

Advantages:

- High profitability thanks to high abrasive performance and long tool life.
- For achieving very good surface quality standards.
- Perfect adaptation to contours thanks to free profiling.

Abrasive:

- Aluminium oxide A
- Silicon carbide SiC

Applications:

- Rounding of edges.
- Fine grinding of implants.
- Matt finishing of flat surfaces.
- Removing joints on cast and forged parts.
- Weld dressing of intersections on turbine blades.
- Polishing moulds and dies.
- Removal of processing traces on surgical instruments.

Recommendations for use:

- Considerably reduce cutting speed for work on materials with poor heat-conducting properties, e.g. titanium and stainless steel.
- For best performance, use with a recommended cutting speed of 20 m/s. This provides an ideal compromise between stock removal rate, surface quality, thermal load on the workpiece and tool wear.

Matching tool drives:

- Flexible shaft drives
- Straight grinders
- Bench grinders

Safety notes:

- For safety reasons, the specified maximum permitted rotational speed must never be exceeded.
- The wound construction of the tool requires that the indicated tool running direction is strictly adhered to. Non-compliance with the tool running direction will lead to destruction of the tool, and carries an increased risk of accidents.



PFERDVALUE:

PFERDERGONOMICS recommends POLINOX convolute wheels PNK to sustainably reduce vibration, noise and dust levels produced by tools and to improve working comfort.



Recommended rotational speed range

Example:

PNK-MW 15013-25.4 SiC F

Cutting speed: 20 m/s

Rotational speed: **2,500 RPM**

Tool dia. [mm]	Cutting speed [m/s]				
	15	20	25	30	40
Rotational speeds [RPM]					
150	1,900	2,500	3,100	3,800	5,000
200	1,400	1,900	2,300	2,800	3,800
250	1,100	1,500	1,900	2,200	3,000



Non-woven tools PNK

POLINOX convolute wheels PNK

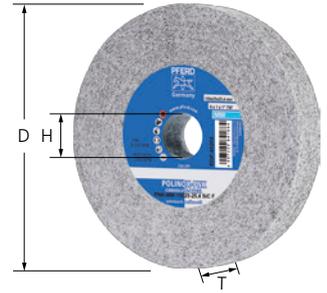
PNK type

Varied application options, for example:

- Rounding of edges
- Fine grinding of implants
- Weld dressing of intersections on turbine blades
- Removal of processing traces on surgical instruments

They create matt surface finishes.

PFERDVALUE:



D [mm]	T [mm]	H [mm]	Abra-sives	Type					Grit size	Opt. RPM	Max. RPM		Description
				W (soft)	MW (medium-soft)	MH (medium-hard)	H (hard)	EH (extra-hard)					
EAN 4007220													
150	13	25.4	SiC	-	841846	841860	841877	091357	fine	2,500	5,100	1	PNK-... 15013-25,4 SiC F
	13	25.4	A	-	-	841853	-	-	coarse	2,500	5,100	1	PNK-... 15013-25,4 A G
	25	25.4	A	896501	-	841891	-	-	coarse	2,500	5,100	1	PNK-... 15025-25,4 A G
	25	25.4	SiC	-	841884	841907	841914	091395	fine	2,500	5,100	1	PNK-... 15025-25,4 SiC F
200	13	76.2	SiC	-	841921	841945	841952	067819	fine	1,900	3,850	1	PNK-... 20013-76,2 SiC F
	13	76.2	A	-	-	841938	-	-	coarse	1,900	3,850	1	PNK-... 20013-76,2 A G
	25	76.2	A	091333	-	841976	-	-	coarse	1,900	3,850	1	PNK-... 20025-76,2 A G
	25	76.2	SiC	-	841969	841983	841990	067765	fine	1,900	3,850	1	PNK-... 20025-76,2 SiC F
	50	76.2	A	896525	-	842010	-	-	coarse	1,900	3,850	1	PNK-... 20050-76,2 A G
	50	76.2	SiC	-	842003	842027	842034	067758	fine	1,900	3,850	1	PNK-... 20050-76,2 SiC F

Clamping flanges for POLINOX convolute wheels PNK

RF PNK

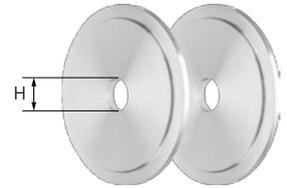
For mounting POLINOX convolute wheels PNK with a diameter of 200 mm on stationary machines such as double grinding machines (bench grinders).

Advantages:

- High accuracy of fit.
- Hole can be expanded as desired.

Ordering notes:

- Included in delivery: 1 pair



Suitable for centre hole dia. [mm]	H [mm]	EAN 4007220		Description
76.2	16.1	880623	1	RF PNK 200 Bo. 16,1
	25.4	880630	1	RF PNK 200 Bo. 25,4
	31.8	880647	1	RF PNK 200 Bo. 31,8

