



WODEX
TYROLIT

3M

WODEX
WRK
TYROLIT
3M

STARCKE
3M
PFERD

STARCKE
3M

WRK

3M
FLEX-HONE
PFERD
WRK

PFERD
WRK

WODEX
PFERD

TYROLIT
WRK

WODEX
PFERD

NAKANISHI
TARO

G0
2 - 4
Cut-off &
grinding wheels

G1
5 - 10
Flap discs,
non-woven fabric

G2
11 - 15
Fibrediscs,
quick change discs

G3
16 - 20
Abrasive rolls, sheets
and belts

G4
20 - 29
Flap wheels
and brushes

G5
30 - 35
Mounted points and
felt polishing products

G6
36 - 46
Tungsten carbide burrs

G7
47 - 57
Bonded abrasive,
diamond grinding wheel

G8
58 - 64
Engineering
and needle files

G9
65 - 67
Polishing machines,
mini-grinders



CUTTING-OFF AND GRINDING DISC - INSTRUCTIONS FOR USE

Grinding and cutting discs consist of abrasive grains, binding materials and additives, perfectly adapting to the electric and pneumatic angle grinders, fit for cutting and grinding on a wide range of materials.

All items herewith listed are free from additives that may contain iron, sulphur and chlorine.

All items should be used together with all the personal protective equipment (PPE) as stated by law and provided by employer..

P	M	K	N	S	H
●○	●○	●○	●○	●○	●○

● Recommended for this material ○ Suitable for this material

CUTTING SPEED TABLE

Ø disc mm	115	125	180	230
Max speed (rpm)	13.200	12.200	8.500	6.600



FLAT CUTTING DISCS

WODEX

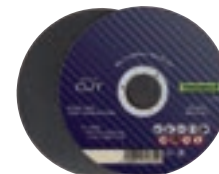
ITEM: SPACE CUT

Lastest generation flat cutting discs, TOP QUALITY.

Excellent performance cutting and long duration.

Suitable for steel and stainless steel. To be used on angle grinders.

Tech. Code		G020711510	G020711516	G020712510	G020712516	G020723019
GR61	Euro	2,63	2,63	2,80	2,80	4,54
Ø	mm	115 x 1,0 x 22,2	115 x 1,6 x 22,2	125 x 1,0 x 22,2	125 x 1,6 x 22,2	230 x 1,9 x 22,2
		25	25	25	25	25



P	M	K	N	S	H
●	●	○	○		

FLAT CUTTING DISCS

NORTON

ITEM: SUPER BLEUE 5

High performance. Suitable for steel and stainless steel. To be used on angle grinders.

Tech. Code		G021511510	G021511516	G021512510	G021512516	G021523019
GR69	Euro	3,63	3,63	3,73	3,73	6,29
Ø	mm	115 x 1,0 x 22,2	115 x 1,6 x 22,2	125 x 1,0 x 22,2	125 x 1,6 x 22,2	230 x 1,9 x 22,2
		25	25	25	25	25



P	M	K	N	S	H
●	●	○	○		

FLAT CUTTING DISCS CUBITRON II

3M

ITEM: CUBITRON II

Cubitron II ceramic type cutting disc. Optimised for maximum cutting high-density performance. High cutting rates and long service life. Suitable for cutting very hard metals, steel and stainless steel.

Tech. Code		G022011510	G022011516	G022012510	G022012516	G022023025
GR69	Euro	3,71	4,06	4,07	4,76	16,75
Ø	mm	115 x 1,0 x 22,2	115 x 1,6 x 22,2	125 x 1,0 x 22,2	125 x 1,6 x 22,2	230 x 2,5 x 22,2
		25	25	25	25	25



P	M	K	N	S	H
●	●	○	○		

DEPRESSED CENTRE CUTTING DISCS

NORTON
SINO-GERMAN

ITEM: SUPER BLEUE 5

High performance. Suitable for steel and stainless steel. To be used on angle grinders.

Tech. Code		G031211525	G031211532	G031212532	G031218032	G031223032
GR69	Euro	3,27	3,27	3,61	5,12	6,97
Ø	mm	115 x 2,5 x 22,2	115 x 3,2 x 22,2	125 x 3,2 x 22,2	180 x 3,2 x 22,2	230 x 3,2 x 22,2
		25	25	25	25	25



P	M	K	N	S	H
●	●	○	○		

FLAT CUTTING DISCS

WRK

ITEM: MULTICUT

Universal flat cutting discs. Suitable for cutting medium-small sections. To be used on angle grinders.

Tech. Code		G035011510	G035011516	G035012510	G035012516
GR68	Euro	1,51	1,54	1,68	1,71
Ø	mm	115 x 1,0 x 22,2	115 x 1,6 x 22,2	125 x 1,0 x 22,2	125 x 1,6 x 22,2
		25	25	25	25



P	M	K	N	S	H
●	●	○	○		

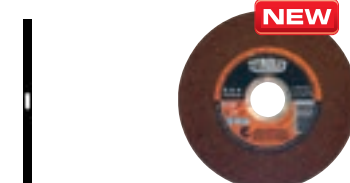
FLAT CUTTING DISCS FOR NON-FERROUS MATERIALS

TYROLIT

ITEM: G0314

Flat aluminum oxide cutting discs, ideal for processing Aluminum, Bronze, Copper, Brass and non-ferrous metals in general. This innovative disc structure avoids the clogging typical of these materials and guarantees fast and precise cuts.

Tech. Code		G031411510	G031411516	G031412510	G031412516
GR69	Euro	2,96	2,96	3,33	3,20
Ø	mm	115 x 1,0 x 22,23	115 x 1,6 x 22,23	125 x 1,0 x 22,23	125 x 1,6 x 22,23
Specification		A60N-BFP	A46N-BFP	A60N-BFP	A46N-BFP
		25	25	25	25



P	M	K	N	S	H
			●	●	

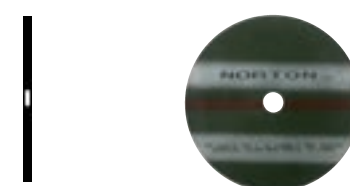
NON-REINFORCED CUTTING DISCS

NORTON
SINO-GERMAN

ITEM: G0405

Organic aluminum oxide binder. Treated and hardened steel. Dry operation on stationary machines.

Tech. Code		G04051251016	G04051501016	G04051501616	G04051502016
GR69	Euro	6,44	8,60	10,72	10,72
Ø	mm	125 x 1,0 x 16	150 x 1,0 x 16	150 x 1,6 x 16	150 x 2,0 x 16
Specification		23A80-PB25	23A80-PB25	23A60-NB25	23A60-NB25
		25	25	25	25



P	M	K	N	S	H
●	●	○	○		

DEPRESSED CENTRE GRINDING DISCS

WODEX

ITEM: SPACE GRIND

Last generation depressed centre discs, TOP QUALITY.
High performance grinding and long duration removal.
Suitable for steel and stainless steel. To be used on angle grinders.

Tech. Code		G031711570	G031712570	G031723070
GR61	Euro	3,54	3,96	8,04
Ø	mm	115 x 7,0 x 22,2	125 x 7,0 x 22,2	230 x 7,0 x 22,2
		10	10	10



P	M	K	N	S	H
●	●	○	○		

DEPRESSED CENTRE GRINDING DISCS

NORTON

ITEM: SUPER BLEUE 5

High performance. Suitable for steel and stainless steel. To be used on angle grinders.

Tech. Code		G032511570	G032512570	G032518070	G032523070
GR69	Euro	4,33	4,95	7,53	10,54
Ø	mm	115 x 7,0 x 22,2	125 x 7,0 x 22,2	180 x 7,0 x 22,2	230 x 7,0 x 22,2
		10	10	25	25



P	M	K	N	S	H
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DEPRESSED CENTRE GRINDING WHEELS, CUBITRON II

3M

ITEM: CUBITRON II

Depressed center deburring wheel Cubitron II. Wheel for heavy weld removal and other heavy-duty grinding applications. Optimised for steel and stainless steel applications

Tech. Code		G033011570	G033012570	G033023070
GR69	Euro	8,23	9,13	20,18
Ø	mm	115 x 7,0 x 22,2	125 x 7,0 x 22,2	230 x 7,0 x 22,2
		10	10	10



P	M	K	N	S	H
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HYBRID CUTTING AND GRINDING DISCS

3M

ITEM: CUT & GRINDING CUBITRON II

Hybrid disc in Cubitron II for cutting and deburring steel and stainless steel plates and bars. High-precision and high cutting rates. Precise and fast cutting. Good service life. Its extremely versatile performance ensures significant savings in time. Use with medium to high power angle grinders.

Tech. Code		G033511542	G033512542	G033523042
GR69	Euro	8,23	8,64	21,41
Ø	mm	115 x 4,2 x 22,2	125 x 4,2 x 22,2	230 x 4,2 x 22,2
		10	10	10



P	M	K	N	S	H
●	●	○	○		





FLAP GRINDING DISCS - INFORMATION FOR USE

Flap discs are typically used for grinding, chamfering or removal works in general. They consist of abrasive flaps, slightly over lapped then glued by means of specific resins to plastic or fibreglass supports. Their main feature is a consistent and even cutting thanks to the gradual consumption of the cloth and to its subsequent continuous renewal. Used for angled grinding machines with adequate power to maximise performance. They should be used together with all the personal protective equipment (PPE) as stated by law and provided by employer.

Abrasives didn't deemed to be harmful elements, but anyway particular attention must be given to machining waste.

P	M	K	N	S	H
●○	●○	●○	●○	●○	●○

● - RECOMMENDED FOR THIS MATERIAL
○ - SUITABLE FOR THIS MATERIAL

LEGEND OF ICONS MATERIAL

A Oxide of Aluminum	A+ Aluminum oxide Additivated	Z Zirconium	Z+ Additivated Zirconium
SiC Silicon carbide	C Ceramic	C+ Additivated Ceramic	Z A Zirconium Aluminum oxide
Z A+ Zirconium Aluminum oxide Additivated	Z C Zirconium Ceramic		



FLAP DISCS ZIRCONIUM

WRK



ITEM: FALCON FIBER BACKING

Flap grinding discs with fiberglass backing and zirconium oxide cloth. Monolamellar-type execution with conic shaped backing pads. Cost-effective, high-performance product. The fiberglass support allows full consumption of the disc. For general use on steel, cast iron, aluminum and light alloys.

Tech. Code	G1214115040	G1214115060	G1214115080
GR68 Euro	2,07	2,07	2,07
Ø mm	115 x 22,2	115 x 22,2	115 x 22,2
Grit	40	60	80
	20	20	20

Tech. Code	G1214125040	G1214125060	G1214125080
GR68 Euro	2,84	2,84	2,84
Ø mm	125 x 22,2	125 x 22,2	125 x 22,2
Grit	40	60	80
	20	20	20



P	M	K	N	S	H
●	●	○	○		



ITEM: FALCON PLASTIC

Flap grinding discs with nylon backing and zirconium abrasive cloth. Monolamellar execution with flat shaped backing pads. High performance economical. Suitable for use on all stainless steel materials and also cast iron, aluminum and light alloys.

Tech. Code	G1218115040	G1218115060	G1218115080
GR68 Euro	2,07	2,07	2,07
Ø mm	115 x 22,2	115 x 22,2	115 x 22,2
Grit	40	60	80
	20	20	20

Tech. Code	G1218125040	G1218125060	G1218125080
GR68 Euro	2,84	2,84	2,84
Ø mm	125 x 22,2	125 x 22,2	125 x 22,2
Grit	40	60	80
	20	20	20



P	M	K	N	S	H
●	●	○	○		

FLAP GRINDING DISCS

WRK

Z

ITEM: PYTHON FIBER

Flap grinding discs in fiberglass and zirconium abrasive cloth. Bilamellar execution with conic shaped pads. Exploiting the abrasive cloth. The most wide spread in the world which guarantees an absolute balance between performance and profitability. Its fiberglass backing with conical geometry allows a uniform consumption of the cloth. Suitable for all types of stainless steel also cast Iron, alumium and light alloys.

Tech. Code		G1219115040	G1219115060	G1219115080	G1219115120
GR68	Euro	2,57	2,57	2,57	2,57
Ø	mm	115 x 22.2	115 x 22.2	115 x 22.2	115 x 22.2
Grit		40	60	80	120
		20	20	20	20

Tech. Code		G1219125040	G1219125060	G1219180040	G1219180060
GR68	Euro	3,57	3,57	6,35	6,35
Ø	mm	125 x 22.2	125 x 22.2	180 x 22.2	180 x 22.2
Grit		40	60	40	60
		20	20	20	20



P	M	K	N	S	H
●	●	○	○		

Z

ITEM: PYTHON PLASTIC

Flap grinding discs with plastic backing and zirconium oxide cloth. double-sided excution with flat shaped back pad. Its abrasive cloth ensures long-lasting, quality performance. Ideal for stainless steel, as well as cast-iron, aluminum, light alloys.

Tech. Code		G1215115040	G1215115060	G1215115080	G1215115120
GR68	Euro	2,57	2,57	2,57	2,57
Ø	mm	115 x 22.2	115 x 22.2	115 x 22.2	115 x 22.2
Grit		40	60	80	120
		20	20	20	20

Tech. Code		G1215125040	G1215125060	G1215180040	G1215180060
GR68	Euro	3,57	3,57	6,35	6,35
Ø	mm	125 x 22.2	125 x 22.2	180 x 22.2	180 x 22.2
Grit		40	60	40	60
		20	20	20	20



P	M	K	N	S	H
●	●	○	○		

Z+

ITEM: REVEN EVO PLASTIC

Flap grinding discs in nylon strenghted flat pad for difficult applications. Bilamellar execution with zirconium cooling admixture. It garantees self lubricated cold machining. The pair of grinding discs are of superior width than normal which offers an increase of the abrasive surface and an increase of the life of the discs. For correct use it is adviced to use suitable power sanders, suited for steel, high alloy steel, stainless steel also cast iron, aluminum and light alloys

Tech. Code		G1224115040	G1224115060	G1224125040	G1224125060
GR68	Euro	3,79	3,79	4,19	4,19
Ø	mm	115 x 22.2	115 x 22.2	125 x 22.2	125 x 22.2
Grit		40	60	40	60
		15	15	15	15



P	M	K	N	S	H
●	●	○	○		

FLAP DISCS ALUMINIUM OXIDE

WRK

A

ITEM: BULLDOG PLASTIC

Flap grinding discs with plastic backing and corundum abrasive cloth. Mono lamellar feature with flat pad. Cost-effective, high-performance. Ideal on iron, plastic, polish, lacquer as well as on non-ferrous materials.

Tech. Code		G1230115040	G1230115060	G1230115080	G1230125040	G1230125060	G1230125080
GR68	Euro	2,07	2,07	2,07	2,84	2,84	2,84
Ø	mm	115 x 22,2	115 x 22,2	115 x 22,2	125 x 22,2	125 x 22,2	125 x 22,2
Grit		40	60	80	40	60	80
		20	20	20	20	20	20



P	M	K	N	S	H
●	○	○	●	●	

HIGH PERFORMANCE FLAP DISCS

WRK



ITEM: RED DRAGON PLASTIC

Flap discs with reinforced plastic backing and thread M14 with ventilation holes. Zirconium and corundum abrasive cloth admixture Bi-Lamellar with flat shaped back pads. Thanks to the wider flaps in superimposed pairs there is a guaranteed increasment of the abrasive surface while the union of zirconium and corundum increases the versatility. It does not overheat the material being used. The threads of the M14 pad allows direct mounting on the most common angle grinders of medium and high power without the use of a classical fixing nut. Ideal on stainless steel, high alloy steels and for cast Iron, alluminium and light alloys.

Tech. Code		G1205115040	G1205115060	G1205125040	G1205125060
GR68	Euro	4,35	4,35	4,75	4,75
Ø	mm	115 x 22,2	115 x 22,2	125 x 22,2	125 x 22,2
Grit		40	60	40	60
		15	15	15	15



P	M	K	N	S	H
●	○	○	●	○	○



ITEM: BARRACUDA PLASTIC

Flap grinding discs with reinforced,thick plastic backing zirconium abrasive cloth and ceramic abrasive. Bi-lamellar feature with flat back pad.Thanks to its superimposed wide flaps in pairs, it provides a larger abrasive surface as well as an increased service life of disc itself. Faster grinding at reduced pressure on extremely hard materials. Ideal for professional use, performances increased by at least 20% compared to standard discs.

A fairly high power grinder is recommended so to ensure effective performance.
Ideal on stainless steel, high-alloy steel, and also suitable for cast iron and titanium use.

Tech. Code		G1240115040	G1240115060
GR68	Euro	4,90	4,90
Ø	mm	115 x 22,2	115 x 22,2
Grit		40	60
		15	15



P	M	K	N	S	H
●	●	○	○	○	○

FLAP DISCS CARBIDE SILICON

WRK



ITEM: LION PLASTIC

Flap grinding discs with plastic backing and silicon carbide abrasive cloth. Bi-lamellar feature with flat back pad. Ideal on aluminum, copper, bronze, titanium, stone and high-alloy steels as well as for fibre reinforced synthetic materials.

Tech. Code		G1235115040	G1235115080	G1235115120	G1235115220
GR68	Euro	2,78	2,78	2,78	2,78
Ø	mm	115 x 22,2	115 x 22,2	115 x 22,2	115 x 22,2
Grit		40	80	120	220
		20	20	20	20

Tech. Code		G1235180040	G1235180080	G1235180120	G1235180220
GR68	Euro	6,47	6,47	6,47	6,47
Ø	mm	180 x 22,2	180 x 22,2	180 x 22,2	180 x 22,2
Grit		40	80	120	220
		20	20	20	20



P	M	K	N	S	H
○	○	●	●	○	●

CERAMIC FLAP DISCS

WODEX

C+

ITEM: RAPTOR PIANO

Flap discs with fiberglass backing and polycotton abrasive cloth with the latest generation self-lubricating ceramic abrasive grain Monolamellar feature with flat shaped backing pad. Exceptional removal capacity of the ceramic abrasive added with cooling lubricants to ensure a cold cut. For heavy duty use especially on high alloy and stainless steel.

Tech. Code	G1250115040	G1250115060	G1250125040	G1250125060
GR61	Euro	3,58	3,58	5,00
Ø	mm	115 x 22,2	115 x 22,2	125 x 22,2
Grit		40	60	40
		15	15	15



P	M	K	N	S	H
●	●	○	●	●	●

C+

ITEM: RAPTOR FIBER

Flap grinding discs with fiber glass backing and polycotton abrasive cloth with the latest generation ceramic self-ceramic abrasive grain. Monolamellar feature with conic shaped backing pad. Exceptional removal capacity of the ceramic abrasive added with cooling lubricants to ensure a cold cut. Especially on high alloy and stainless steel.

Tech. Code	G1251115040	G1251115060	G1251125040	G1251125060
GR61	Euro	3,58	5,00	5,00
Ø	mm	115 x 22,2	115 x 22,2	125 x 22,2
Grit		40	60	60
		15	15	15



P	M	K	N	S	H
●	●	○	●	●	●

FLAP DISCS ZIRCONIUM STEARATE

WODEX

Z+

ITEM: HUSKY

Flap discs with fiber support and zirconium stearatura cloth. The stearatura allows a cold working and less clogging of the disc. Ideal for low pressure machining on aluminum cast iron, brass, copper and all clogging materials.

Tech. Code	G1255115040	G1255115060
GR61	Euro	2,63
Ø	mm	115
Grit		40
		20



P	M	K	N	S	H
○	●	●	●	●	●

FLAT FLAP DISCS CUBITRON II

3M

C+

ITEM: 967/A CUBITRON II VERSIONE PIANA

Ceramic type flap discs Cubitron II. Fiber flat shaped. Precise cutting and quick grinding and weld removal, low heat development. Ideal for welding and deburring removal on steel, stainless steel, aluminum and non-ferrous metals.

Tech. Code	G1300115040	G1300115060	G1300115080
GR69	Euro	6,41	5,98
Ø	mm	115 x 22,2	115 x 22,2
Grit		40	60
		10	10



P	M	K	N	S	H
●	●	○	●	●	●

Tech. Code	G1300125040	G1300125060	G1300125080
GR69	Euro	6,47	6,18
Ø	mm	125 x 22,2	125 x 22,2
Grit		40	60
		10	10

FLAP DISCS CONICA CUBITRON II

3M

C+

ITEM: 967/A CUBITRON II CONICA VERSION

Ceramic flap disc Cubitron II. Fiber pad. Conical shape. Precise cutting and quick grinding and weld removal with a low heat development. Ideal for welding and deburring removal on steel, stainless steel, aluminum and non-ferrous metals.

Tech. Code	G1310115040	G1310115060	G1310115080
GR69	Euro	6,41	5,98
Ø	mm	115 x 22,2	115 x 22,2
Grit		40	60
		10	10



P	M	K	N	S	H
●	●	○	●	●	●

Tech. Code	G1310125040	G1310125060	G1310125080
GR69	Euro	6,47	6,18
Ø	mm	125 x 22,2	125 x 22,2
Grit		40	60
		10	10

SOFT FLAP DISCS

WRK

Z

ITEM: FOX

Zirconium flap grinding discs with fiberglass backing.

The flaps' angular positioning guarantee superior flexibility, comparable to that of a fibre disc, yet providing a twenty times longer service life.

Especially recommended for angles, shaped edges and corrugated surfaces machining Cold cutting.

Fit for all materials, for average power grinders.

Cutting speed 10400 rev. (63 m/s)

Tech. Code		G1410115040	G1410115060	G1410115080
GR68	Euro	5,20	5,20	5,20
Ø	mm	115 x 22,2	115 x 22,2	115 x 22,2
Grit		40	60	80
		20	20	20



P	M	K	N	S	H
●	●	●	●	●	●

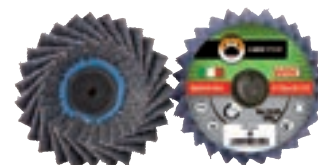
Z

ITEM: MINI FOX

Shares the same Fox discs features, 50 mm diameter, Mini Fox guarantees full performance in restricted spaces. Pad in special Nylon with Roloc quick coupling.

Cutting speed 24000 rev. (63 m/s)

Tech. Code		G1415050040	G1415050060	G1415050080	G1415050120
GR68	Euro	4,14	4,14	4,14	4,14
Ø	mm	50	50	50	50
Grit		40	60	80	120
		25	25	25	25



P	M	K	N	S	H
●	●	●	●	●	●

QUICK COUPLING ARBORS

3M

ITEM: 9884

Quick coupling Roloc arbor to be used with Mini Fox flap discs 6-mm guide.

Tech. Code		G1416025
GR69	Euro	9,99
Ø	mm	25



Related products



CORDLESS ANGLE GRINDER BATTERY OPERATED 18V

Tech. Code	Battery tension V	Cutting depth max. mm	No-load speed/min Rpm
N406818	18	33	9000



The products are available in chapter N

SURFACE TREATMENT DISCS

WODEX®

ITEM: POLISH TNT

Non-woven disc, impregnated with abrasive granules, on a fiberglass support.

Close mesh, so as to remove minor imperfections that may result from flap disc use and obtain a perfect mirror polishing.

A low noise tool, highly recommended for stainless steel machining, suitable for all other ferrous surfaces, as well as on plastic, wood, marble and glass materials, or again, when superior finishing is required.

Use on angle grinders at the speed of 8300 rev (50 m/s).

Tech. Code		G1421115
GR61	Euro	13,24
Ø	mm	115 x 22,2
Grit		Soft
		10



P	M	K	N	S	H
○	●	○	○	○	○

ITEM: SURFACE TNT

Zirconium non-woven flap grinding disc with fiberglass support.

Special Nylon threaded flaps, Impregnated with abrasive granules, ensure consistent finishing throughout the entire process. Low noise levels. High-level finishing on iron, stainless steel, aluminum, titanium, fibreglass, non-ferrous materials, plastic, polish and lacquer. Finishing level depends on the type of disc chosen.

Use on angle grinders at 10.400 rev (63 m/s).

Tech. Code		G1426115C	G1426115M	G1426115VF
GR61	Euro	10,01	10,01	10,01
Ø	mm	115 x 22,2	115 x 22,2	115 x 22,2
Grit		Coarse	Medium	Very fine
		10	10	10



P	M	K	N	S	H
●	●	●	●	●	●

ITEM: CLEAN TNT

Non-woven disc, Impregnated with abrasive granules of silicon carbide with fibreglass support.

Open mesh type, for a better free removal of materials. May be cleaned using a compressed air system. Low noise level. No contaminants released. May be used on all materials.

Use on angle grinders at 8300 rev (50 m/s).

Tech. Code		G1431115
GR61	Euro	6,53
Ø	mm	115 x 22,2
Grit		Coarse
		10



P	M	K	N	S	H
●	●	●	●	●	●

FELT FLAP DISCS

WODEX®

ITEM: FELT

Flap discs in felt with fiberglass support.

Specifically designed to be used with abrasive paste in surface mirror polishing.

Use on angle grinders at 2500 rev (16 m/s).

Tech. Code		G1441115
GR61	Euro	9,66
Ø	mm	115 x 22,2
Grit		Coarse
		10

To be used in combination with abrasive past G7984.



P	M	K	N	S	H
●	●	●	●	●	●

UNITIZED DISCS

TYROLIT

ITEM: G1445

Unitized discs, obtained from pressed layers of non-woven fabric, guarantee an excellent surface finish, cold grinding, reduced clogging and long life. The 3SF version in Silicon Carbide is more flexible and suitable for small burrs, cleaning of welding traces and polishing. The more rigid and aggressive 6AM version in Aluminum Oxide is suitable for burrs and bevels even on edges. 22.23 mm hole for use on angle grinders. Max speed 10,000 RPM - Recommended 5,000RPM

Tech. Code		G144512763SF	G144512766AM
GR69	Euro	17,52	20,55
Ø x L	mm	127 x 6	127 x 6
Grit		3SF	6AM



P	M	K	N	S	H
●	●	●	●	●	●

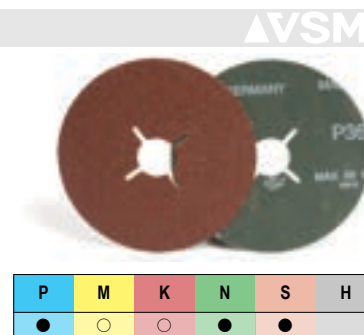
ALUMINUM OXIDE ABRASIVE FIBER DISCS

A

ITEM: KF708

Used for general machining from roughing to finishing of all metals, in particular non-ferrous materials.

Tech. Code		G2000115036	G2000115060	G2000125036	G2000125060	G2000180036	G2000180060
GR69	Euro	0,92	0,72	1,02	0,81	1,69	1,40
Ø	mm	115 x 22,2	115 x 22,2	125 x 22,2	125 x 22,2	180 x 22,2	180 x 22,2
Grit		36	60	36	60	36	60
		25	25	25	25	25	25



P	M	K	N	S	H
●	○	○	●	●	○

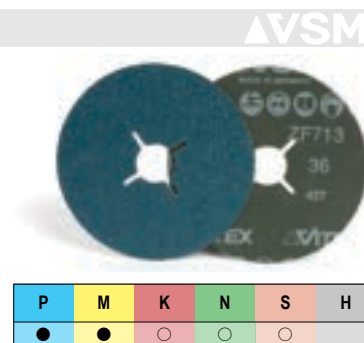
ZIRCONIA ABRASIVE FIBER DISCS

Z

ITEM: ZF713

Thanks to the high removal capacity of the zirconium they are indicated for heavy work. They are recommended for use on high-power grinders.

Tech. Code		G2100115036	G2100115060	G2100125036	G2100125060	G2100180036	G2100180060
GR69	Euro	1,30	0,88	1,46	0,97	2,60	1,72
Ø	mm	115 x 22,2	115 x 22,2	125 x 22,2	125 x 22,2	180 x 22,2	180 x 22,2
Grit		36	60	36	60	36	60
		25	25	25	25	25	25



P	M	K	N	S	H
●	●	○	○	○	○

ADDITIVE COATED CERAMIC FIBER DISCS

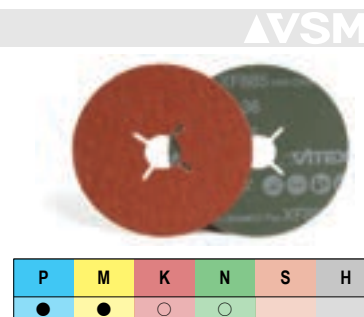
C+

ITEM: XF885

Ceramic abrasive specific features allow for larger material removal rates and consistency in performance. Lubricant and coolant additives ensure a proper cold cutting. Specifically recommended for alloy and stainless steel as well as for titanium and aluminum alloys. Use of high-power grinders is recommended.

Tech. Code		G2120115036	G2120115040	G2120115060	G2120115080	G2120115120
GR69	Euro	2,62	2,23	1,74	1,60	1,60
Ø	mm	115 x 22,2	115 x 22,2	115 x 22,2	115 x 22,2	115 x 22,2
Grit		36	40	60	80	120
		50	50	50	50	50

Tech. Code		G2120125036	G2120125040	G2120125060	G2120125080	G2120125120
GR69	Euro	2,90	2,47	1,95	1,76	1,76
Ø	mm	125 x 22,2	125 x 22,2	125 x 22,2	125 x 22,2	125 x 22,2
Grit		36	40	60	80	120
		50	50	50	50	50



P	M	K	N	S	H
●	●	○	○	○	○

ACTIROX FIBERED DISCS

C

ITEM: AF799

Fiber disc with new generation ceramic abrasive characterized by an innovative grain shape. Extraordinary performances in terms of duration and removal. Suitable for all steel and tough materials. Available only in 36 grit to maximize yield we recommend use with the G2127 pad.

Tech. Code		G212611536	G212612536	G212618036
GR69	Euro	2,56	2,73	5,35
Ø	mm	115	125	180
Grit		36	36	36
		50	50	50



P	M	K	N	S	H
●	○	○	○	○	○

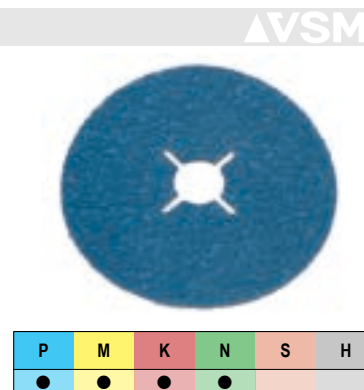
ACTIROX FIBER DISCS

C+

ITEM: AF890

Fiber disc with ceramic abrasive additive of the latest generation, characterized by an innovative grain shape. It offers extraordinary removal performance and long life. Suitable for all materials. Only available in 36 grain, to maximize the yield we recommend using the G2127pad.

Tech. Code		G212511536	G212512536	G212518036
GR69	Euro	2,88	3,08	(6,14)
Ø	mm	115	125	180
Grit		36	36	36
		50	50	50



P	M	K	N	S	H
●	●	●	●	○	○

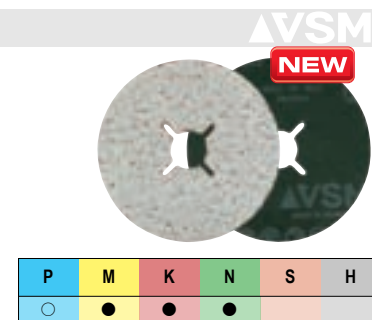
FIBER DISCS STEARATE CERAMIC

C

ITEM: XF733

Ceramic fiber discs with stearate. Ideal for processing aluminum and its alloys. Thanks to the lubricating property of zinc stearate it solves many of the problems associated with the processing of material with low melting points. In addition, the ceramic abrasive offers a high removal capacity. Ideal for removing calamine.

Tech. Code		G2123115036	G2123115060	G2123125036	G2123125060
GR69	Euro	2,51	1,68	2,79	1,85
Ø	mm	115	115	125	125
Grit		36	60	36	60
		50	50	50	50



P	M	K	N	S	H
○	●	●	●	○	○

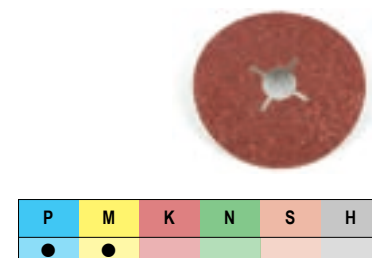
AGGLOMERATED FIBER DISC

A

ITEM: KF736

The agglomerated fiber disc thanks to the particular shape of the abrasive granules offers an extraordinary performance in terms of durability and constant finish. Exceptional in finishing operations on stainless steel where it eliminates many steps.

Tech. Code		G2130115120	G2130115180	G2130125120	G2130125180	G2130180120	G2130180180
GR69	Euro	1,68	1,68	1,87	1,87	3,32	3,32
Ø	mm	115	115	125	125	180	180
Grit		120	180	120	180	120	180
		50	50	50	50	50	50



P	M	K	N	S	H
●	●	○	○	○	○

FIBER DISCS CERABOND X

C+

ITEM: CERABOND X

Ceramic fiber discs for steel and stainless steel processing. The new grain structure allows for extremely fast stock removal- The coolant layer makes the disc long-lasting and performing. Great working uniformity for the entire duration of the disc. The convenient bucket box version guarantees the shape of the disc over time.

Tech. Code		G212811536	G212811560	G212812536	G212812560
GR69	Euro	2,02	1,92	1,98	1,98
Ø	mm	115	115	125	125
Grain		36	60	36	60
Box		Box	Box	Box	Box
		25	25	25	25

Tech. Code		G212811536BOX	G212811560BOX	G212812536BOX	G212812560BOX
GR69	Euro	1,92	1,92	1,98	1,98
Ø	mm	115	115	125	125
Grain		36	60	36	60
Box		Bucket	Bucket	Bucket	Bucket
		50	50	50	50



P	M	K	N	S	H
●	●	○	○	○	○

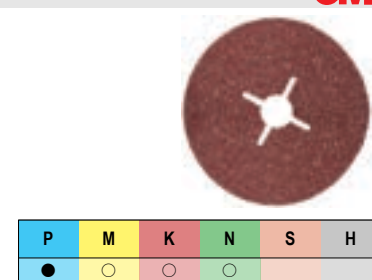
ABRASIVE DISCS CUBITRON II

C

ITEM: 982 C

Fibre disc with new-generation Cubitron II®, ceramic abrasive. Featuring evenly shaped grains positioned in the same direction. Extremely tough, keeps its cutting performance unaltered throughout its service life, regardless its wear and tear. Superior results in major removals, featuring great machining durability and speed for greatly improved performances. Mainly used on carbon steel.

Tech. Code		G2180115036	G2180115060	G2180125036	G2180125060	G2180180036	G2180180060
GR69	Euro	2,78	2,53	2,92	2,70	5,70	5,19
Ø	mm	115 x 22,2	115 x 22,2	125 x 22,2	125 x 22,2	180 x 22,2	180 x 22,2
Grit		36	60	36	60	36	60
		100	100	100	100	100	100



P	M	K	N	S	H
●	○	○	○	○	○

ABRASIVE DISCS CUBITRON II CX PRO

C

ITEM: 982CX PRO

Featuring redesigned 3M™ Precision Shaped Grain Technology, these fiber discs deliver superior cutting speed and durability of 3M™ Cubitron™ II abrasives. Available in 36+ grit for medium and high pressure applications such as weld grinding, chamfering and heavy deburring.

Tech. Code		G2181115036	G2181125036	G2181180036
GR69	Euro	2,78	2,92	5,70
Ø	mm	115 x 22,23	125 x 22,23	180 x 22,23
Grit		36	36	36
		25	25	25



P	M	K	N	S	H
●	○	○	○	○	○

ABRASIVE DISCS

3M



ITEM: 987 C

Fibre disc with new-generation Cubitron II®, ceramic abrasive, treated with coolant additive.

Featuring evenly shaped grains positioned in the same direction.

Extremely tough, keeps its cutting performance unaltered throughout its service life, despite the wear and use.

Superior results in major removals, featuring great machining durability and speed for greatly improved performances.

Suitable for stainless steel, nickel alloy and other heat sensitive materials.



P	M	K	N	S	H
○	●	●	●	●	●

Tech. Code		G2185115036	G2185115060	G2185115080	G2185125036	G2185125060
GR69	Euro	2,96	2,64	2,49	3,09	2,83
Ø	mm	115 x 22,2	115 x 22,2	115 x 22,2	125 x 22,2	125 x 22,2
Grit		36	60	80	36	60
		100	100	100	100	100

Tech. Code		G2185125080	G2185180036	G2185180060	G2185180080
GR69	Euro	2,62	6,05	5,45	5,30
Ø	mm	125 x 22,2	180 x 22,2	180 x 22,2	180 x 22,2
Grit		80	36	60	80
		100	100	100	100

BACK-UP PADS MEDIUM/HARD FOR FIBER DISCS

AVSM

ITEM: G2149

Back-up pads medium/hard for fiber discs. Ideal for working with processes of medium pressure and fine grits.

Tech. Code		G2149115	G2149125	G2149180
GR69	Euro	10,27	11,94	20,57
Ø	mm	115	125	180
Coupling		M14	M14	M14



BACK-UP PADS FOR FIBER DISCS

AVSM

ITEM: G2150

Back-up pads hard for discs in fiber. Ideal for severe removal. With holes to reduce the temperature of the processing.

Tech. Code		G2150115	G2150125	G2150180
GR69	Euro	11,38	13,30	22,61
Ø	mm	115	125	180
Coupling		M14	M14	M14



BACK UP PADS HARD FOR FIBER DISCS ACTIROX

AVSM

ITEM: TURBO PAD 3

Back up pads hard suitable for processing with ACTIROX fiber discs. It improves performance and durability significantly.

Tech. Code		G2127115	G2127125	G2127180
GR68	Euro	(22,22)	(25,90)	(44,45)
Ø	mm	115	125	180
Coupling		M14	M14	M14



BACK-UP PADS FOR CUBITRON II FIBER DISCS

3M

ITEM: 64860 - 64861 - 64862

Specific rigid backing pads for Cubitron II® 982 C and 987 C fibre discs

Tech. Code		G2190115	G2190125	G2190180
GR69	Euro	24,20	26,56	37,68
Ø	mm	115	125	180



VELCRO ABRASIVE DISCS

STARCKE



ITEM: 732EK

Aluminum oxide. Used especially for sanding flat metal surfaces, particularly stainless steel and raw wood.
No hole anti-clogging coating.

Tech. Code		G2250150040	G2250150060	G2250150080	G2250150100	G2250150120
GR69	Euro	1,01	0,89	0,83	0,78	0,78
Ø	mm	150	150	150	150	150
Grit		40	60	80	100	120
		50	50	50	50	50



P	M	K	N	S	H
●	○	○	●	●	

VELCRO COATED ABRASIVE DISCS HOLED

STARCKE



ITEM: 732EK

Aluminum oxide Paper support Mainly used for grounding of metal flat surfaces, especially stainless steel and raw wood ones.
Anti-clogging, semi-open surface coating. Disc features 6+1 holes.

Tech. Code		G2300150040	G2300150060	G2300150080	G2300150100	G2300150120
GR69	Euro	1,01	0,89	0,83	0,78	0,78
Ø	mm	150	150	150	150	150
Grit		40	60	80	100	120
		50	50	50	50	50



P	M	K	N	S	H
●	○	○	●	●	

AGGLOMERATED VELCRO DISC

AVSM



ITEM: KK772K

The agglomerated velcro disc thanks to the particular shape of the abrasive granules offers an extraordinary performance in terms of durability and constant finish. Exceptional in finishing operations on stainless steel where it eliminates many steps. Indispensable to prepare the piece for the mirror finish.

Tech. Code		G23201150120	G23201150240	G23201150320	G23201150600	G23201151200
GR69	Euro	1,36	1,36	1,36	1,36	1,36
Ø	mm	115	115	115	115	115
Grit		120	240	320	600	1200
		50	50	50	50	50



P	M	K	N	S	H
●	●				

Tech. Code		G23201500120	G23201500240	G23201500320	G23201500600	G23201501200
GR69	Euro	2,20	2,20	2,20	2,20	2,20
Ø	mm	150	150	150	150	150
Grit		120	240	320	600	1200
		50	50	50	50	50

WAFFLE BACKING FOR VELCRO DISCS

ITEM: G2350

Back cover for velcro-coated discs with spongy inter-layer.

Tech. Code		G2350150M14	G2350150M87F
GR69	Euro	50,84	41,59
Ø	mm	150	150 - 6+1 fori
Coupling		M14	M8 (5/16")



ALUMINUM OXIDE QUICK CHANGE DISCS

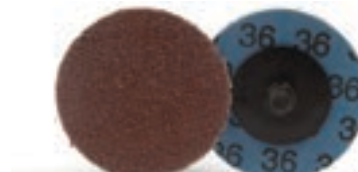
AVSM



ITEM: KK711X

Quick change discs with R type male thread aluminum oxide cloth. Suitable for general use in roughing small surfaces on all types of metals and particularly on ferrous metals. The quick change allows a fast tool replacement by optimizing work processes and reducing costs.

Tech. Code		G241050R036	G241050R060	G241050R080	G241050R120
GR69	Euro	1,01	0,90	0,88	0,87
Ø	mm	50	50	50	50
Coupling		Male thread type R	Male thread type R	Male thread type R	Male thread type R
Grit		36	60	80	120
		50	50	50	50



P	M	K	N	S	H
●	○	○	●	●	

Tech. Code		G241075R036	G241075R060	G241075R080	G241075R120
GR69	Euro	1,21	1,11	1,09	1,08
Ø	mm	75	75	75	75
Coupling		Male thread type R	Male thread type R	Male thread type R	Male thread type R
Grit		36	60	80	120
		50	50	50	50

CERAMIC QUICK CHANGE DISCS

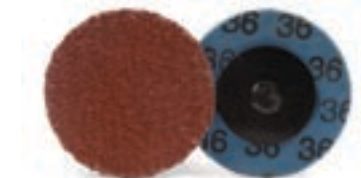


C+

ITEM: XK880Y

Quick change discs with male thread type R. Latest generation ceramic cloth with cooling additive. Polyester support. Suitable for roughing small surfaces mainly of alloy steel and stainless steel. The quick change allows a quick replacement of the tool optimizing the work processes and reducing costs.

Tech. Code	G242050R036	G242050R060	G242050R080	G242050R120
GR69	Euro	1,42	1,28	1,25
Ø	mm	50	50	50
Coupling	Male thread type R	Male thread type R	Male thread type R	Male thread type R
Grit	36	60	80	120
	50	50	50	50



P	M	K	N	S	H
●	●	○	○	○	○

Tech. Code	G242075R036	G242075R060	G242075R080	G242075R120
GR69	Euro	2,10	1,81	1,76
Ø	mm	75	75	75
Coupling	Male thread type R	Male thread type R	Male thread type R	Male thread type R
Grit	36	60	80	120
	50	50	50	50

CLOTH QUICK CHANGE DISCS

ITEM: SCM - KV707X

Quick change discs type R in cloth. Suitable for satin finishing and cleaning operations of metal surfaces. Very low material removal. The quick change allows a quick replacement of the tool by optimizing work processes and reducing costs.

Tech. Code	G2430R50M	G2430R50VF	G2430R75M	G2430R75VF
GR69	Euro	1,96	1,96	2,93
Ø	mm	50	50	75
Coupling	Male thread type R	Male thread type R	Male thread type R	Male thread type R
Grit	Medium	Very fine	Medium	Very fine
	25	25	25	25



P	M	K	N	S	H
●	●	●	●	○	○

BACKING PADS FOR QUICK CHANGE DISCS TYPE R

ITEM: G2440

Backing pads for discs quick change with male thread R type.

Tech. Code	G2440R25	G2440R50	G2440R75
GR69	Euro	(8,77)	12,09
Ø	mm	25	50
Coupling type	R	R	R
Shank	mm	6	6
	1	1	1



ALUMINUM OXIDE COMBI-DISCS

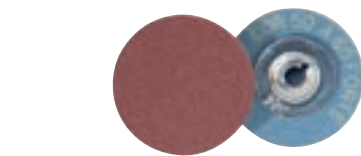


A

ITEM: CD FORTE

Corundum abrasive a viies support, high removal. Suitable for general use on all metals. For use on SBH pads.

Tech. Code	G245025060	G245025120	G245038060	G245038120	G245050060	G245050120
GR69	Euro	0,98	0,98	1,24	1,24	1,70
Ø	mm	25	25	38	38	50
Grit	60	120	60	120	60	120
	100	100	100	100	100	100



P	M	K	N	S	H
●	○	○	●	●	○

ALUMINUM OXIDE COMBI-DISCS

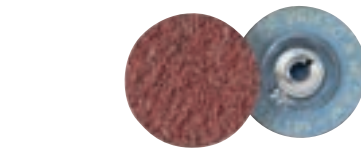


A

ITEM: CD VRH

Abrasive corundum a strong Vlies support, suitable for general use on all metals. Recommended for removing scoring, scratches and oxidation. For use on SBH pads.

Tech. Code	G245550M
GR69	Euro
Ø	mm
Grit	Medium
	50



P	M	K	N	S	H
●	○	○	●	●	○

COMBI-DISC BACKING PADS



ITEM: SBH

Semi-rigid, blue, suitable for CD grinding discs.

Tech. Code	G246025	G246038	G246050
GR69	Euro	23,76	26,87
Ø	mm	25	38
Shank	mm	6 x 40	6 x 40



ALUMINUM OXIDE CLOTH SHEETS

STARCKE



ITEM: 641PF

Light flexible and cotton support, resin binder and corundum abrasive. Versatile long-lasting product. Mainly used for grinding metals by hand, profile finishing and blanking burs, mechanical part finishing, cylinders and goose necks.

Tech. Code	GR69 Euro	Dimension mm	Grit	
G3250040	2,30	230 x 280	40	50
G3250050	2,11	230 x 280	50	50
G3250060	1,89	230 x 280	60	50
G3250080	1,75	230 x 280	80	50
G3250100	1,64	230 x 280	100	50
G3250120	1,64	230 x 280	120	50
G3250150	1,64	230 x 280	150	50
G3250180	1,64	230 x 280	180	50

Tech. Code	GR69 Euro	Dimension mm	Grit	
G3250220	1,64	230 x 280	220	50
G3250240	1,64	230 x 280	240	50
G3250280	1,64	230 x 280	280	50
G3250320	1,64	230 x 280	320	50
G3250400	1,64	230 x 280	400	50
G3250500	1,64	230 x 280	500	50
G3250600	1,64	230 x 280	600	50



P	M	K	N	S	H
●	●	●	●	●	○

ALUMINUM OXIDE CLOTH SHEETS

NORTON



ITEM: R222

Light and flexible cotton support, resin binder and corundum abrasive. Suitable for roughing, finishing and deoxidizing metals. Excellent also for wood machining.

Tech. Code	GR69 Euro	Dimension mm	Grit	
G3205040	3,23	230 x 280	40	50
G3205050	3,03	230 x 280	50	50
G3205060	2,86	230 x 280	60	50
G3205080	2,34	230 x 280	80	50
G3205100	2,26	230 x 280	100	50
G3205120	2,26	230 x 280	120	50
G3205150	2,26	230 x 280	150	50

Tech. Code	GR69 Euro	Dimension mm	Grit	
G3205180	2,26	230 x 280	180	50
G3205220	2,26	230 x 280	220	50
G3205240	2,26	230 x 280	240	50
G3205280	2,26	230 x 280	280	50
G3205320	2,26	230 x 280	320	50
G3205400	2,26	230 x 280	400	50
G3205600	2,26	230 x 280	600	50



P	M	K	N	S	H
●	●	●	●	●	○

WATERPROOF SILICON CARBIDE SHEETS

STARCKE



ITEM: 991A

For hand work, in particular on glass and paint, and for wet-sanding repair work on automobiles.

Tech. Code	GR69 Euro	Dimension mm	Grit	
G3380080	1,45	230 x 280	80	50
G3380100	1,28	230 x 280	100	50
G3380120	1,14	230 x 280	120	50
G3380150	1,03	230 x 280	150	50
G3380220	0,94	230 x 280	220	50
G3380320	0,94	230 x 280	320	50
G3380400	0,94	230 x 280	400	50
G3380600	0,94	230 x 280	600	50

Tech. Code	GR69 Euro	Dimension mm	Grit	
G3380800	0,94	230 x 280	800	50
G33801000	0,94	230 x 280	1000	50
G33801200	0,94	230 x 280	1200	50
G33801500	1,23	230 x 280	1500	50
G33802000	1,23	230 x 280	2000	50
G33802500	1,23	230 x 280	2500	50
G33803000	1,47	230 x 280	3000	50
G33805000	1,95	230 x 280	5000	50



P	M	K	N	S	H
●	○	○	●	●	●

WATERPROOF SILICON CARBIDE SHEETS

3M



ITEM: WT734

Silicon carbide. Suitable for wet-machining stucco, priming and paint.

Tech. Code	GR69 Euro	Dimension mm	Grit	
G3405080	1,02	230 x 280	80	50
G3405100	0,95	230 x 280	100	50
G3405120	0,91	230 x 280	120	50
G3405150	0,89	230 x 280	150	50
G3405180	0,85	230 x 280	180	50
G3405220	0,83	230 x 280	220	50
G3405280	0,83	230 x 280	280	50
G3405320	0,83	230 x 280	320	50

Tech. Code	GR69 Euro	Dimension mm	Grit	
G3405360	0,83	230 x 280	360	50
G3405400	0,83	230 x 280	400	50
G3405500	0,83	230 x 280	500	50
G3405600	(0,83)	230 x 280	600	50
G3405800	0,83	230 x 280	800	50
G34051000	0,83	230 x 280	1000	50
G34051200	0,83	230 x 280	1200	50



P	M	K	N	S	H
●	○	○	●	●	●

ABRASIVE CLEAN & FINISH PADS IN NON-WOVEN SCOTCH-BRITE

3M



ITEM: CF-SH

Scotch-Brite abrasive material pads for cleaning and finishing. Type A: Aluminum Oxide. Used for cleaning or re-polishing steel and aluminum. Type S: Silicon Carbide. Used on the wood to prepare the surfaces before applying adhesives and to eliminate the raised fibers before and after applying the primer.

Tech. Code	G3720AVFN	G3720SUFN
GR69 Euro	2,16	2,16
Dimension mm	120 x 280	120 x 280
Grit	A/VFN	S/UFN
	60	60



P	M	K	N	S	H
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ABRASIVE SPONGES ON 4 SIDES

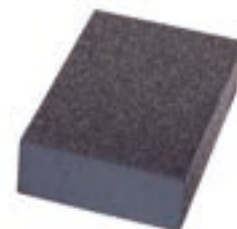
NORTON
BETON-GRANIT



ITEM: G3415

Abrasive sponges on 4 sides. Suitable for working on multiple materials. Being made of sponge allows it to distribute the loads to work at its best even on irregular surfaces. These sponges are washable and reusable ensuring a long life at the same time.

Tech. Code		G3415060	G3415100	G3415180
GR69	Euro	1,17	1,17	1,17
Dimension	mm	100 x 66 x 26	100 x 66 x 26	100 x 66 x 26
Grit		60	100	180
		60	60	60



P	M	K	N	S	H
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ALUMINUM OXIDE FLEX ABRASIVE CLOTH ROLLS

NORTON
BETON-GRANIT



ITEM: G3300

Norton 222 aluminum oxide. Super-flexible cotton cloth, weight. Ideal for roughing, finishing and deoxidizing of metals. Excellent also for wood machining. 25-meter dispenser.

Tech. Code	GR69 Euro	H mm	Grit	Dispenser m
G330025040	39,21	25	40	25
G330025050	35,64	25	50	25
G330025060	34,45	25	60	25
G330025080	30,49	25	80	25
G330025100	29,65	25	100	25
G330025120	29,65	25	120	25
G330025150	29,65	25	150	25

Tech. Code	GR69 Euro	H mm	Grit	Dispenser m
G330025180	29,65	25	180	25
G330025220	29,65	25	220	25
G330025240	29,65	25	240	25
G330025320	29,65	25	320	25
G330025400	29,65	25	400	25
G330025600	29,65	25	600	25



P	M	K	N	S	H
●	●	●	●	●	○



ITEM: G3302

Norton R222 Aluminum oxide. Super-flexible cotton cloth. Ideal for roughing, finishing and deoxidizing of metals. Excellent also for wood machining. 25-meter dispenser.

Tech. Code	GR69 Euro	H mm	Grit	Dispenser m
G330238040	56,32	38	40	25
G330238050	52,71	38	50	25
G330238060	49,21	38	60	25
G330238080	45,57	38	80	25
G330238100	43,23	38	100	25
G330238120	43,23	38	120	25
G330238150	43,23	38	150	25

Tech. Code	GR69 Euro	H mm	Grit	Dispenser m
G330238180	43,23	38	180	25
G330238220	43,23	38	220	25
G330238240	43,23	38	240	25
G330238280	43,23	38	280	25
G330238320	43,23	38	320	25
G330238400	43,23	38	400	25
G330238600	43,23	38	600	25



P	M	K	N	S	H
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ITEM: G3305

Norton 222 Aluminum oxide. Super-flexible cotton cloth, suitable for roughing, finishing and deoxidizing metals. Excellent also for wood machining. 25-meter dispenser.

Tech. Code	GR69 Euro	H mm	Grit	Dispenser m
G330550040	70,10	50	40	25
G330550050	65,79	50	50	25
G330550060	61,62	50	60	25
G330550080	56,82	50	80	25
G330550100	53,66	50	100	25
G330550120	53,66	50	120	25
G330550150	53,66	50	150	25

Tech. Code	GR69 Euro	H mm	Grit	Dispenser m
G330550180	53,66	50	180	25
G330550220	53,66	50	220	25
G330550240	53,66	50	240	25
G330550280	53,66	50	280	25
G330550320	53,66	50	320	25
G330550400	53,66	50	400	25
G330550600	53,66	50	600	25



P	M	K	N	S	H
●	●	●	●	●	○

ALUMINUM OXIDE ABRASIVE CLOTH ROLLS

STARCKE



ITEM: 641PF

Resin coated corundum cloth with light and flexible cotton support. Optimal for all metal grinding by hand. Use by hand to grind hard to reach spots. Thanks to the high flexibility ideal for grinding and finishing concave and convex details. The strength of the support and the abrasive allow its use on all types of material.

Tech. Code	GR69 Euro	H mm	Grit	Roll m
G335050040	72,68	50	40	50
G335050050	71,29	50	50	50
G335050060	65,76	50	60	50
G335050080	63,56	50	80	50
G335050100	59,68	50	100	50
G335050120	59,68	50	120	50
G335050150	59,68	50	150	50
G335050180	59,68	50	180	50

Tech. Code	GR69 Euro	H mm	Grit	Roll m
G335050220	59,68	50	220	50
G335050240	59,68	50	240	50
G335050280	59,68	50	280	50
G335050320	59,68	50	320	50
G335050400	59,68	50	400	50
G335050500	59,68	50	500	50
G335050600	59,68	50	600	50



P	M	K	N	S	H
●	●	●	●	○	



ITEM: 641PF

Corundum grained, resin-coated cloth with a light and flexible cotton backing. Optimised for hand grinding of all kinds of metal. Ideal for sanding hard-to-reach areas. Highly flexible cloth, ideal for finishing operations of concave and convex detailed workpieces. The combination of a tough cloth back with the abrasive grit firmly anchored make it ideal on all material surfaces.

Tech. Code	GR69 Euro	H mm	Grit	Dispenser m
G3355115060	125,98	115	60	50
G3355115080	119,91	115	80	50
G3355115100	111,92	115	100	50
G3355115120	111,92	115	120	50

Tech. Code	GR69 Euro	H mm	Grit	Dispenser m
G3355115150	111,92	115	150	50
G3355115180	111,92	115	180	50
G3355115220	111,92	115	220	50
G3355115240	111,92	115	240	50



P	M	K	N	S	H
●	●	●	●	●	



ITEM: 531JFF

Corindone cloths with cotton support, extra flexible version. Ideal for mould makers.

Tech. Code	GR69 Euro	H mm	Grit	Roll m
G335150060	82,17	50	60	50
G335150080	80,03	50	80	50
G335150100	74,77	50	100	50
G335150120	74,77	50	120	50
G335150150	74,77	50	150	50
G335150180	74,77	50	180	50

Tech. Code	GR69 Euro	H mm	Grit	Roll m
G335150220	74,77	50	220	50
G335150240	74,77	50	240	50
G335150320	74,77	50	320	50
G335150400	74,77	50	400	50
G335150600	74,77	50	600	50
G335150800	74,77	50	800	50



P	M	K	N	S	H
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ABRASIVE CLEAN & FINISH ROLLS

WRK



ITEM: G3630

Used for removing oxidation and for cleaning all kinds of metal, plastic, glass fiber, filler and paint by hand. Excellent resistance to clogging. For dry or wet use. Can be cut to size to fit the shape of any workpiece. Type A: Aluminum Oxide.

Tech. Code	GR68 Euro	Dimension mm	Grit
G3630AC	82,92	120 x 10,000	A/COARSE
G3630AM	69,81	120 x 10,000	A/MEDIUM

Tech. Code	GR68 Euro	Dimension mm	Grit
G3630AF	58,64	120 x 10,000	A/FINE
G3630AV	57,90	120 x 10,000	A/VFINE



P	M	K	N	S	H
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ALUMINUM OXIDE ABRASIVE CLOTH BELTS

WRK

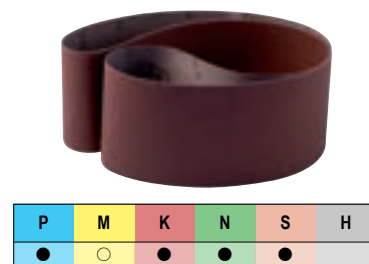
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ITEM: G3480

Aluminum oxide. Suitable for roughing and finishing ferrous and non-ferrous metals, wood and other materials.

Tech. Code	GR68 Euro	Dimension mm	Grit	
G34800401000	5,69	100 x 1000	40	10
G34800401500	9,26	120 x 1500	40	10
G34800601000	5,32	100 x 1000	60	10
G34800601500	8,38	120 x 1500	60	10
G34800801000	5,17	100 x 1000	80	10

Tech. Code	GR68 Euro	Dimension mm	Grit	
G34800801500	8,14	120 x 1500	80	10
G34801001000	5,09	100 x 1000	100	10
G34801001500	8,00	120 x 1500	100	10
G34801201000	4,88	100 x 1000	120	10
G34801201500	7,59	120 x 1500	120	10



P	M	K	N	S	H
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ZIRCONIA ABRASIVE CLOTH BELTS

WRK

Z

ITEM: G3490

Zirconium oxide for superior performance. Suitable for roughing and finishing stainless steel, ferrous and non-ferrous metals, wood and other materials.

Tech. Code	GR68 Euro	Dimension mm	Grit	
G34900401000	8,02	100 x 1000	40	10
G34900401500	13,28	120 x 1500	40	10
G34900601000	6,78	100 x 1000	60	10
G34900601500	11,04	120 x 1500	60	10
G34900801000	6,43	100 x 1000	80	10

Tech. Code	GR68 Euro	Dimension mm	Grit	
G34900801500	10,40	120 x 1500	80	10
G34901001000	5,97	100 x 1000	100	10
G34901001500	9,55	120 x 1500	100	10
G34901201000	5,97	100 x 1000	120	10
G34901201500	9,55	120 x 1500	120	10



P	M	K	N	S	H
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ALUMINUM OXIDE ABRASIVE CLOTH BELTS

NORTON

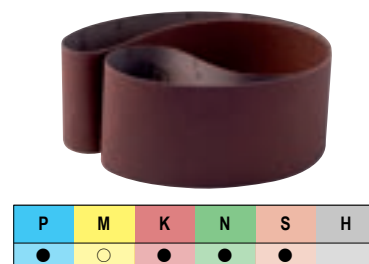
A

ITEM: G3505

Aluminum oxide R230. Suitable for roughing and finishing ferrous and non-ferrous materials, wood and other materials.

Tech. Code	GR69 Euro	Dimension mm	Grit	
G35050401000	8,29	100 x 1000	40	10
G35050401500	13,58	120 x 1500	40	10
G35050601000	7,53	100 x 1000	60	10
G35050601500	12,13	120 x 1500	60	10
G35050801000	7,07	100 x 1000	80	10

Tech. Code	GR69 Euro	Dimension mm	Grit	
G35050801500	11,34	120 x 1500	80	10
G35051001000	6,78	100 x 1000	100	10
G35051001500	10,83	120 x 1500	100	10
G35051201000	6,78	100 x 1000	120	10
G35051201500	10,83	120 x 1500	120	10



P	M	K	N	S	H
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ZIRCONIA ABRASIVE CLOTH BELTS

NORTON

Z

ITEM: G3525

Zirconium oxide NORTON R822 for superior performance. Suitable for roughing and finishing stainless steel, ferrous and non-ferrous materials, wood and other materials.

Tech. Code	GR69 Euro	Dimension mm	Grit	
G35250401000	9,95	100 x 1000	40	10
G35250401500	16,48	120 x 1500	40	10
G35250601000	8,91	100 x 1000	60	10
G35250601500	14,63	120 x 1500	60	10
G35250801000	8,35	100 x 1000	80	10

Tech. Code	GR69 Euro	Dimension mm	Grit	
G35250801500	13,69	120 x 1500	80	10
G35251001000	8,05	100 x 1000	100	10
G35251001500	13,00	120 x 1500	100	10
G35251201000	8,05	100 x 1000	120	10
G35251201500	13,00	120 x 1500	120	10



P	M	K	N	S	H
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CUBITRON II ABRASIVE CLOTH BELTS

3M

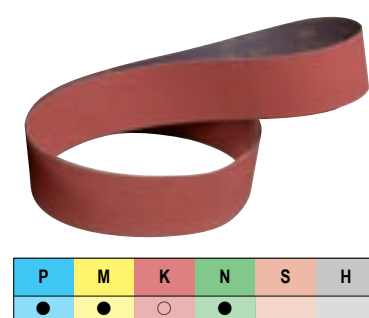
C+

ITEM: 947/A CUBITRON II

Cubitron II ceramic abrasive belt with coolant additive. Representing the "next generation" of abrasive technology. Its unsurpassed abrasive features ensure roughing and finishing operations on nearly all materials. First choice on hard alloys.

Tech. Code	G35350401000	G35350601000	G35350801000	G35351201000
GR69 Euro	(17,52)	(17,00)	(16,76)	(15,03)
Dimension mm	100 x 1000	100 x 1000	100 x 1000	100 x 1000
Grit	40	60	80	120
	10	10	10	10

Tech. Code	G35350401500	G35350601500	G35350801500	G35351201500
GR69 Euro	(19,90)	(25,43)	(21,41)	(19,33)
Dimension mm	120 x 1500	120 x 1500	120 x 1500	120 x 1500
Grit	40	60	80	120
	10	10	10	10



P	M	K	N	S	H
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ABRASIVE BELTS FOR PORTABLE MACHINES

AVSM

C+

ITEM: XK850X

Ceramic abrasive belts with cooling additive and polyester support. Ideal for processing steel, stainless steel, aluminum, titanium, bronze. Can be used with portable electric or pneumatic grinders.

Tech. Code	G3555040	G3555060	G3555080	G3555120
GR69	Euro 1,36	1,33	1,23	1,20
Dimension	mm 10 x 330	10 x 330	10 x 330	10 x 330
Grit	40	60	80	120
	10	10	10	10



P	M	K	N	S	H
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Tech. Code	G3555040A	G3555060A	G3555080A	G3555120A
GR68	Euro 1,46	1,33	1,27	1,27
Dimension	mm 13 x 305	13 x 305	13 x 305	13 x 305
Grit	40	60	80	120
	10	10	10	10

ABRASIVE STICKS

ITEM: G3620

Sturdy polypropylene support. Equipped with spring tensioner to facilitate the replacement of the belt or the rotation of the same. Ideal for smoothing and finishing areas that are difficult to access. When mounted an A 180-grade aluminum oxide belt.

Tech. Code	G36201506	G362025018
GR69	Euro 5,89	13,63
Dimension	mm 150 x 6	250 x 18
Belt	mm 320 x 18	520 x 18



BELTS FOR FILES

STARCKE

A

ITEM: 541JF

Aluminum oxide belts with semi-flexible support, suitable for use with belt files from the G3620 range.

Tech. Code	G3625A120	G3625A180	G3625A320
GR69	Euro 1,08	1,08	1,08
Grit	120	180	320
Dimension	mm 320 x 6	320 x 6	320 x 6
	10	10	10



P	M	K	N	S	H
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Tech. Code	G3625C120	G3625C180	G3625C320
GR69	Euro 1,34	1,34	1,34
Grit	120	180	320
Dimension	mm 520 x 18	520 x 18	520 x 18
	10	10	10

CUTTING SPEED CHART - FLAP WHEELS WITH SHANK

Ø ring mm	10	15	20-25	30	40	50	60	80
Recommended speed (rpm)	38.000	25.000	18.000	13.000	10.000	7.500	6.500	4.500
Max speed (rpm)	70.000	50.000	30.000	25.000	20.000	15.000	13.000	9.000



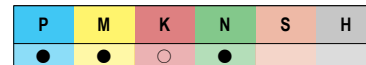
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ITEM: G4105

Aluminium oxide flap wheels, semi-flexible support. For grinding and finishing work on small or shaped workpieces made of carbon steel, stainless steel, non-ferrous metals, fiberglass, stone and marble.

Tech. Code	GR68 Euro	D x H mm	Shank mm	Grit	
G41051010060	4,38	10 x 10	3 x 40	60	25
G41051010080	4,28	10 x 10	3 x 40	80	25
G41051010120	4,38	10 x 10	3 x 40	120	25
G41051515060	3,22	15 x 15	3 x 40	60	25
G41051515080	3,22	15 x 15	3 x 40	80	25
G41051515120	3,22	15 x 15	3 x 40	120	25
G41052010040	2,77	20 x 10	6 x 40	40	10
G41052010060	2,77	20 x 10	6 x 40	60	10
G41052010080	2,77	20 x 10	6 x 40	80	10
G41052010120	2,77	20 x 10	6 x 40	120	10
G41052515040	2,47	25 x 15	6 x 40	40	10
G41052515060	2,47	25 x 15	6 x 40	60	10
G41052515080	2,47	25 x 15	6 x 40	80	10
G41052515120	2,47	25 x 15	6 x 40	120	10
G41052525040	2,75	25 x 25	6 x 40	40	10
G41052525060	2,75	25 x 25	6 x 40	60	10
G41052525080	2,81	25 x 25	6 x 40	80	10
G41052525120	2,81	25 x 25	6 x 40	120	10
G41053010040	2,31	30 x 10	6 x 40	40	10
G41053010060	2,31	30 x 10	6 x 40	60	10
G41053010080	2,37	30 x 10	6 x 40	80	10
G41053010120	2,40	30 x 10	6 x 40	120	10
G41053015040	2,34	30 x 15	6 x 40	40	10
G41053015060	2,34	30 x 15	6 x 40	60	10
G41053015080	2,40	30 x 15	6 x 40	80	10
G41053015120	2,42	30 x 15	6 x 40	120	10
G41053020040	2,51	30 x 20	6 x 40	40	10
G41053020060	2,51	30 x 20	6 x 40	60	10
G41053020080	2,56	30 x 20	6 x 40	80	10
G41053020120	2,60	30 x 20	6 x 40	120	10
G41054010040	2,42	40 x 10	6 x 40	40	10
G41054010060	2,42	40 x 10	6 x 40	60	10
G41054010080	2,50	40 x 10	6 x 40	80	10

Tech. Code	GR68 Euro	D x H mm	Shank mm	Grit	
G41054010120	2,53	40 x 10	6 x 40	120	10
G41054015040	2,49	40 x 15	6 x 40	40	10
G41054015060	2,49	40 x 15	6 x 40	60	10
G41054015080	2,54	40 x 15	6 x 40	80	10
G41054015120	2,56	40 x 15	6 x 40	120	10
G41054020040	2,63	40 x 20	6 x 40	40	10
G41054020060	2,63	40 x 20	6 x 40	60	10
G41054020080	2,69	40 x 20	6 x 40	80	10
G41054020120	2,74	40 x 20	6 x 40	120	10
G41055010040	2,75	50 x 10	6 x 40	40	10
G41055010060	2,83	50 x 10	6 x 40	60	10
G41055010080	2,78	50 x 10	6 x 40	80	10
G41055010120	2,81	50 x 10	6 x 40	120	10
G41055015040	2,84	50 x 15	6 x 40	40	10
G41055015060	2,84	50 x 15	6 x 40	60	10
G41055015080	2,89	50 x 15	6 x 40	80	10
G41055015120	2,91	50 x 15	6 x 40	120	10
G41055020040	3,01	50 x 20	6 x 40	40	10
G41055020060	3,01	50 x 20	6 x 40	60	10
G41055020080	3,10	50 x 20	6 x 40	80	10
G41055020120	3,13	50 x 20	6 x 40	120	10
G41055030040	3,37	50 x 30	6 x 40	40	10
G41055030060	3,37	50 x 30	6 x 40	60	10
G41055030080	3,57	50 x 30	6 x 40	80	10
G41055030120	3,72	50 x 30	6 x 40	120	10
G41056030040	4,21	60 x 30	6 x 40	40	10
G41056030060	4,21	60 x 30	6 x 40	60	10
G41056030080	4,35	60 x 30	6 x 40	80	10
G41056030120	4,41	60 x 30	6 x 40	120	10
G41058040040	6,63	80 x 40	6 x 40	40	10
G41058040060	6,63	80 x 40	6 x 40	60	10
G41058040080	6,86	80 x 40	6 x 40	80	10
G41058040120	7,43	80 x 40	6 x 40	120	10



NON-WOVEN FLAP WHEELS WITH SHANK

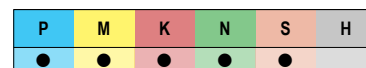
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ITEM: G4310

Non-woven 6 mm shaft abrasive wheels different grit sizes aluminum oxide, Ideal for metal, plastic and wood. Cut and Polish version combines an excellent cutting power and a uniform finish. Coarse grain is comparable to 80-120 grain, Medium grain to 120-180, Fine grain to 220-280.

Tech. Code	GR68 Euro	D x H mm	Grit	Max RPM	
G43103020AC	4,85	30x20	Coarse	20000	10
G43103020AF	4,85	30x20	Fine	20000	10
G43103020AM	4,85	30x20	Medium	20000	10
G43103020CPM	7,51	30x20	CP Med	15000	10
G43103030AC	4,94	30x30	Coarse	20000	10
G43103030AF	4,94	30x30	Fine	20000	10
G43103030AM	4,94	30x30	Medium	20000	10
G43103030CPM	7,51	30x30	CP Med	15000	10
G43104020AC	5,18	40x20	Coarse	16000	10
G43104020AF	5,18	40x20	Fine	16000	10
G43104020AM	5,18	40x20	Medium	16000	10
G43104020CPM	8,34	40x20	CP Med	13000	10

Tech. Code	GR68 Euro	D x H mm	Grit	Max RPM	
G43104030AC	5,10	40x30	Coarse	16000	10
G43104030AF	5,10	40x30	Fine	16000	10
G43104030AM	5,10	40x30	Medium	16000	10
G43104030CPM	8,34	40x30	CP Med	13000	10
G43105030AC	5,32	50x30	Coarse	12500	10
G43105030AF	5,32	50x30	Fine	12500	10
G43105030AM	5,32	50x30	Medium	12500	10
G43105030CPM	9,30	50x30	CP Med	10500	10
G43106040AC	6,08	60x40	Coarse	10000	10
G43106040AF	6,08	60x40	Fine	10000	10
G43106040AM	6,08	60x40	Medium	10000	10
G43106040CPM	11,31	60x40	CP Med	8500	10



CP MED version (Cut and Polish) is particularly dense which combines a great duration with an aggressive satin and a fine uniform finish.



CUTTING SPEED CHART FOR ABRASIVE SPIRAL BANDS

Ø ring mm	10 - 13	15	22 - 25	30	45	60
Recommended speed (rpm)	35.000	25.000	17.000	13.000	8.500	6.500
Max speed (rpm)	45.000	40.000	25.000	18.000	12.500	9.000



ABRASIVE SPIRAL BANDS - ALUMINIUM OXIDE

WRK



ITEM: G4400

Abrasive spiral bands with aluminium oxide grain are universally suitable for many materials such as non-ferrous metals and plastic. Internally reinforced with cotton cloth.

Tech. Code	GR68 Euro	D x H mm	Grit	
G44001020040	0,24	10 x 20	40	100
G44001020060	0,24	10 x 20	60	100
G44001020080	0,23	10 x 20	80	100
G44001325040	0,36	13 x 25	40	100
G44001325060	0,31	13 x 25	60	100
G44001325080	0,31	13 x 25	80	100
G44001530040	0,38	15 x 30	40	100
G44001530060	0,37	15 x 30	60	100
G44001530080	0,36	15 x 30	80	100
G44001925040	0,41	19 x 25	40	100
G44001925060	0,38	19 x 25	60	100
G44001925080	0,38	19 x 25	80	100
G44002220040	0,36	22 x 20	40	100
G44002220060	0,31	22 x 20	60	100
G44002220080	0,31	22 x 20	80	100

Tech. Code	GR68 Euro	D x H mm	Grit	
G44002525040	0,45	25 x 25	40	100
G44002525060	0,43	25 x 25	60	100
G44002525080	0,43	25 x 25	80	100
G44003020040	0,41	30 x 20	40	100
G44003020060	0,39	30 x 20	60	100
G44003020080	0,38	30 x 20	80	100
G44003030040	0,51	30 x 30	40	100
G44003030060	0,49	30 x 30	60	100
G44003030080	0,49	30 x 30	80	100
G44004530040	0,65	45 x 30	40	100
G44004530060	0,58	45 x 30	60	100
G44004530080	0,58	45 x 30	80	100
G44006030040	0,74	60 x 30	40	100
G44006030060	0,68	60 x 30	60	100
G44006030080	0,66	60 x 30	80	100



P	M	K	N	S	H
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ABRASIVE SPIRAL BANDS - ZIRCONIA

WRK



ITEM: G4402

Zirconium abrasive spiral bands internally reinforced with cotton cloth to strengthen the structure. Zirconium ensures a very aggressive material removal. Specifically recommended on steel and stainless steel.

Tech. Code	GR68 Euro	D x H mm	Grit	
G44021020040	0,38	10 x 20	40	100
G44021020060	0,38	10 x 20	60	100
G44021020080	0,37	10 x 20	80	100
G44021325040	0,45	13 x 25	40	100
G44021325060	0,44	13 x 25	60	100
G44021325080	0,44	13 x 25	80	100
G44021530040	0,52	15 x 30	40	100
G44021530060	0,49	15 x 30	60	100
G44021530080	0,45	15 x 30	80	100
G44022220040	0,45	22 x 20	40	100
G44022220060	0,44	22 x 20	60	100
G44022220080	0,44	22 x 20	80	100

Tech. Code	GR68 Euro	D x H mm	Grit	
G44023020040	0,57	30 x 20	40	100
G44023020060	0,52	30 x 20	60	100
G44023020080	0,50	30 x 20	80	100
G44023030040	0,71	30 x 30	40	100
G44023030060	0,68	30 x 30	60	100
G44023030080	0,66	30 x 30	80	100
G44024530040	0,95	45 x 30	40	100
G44024530060	0,88	45 x 30	60	100
G44024530080	0,85	45 x 30	80	100
G44026030040	1,08	60 x 30	40	100
G44026030060	1,01	60 x 30	60	100
G44026030080	0,97	60 x 30	80	100



P	M	K	N	S	H
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ABRASIVE SPIRAL BANDS - CERAMIC

WRK

C+

ITEM: G4407

Ceramic abrasive spiral bands, excellent removal capacity and cold cutting. Their structure is internally reinforced with cotton cloth. Specifically recommended for alloy steel, stainless steel, titanium and aluminum alloys.

Tech. Code	GR68 Euro	D x H mm	Grit	
G44071020060	0,58	10 x 20	60	100
G44071020080	0,55	10 x 20	80	100
G44071325060	0,74	13 x 25	60	100
G44071325080	0,68	13 x 25	80	100
G44071530060	0,77	15 x 30	60	100

Tech. Code	GR68 Euro	D x H mm	Grit	
G44071530080	0,74	15 x 30	80	100
G44073030060	1,05	30 x 30	60	100
G44073030080	1,05	30 x 30	80	100
G44074530060	1,31	45 x 30	60	100
G44074530080	1,29	45 x 30	80	100



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BAND HOLDERS FOR SPIRAL BANDS

WRK

ITEM: G4409

Band holders in expandable laminated rubber suitable for all abrasive spiral bands.

Tech. Code	GR68 Euro	D x H mm	Shank mm
G44091020	9,37	10 x 20	6 x 40
G44091325	9,57	13 x 25	6 x 40
G44091530	8,64	15 x 30	6 x 40
G44091925	10,19	19 x 25	6 x 40
G44092220	8,89	22 x 20	6 x 40

Tech. Code	GR68 Euro	D x H mm	Shank mm
G44092525	12,05	25 x 25	6 x 40
G44093020	12,05	30 x 20	6 x 40
G44093030	12,34	30 x 30	6 x 40
G44094530	14,79	45 x 30	6 x 40
G44096030	19,72	60 x 30	6 x 40



CARTRIDGE ROLLS

A

ITEM: G4430

Cartridge rolls in rolled-up aluminum oxide cloth. Ideal for grinding in difficult to access areas. The canvas allows it to lengthen the life of the tool compared to traditional sleeves and rings. Available in cylindrical shape and conical for restricted points.

Tech. Code	G4430A1238060	G4430A1238080	G4430A1238120
GR69	Euro	1,42	1,42
D x H x F	mm	12 x 38 x 3	12 x 38 x 3
Shape	Cylindrical	Cylindrical	Cylindrical
Grit	60	80	120
	50	50	50

Tech. Code	G4430B1238060	G4430B1238080	G4430B1238120
GR69	Euro	1,56	1,56
D x H x F	mm	12 x 38 x 3	12 x 38 x 3
Shape	Conica	Conica	Conica
Grit	60	80	120
	50	50	50



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PIN FOR ABRASIVE WRAPPED ROLLS

ITEM: G4431

Pin with tang D.6 for rolls with 3 mm holes.

Tech. Code	G4431P38
GR69	Euro
Ø Pin	mm
Ø Shank	mm



ABRASIVE FLAP WHEELS FOR SATINEX MACHINES

WRK

SiC A

ITEM: G4520

19-mm hole abrasive rolls and driving key seat. Made in abrasive clothed corindone flaps, various types of grit. Fit for satinex machines tools for metal grinding. Also used to remove polish, protective wax coating and oxidised parts on all surfaces. Coarse grain grinders are also used on marble and stone. Recommended speed 3.500/4.000 rpm.

Tech. Code	G452010010040	G452010010060	G452010010080	G4520100100120
GR68	Euro	30,19	30,19	30,19
D x H	mm	100 x 100	100 x 100	100 x 100
Grit	40	60	80	120
Hole	mm	19	19	19
Speed	RPM	Max. 5.700	Max. 5.700	Max. 5.700



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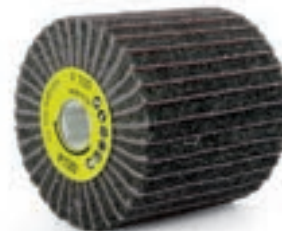
NON-WOVEN MIXED FLAP WHEELS FOR HAND-HELD GLAZING MACHINES



ITEM: G4540

Combination flap wheels with 19mm keyhole. These wheels alternate corundum-type flaps with non-woven fabric. For grade 40 and 60 (coarse), corundum type cloth wheel is used, while silicon carbide type is suitable for grade 80 and 120 (medium) Its structure combines non-woven fabric removal features with cloth finishing performance Recommended speed 2.500/3.000 rpm

Tech. Code		G4540110AM40	G4540110AM60	G4540110SM80	G4540110SM120
GR68	Euro	25,95	25,95	25,95	25,95
D x H	mm	100 x 100	100 x 100	100 x 100	100 x 100
Grit		40	60	80	120
Hole	mm	19	19	19	19
Speed	RPM	Max. 5.000	Max. 5.000	Max. 5.000	Max. 5.000



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NON-WOVEN WHEELS FOR SATINEX MACHINES



ITEM: G4605

19-mm hole abrasive wheels, with driving key seat, made in non-woven fabric Aluminum oxide, various types of grit. Ideal for metal glazing. Removing scales oxide e rust. Produces homogeneous surfaces without defects. The Cuts and Polish version combines great cutting performance with smooth, consistent finishing. Recommended speed 3.000/3.500 rpm.

Tech. Code		G4605110100C	G4605110100F	G4605110100M	G4605110100VF	G4605110100CPM
GR68	Euro	20,36	20,36	20,36	20,36	(61,94)
D x H	mm	100 x 100	100 x 100	100 x 100	100 x 100	100 x 100
Hole	mm	19	19	19	19	19
Grit		Coarse	Fine	Medium	Very fine	CPM
Speed	RPM	Max. 5.000	Max. 5.000	Max. 5.000	Max. 5.000	Max. 5.000



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ABRASIVE FLAP WHEELS WITH HOLE



ITEM: G4705

Abrasive flap wheels with hole, are also used for fixed and portable machines' grinding and finishing.

Made in corundum with standard cotton support, can fit nearly all applications.

Max speed expressed in RPM: D.165 - 5.300 , D.200 - 4.400 , D.250 - 3.600

Tech. Code	GR68 Euro	D x H mm	Hole mm	Grit
G470516530060	(27,62)	165 x 30	54	60
G470516530080	(28,92)	165 x 30	54	80
G470516530120	(31,44)	165 x 30	54	120
G470516530180	(35,31)	165 x 30	54	180
G470516550060	(32,80)	165 x 50	54	60
G470516550080	(34,75)	165 x 50	54	80
G470516550120	(38,35)	165 x 50	54	120
G470516550180	(44,16)	165 x 50	54	180

Tech. Code	GR68 Euro	D x H mm	Hole mm	Grit
G470520050060	(42,06)	200 x 50	54	60
G470520050080	(44,73)	200 x 50	54	80
G470520050120	(49,66)	200 x 50	54	120
G470520050180	(57,70)	200 x 50	54	180
G470525050060	(70,62)	250 x 50	100	60
G470525050080	(75,56)	250 x 50	100	80
G470525050120	(83,13)	250 x 50	100	120
G470525050180	(92,94)	250 x 50	100	180



P	M	K	N	S	H
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NON-WOVEN FABRIC CLOTH FLAP WHEELS WITH HOLE



ITEM: G4805

Abrasive flap wheels with hole for stationary machines, made in non-woven fabric.

Aluminum oxide, various types of grit Ideal for metal glazing.

Tech. Code		G480520050C8	G480520050F8	G480520050M8	G480520050VF8
GR68	Euro	49,37	49,37	49,37	49,37
D x H	mm	200 x 50	200 x 50	200 x 50	200 x 50
Hole	mm	76	76	76	76
Grit		Coarse	Fine	Medium	Very fine
Speed	RPM	Max. 2.500	Max. 2.500	Max. 2.500	Max. 2.500



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FLAP WHEELS REDUCER FLANGES

ITEM: G4850

Manufactured in aluminum, supplied in pairs.

Tech. Code		G485054X25	G485076X25	G4850100X25
GR69	Euro	(23,26)	(59,49)	(59,43)
Ø	mm	54	76	100
Hole	mm	25	25	25



BRISTLE BRUSH ON SHAFT BB-ZS

3M

ITEM: G4890

Brushes made from Aluminum Oxide and Cubitron. Ideal for removing microfilaments on flat profile surface. Its pattern makes it ideal for unevenly shaped profiles. Clogging free features allow for perfect paint and glue residues removal. Superior performance on finishing operations No clogging.

Tech. Code		G489075080	G489075120	G489075220
GR69	Euro	34,77	34,77	34,77
Ø	mm	75	75	75
Grit		80	120	220
Pivot	mm	6	6	6
Colour		Yellow	White	Red
		6	6	6



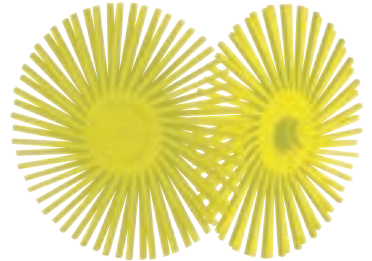
ABRASIVE DISCS BRUSHES SUNBURST

Dedeco

ITEM: G4892

Abrasive brushes with aluminum oxide with thermoplastic binder. Disc shape with type R quick coupling. Ideal for deburring, finishing and polishing of various types of materials, including metals, plastics, ceramics and wood. The uniform distribution of the abrasive in the thermoplastic material guarantees a long tool life and a uniform result throughout the life of the tool. The flexibility of the bristles allows a perfect adaptation of the brush on both flat and shaped surfaces. Low heat emission during processing.

Tech. Code		G489275036	G489275050	G489275080	G489275120
GR69	Euro	(13,89)	(13,89)	(13,89)	(13,89)
Ø	mm	75	75	75	75
Grit		36	50	80	120
Colour		Brown	Green	Yellow	White
		10	10	10	10



ABRASIVE CUP BRUSHES SUNBURST

Dedeco

ITEM: G4894

Aluminum oxide abrasive brushes with thermoplastic binder. Cup shape with type R quick coupling. Ideal for deburring, finishing and polishing of various types of materials, including metals, plastics, ceramics and wood. The uniform distribution of the abrasive in the thermoplastic material guarantees a long life and a uniform result throughout the life of the tool. The flexibility of the bristles allows a perfect adaptation of the brush on both flat and shaped surfaces. Low heat emission during processing.

Tech. Code		G489425036	G489425050	G489425080	G489425120	G489450036	G489450050
GR69	Euro	(7,43)	(7,43)	(7,43)	(7,43)	(9,21)	(9,21)
Ø	mm	25	25	25	25	50	50
Grit		36	50	80	120	36	50
Colour		Brown	Green	Yellow	White	Brown	Green
		10	10	10	10	10	10



Tech. Code		G489450080	G489450120	G489475036	G489475050	G489475080	G489475120
GR69	Euro	(9,21)	(9,21)	(14,18)	(14,18)	(14,18)	(14,18)
Ø	mm	50	50	75	75	75	75
Grit		80	120	36	50	80	120
Colour		Yellow	White	Brown	Green	Yellow	White
		10	10	10	10	10	10

SUNBURST RADIAL ABRASIVE BRUSHES

Dedeco

ITEM: G4895

Aluminum oxide abrasive brushes with thermoplastic binder. Radial in shape, they are supplied complete in the 8-layer version. The bore of the brush includes reduction bushings to adapt it to multiple diameters. Ideal for deburring, finishing and polishing of many materials including metals and plastics. Low heat emission.

Tech. Code		G48951500808	G48951501208	G48951502208
GR69	Euro	95,17	95,17	95,17
Ø	mm	150	150	150
Grit		80	120	220
Colour		Yellow	White	Brown



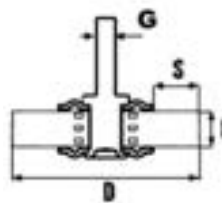
WHEEL BRUSHES WITH SHANK



ITEM: G4901

High resistant crimped wire. Long service life and excellent industrial processing performances.

Tech. Code	GR69 Euro	D mm	E mm	S mm	G mm	Wire	Max speed RPM	
G490140X9	7,20	40	9	8	6 x 25	Steel Ø 0,3	18.000	1
G490140X12	9,40	40	12	8	6 x 25	Steel Ø 0,3	18.000	1
G490150X9	7,20	50	9	13	6 x 25	Steel Ø 0,3	15.000	1
G490150X12	9,40	50	12	13	6 x 25	Steel Ø 0,3	15.000	1
G490160X9	7,20	60	9	15	6 x 25	Steel Ø 0,3	15.000	1
G490160X12	9,40	60	12	15	6 x 25	Steel Ø 0,3	15.000	1
G490170X9	7,60	70	9	20	6 x 25	Steel Ø 0,3	15.000	1
G490170X15	11,80	70	15	20	6 x 25	Steel Ø 0,3	15.000	1
G490180X12	9,90	80	12	20	6 x 25	Steel Ø 0,3	12.000	1
G490180X15	11,80	80	15	20	6 x 25	Steel Ø 0,3	12.000	1
G490140INOX	14,40	40	12	8	6 x 25	Stainless Steel Ø 0,3	18.000	1
G490150INOX	14,40	50	12	13	6 x 25	Stainless Steel Ø 0,3	15.000	1
G490160INOX	14,40	60	12	15	6 x 25	Stainless Steel Ø 0,3	15.000	1
G4901750INOX	15,40	70	12	20	6 x 25	Stainless Steel Ø 0,3	15.000	1



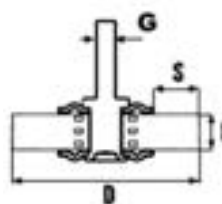
WHEEL BRUSHES WITH SHANK



ITEM: G4902

Crimped wire brushes. Universal use in cleaning steps. Ideal for removing rust, polishing, light deburring removing corrosion and varnish.

Tech. Code	GR69 Euro	D mm	E mm	S mm	G mm	Wire	Max speed RPM	
G490202004	(6,76)	20	4	3	6 x 30	Steel Ø 0,20	20.000	10
G490203006	(4,73)	30	6	7	6 x 30	Steel Ø 0,20	20.000	10
G490204009	(4,50)	40	9	9	6 x 30	Steel Ø 0,20	18.000	10
G490205015	(6,52)	50	15	13	6 x 30	Steel Ø 0,20	15.000	10
G490206015	(7,27)	60	15	15	6 x 30	Steel Ø 0,20	15.000	10
G490207010	(5,32)	70	10	19	6 x 30	Steel Ø 0,30	15.000	10
G490207015	(6,69)	70	15	19	6 x 30	Steel Ø 0,30	15.000	10
G490208015	(7,82)	80	15	19	6 x 30	Steel Ø 0,30	12.000	10
G490210010	(8,41)	100	10	20	6 x 30	Steel Ø 0,30	12.000	10
G490202004IN	(8,58)	20	4	3	6 x 30	Stainless steel ø 0,20	20.000	10
G490203006IN	(5,85)	30	6	7	6 x 30	Stainless steel ø 0,20	20.000	10
G490204009IN	(7,35)	40	9	9	6 x 30	Stainless steel ø 0,20	18.000	10
G490205015IN	(11,08)	50	15	13	6 x 30	Stainless steel ø 0,20	15.000	10
G490206015IN	(11,81)	60	15	15	6 x 30	Stainless steel ø 0,20	15.000	10
G490207004IN	(15,30)	70	4	9	6 x 30	Stainless steel ø 0,20	15.000	10
G490207015IN	(11,84)	70	15	19	6 x 30	Stainless steel ø 0,30	15.000	10
G490208015IN	(12,72)	80	15	19	6 x 30	Stainless steel ø 0,30	12.000	10
G490210010IN	(13,74)	100	10	20	6 x 30	Stainless steel ø 0,30	12.000	10



END BRUSHES WITH SHANK



ITEM: G4903

High resistant crimped wire. Designed for front operations with electrical or air tools.

Tech. Code	GR69 Euro	D mm	S mm	B mm	G mm	Wire	Max speed RPM	
G490318	3,80	18	24	15	6 x 21	Steel ø 0.3	18.000	12
G490322	4,90	22	27	20	6 x 21	Steel ø 0.3	18.000	12
G490325	6,00	25	27	25	6 x 21	Steel ø 0.3	18.000	12
G490335	7,10	35	30	30	6 x 21	Steel ø 0.3	15.000	12



END BRUSHES WITH SHANK



ITEM: G4904

End brushes with crimped wire. Ideal for lightbrushing and deburring or removing rust. During the rotation filament spread out permits to access even hard-to-reach locations into holes and cavities.

Tech. Code	GR69 Euro	D mm	S mm	B mm	G mm	Wire	Max speed RPM	
G490410	4,05	10	20	10	6 x 21	Steel Ø 0.20	20.000	10
G490410IN	5,12	10	20	10	6 x 21	Stainless steel Ø 0.20	20.000	10
G490415	3,88	15	22	16	6 x 21	Steel Ø 0.20	18.000	10
G490415IN	5,47	15	22	16	6 x 21	Stainless steel Ø 0.20	18.000	10
G490420	4,75	20	25	22	6 x 21	Steel Ø 0.20	18.000	10
G490420IN	7,67	20	25	22	6 x 21	Stainless steel Ø 0.20	18.000	10
G490430	6,76	30	25	29	6 x 21	Steel Ø 0.20	15.000	10
G490430IN	11,33	30	25	29	6 x 21	Stainless steel Ø 0.20	15.000	10



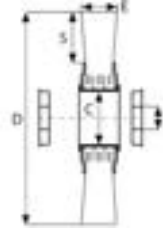
WHEEL BRUSHES



ITEM: G4905

High resistant crimped wire. For deburring, etching and polishing.
K = multihole reduction kit 25-20-16

Tech. Code	GR69 Euro	D mm	E mm	S mm	C mm	F mm	Wire
G4905100	23,70	100	20	19	28	16	Steel Ø 0.35
G4905150	24,70	150	27	36	38	K	Steel Ø 0.35
G4905150/1	18,10	150	20	32	38	K	Steel Ø 0.35
G4905200	29,60	200	29	44	38	K	Steel Ø 0.35
G4905200/0	22,50	200	23	44	38	K	Steel Ø 0.35
G4905250	57,70	250	30	65	58	38+K	Steel Ø 0.35
G4905150/2	27,70	150	27	32	38	K	Steel Ø 0.50
G4905200/1	33,30	200	29	47	38	K	Steel Ø 0.50
G4905100/0	29,10	100	12	25	-	12	Brass-plated steel Ø 0.30
G4905150INOX	46,30	150	27	36	38	K	Stainless steel Ø 0.30
G4905200INOX	59,90	200	29	44	38	K	Stainless steel Ø 0.30



WHEEL BRUSHES TWIST KNOTTED WIRE



ITEM: G4908

Aggressive brush, suitable for removing burning and rust. Cleaning of fillet weld and elimination of adhesive residues.

Tech. Code	GR69 Euro	D mm	E mm	S mm	F mm	Wire	Max speed RPM
G4908115	(14,76)	115	12	22	22,2	Steel Ø 0.50	12.500
G4908115IN	(33,20)	115	12	22	22,2	Stainless steel Ø 0.35	12.500
G4908125	(16,83)	125	12	28	22,2	Steel Ø 0.50	11.000
G4908125IN	(34,29)	125	12	28	22,2	Stainless steel Ø 0.35	11.000



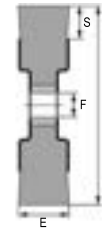
DISC BRUSHES WITH HOLE



ITEM: G4909

Exceptional removal of soft materials such as underseal or antidrumming compound. Particular filament geometry provides porous surfaces similar to sanded ones. Cooling effect. It does not obstruct. Used for angle or straight angles.

Tech. Code	GR69 Euro	D mm	E mm	S mm	F	Wire	Max speed RPM
G490910020	(40,73)	100	20	18	M14 x 2	Steel Ø 0.60	6.000



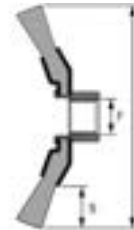
BEVEL BRUSHES



ITEM: G4911

Cone-shaped brushes suitable for uneven surfaces and surfaces with sharp edges. Suitable for removing scale, rust and residues from various materials. The crimped steel wires are extremely high strength and provide a long service life.

Tech. Code	GR69 Euro	D mm	S mm	F	Wire	Max speed RPM
G4911090	10,60	90	20	M14	Steel Ø 0.35	14,000
G4911090IN	15,70	90	20	M14	Stainless steel Ø 0.30	14,000
G4911120	17,90	120	22	M14	Steel Ø 0.35	12,500
G4911120IN	23,30	120	22	M14	Stainless steel Ø 0.30	12,500



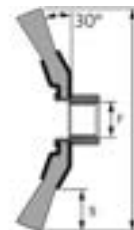
THREADED BEVEL TWIST KNOTTED BRUSHES



ITEM: G4912

Aggressive brush. Excellent for heavy duty brushing, deburring e rust removal. The conical shape facilitates reaching difficult areas such as inner corners, grooves and gorges.

Tech. Code	GR69 Euro	D mm	S mm	F	Wire	Max speed RPM
G4912115	16,99	115	26	M14 x 2	Steel Ø 0.50	15.000
G4912115IN	26,12	115	26	M14 x 2	Stainless steel Ø 0.35	15.000

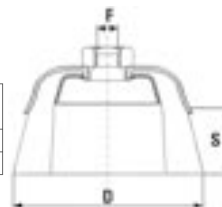


CUP BRUSHES

ITEM: G4910

Crimped, high-resistance wire. Used for angle grinders or fixed machines.
Ideal to prepare metal surfaces for the painting process.

Tech. Code	GR69 Euro	D mm	S mm	F	Wire	Max speed RPM
G491080	9,30	75	25	M14	Steel Ø 0.35	14.000
G4910100	18,80	100	25	M14	Steel Ø 0.35	8.500

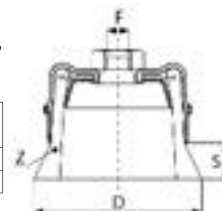


TWISTED KNOT CYLINDRICAL CUP BRUSHES

ITEM: G4915

Heavy-duty, tough performances high-standard safe operations. They can be fitted on fixed machineries, designed for removing fillet weld scale, rust, old paint and tough corrosion.

Tech. Code	GR69 Euro	D mm	S mm	F	Z = number of knots	Wire	Max speed RPM
G491570	15,40	70	17	M14	18	Steel Ø 0.35	14.000
G491570INOX	27,60	70	17	M14	18	Stainless steel Ø 0.50	14.000

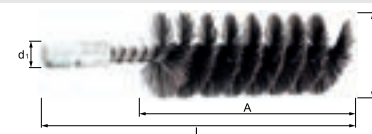


CLEANING RODS FOR TUBING

ITEM: G4920

Essential when cleaning and finishing in the inner of the tubes and metal holes.

Tech. Code	G492008	G492012	G492016	G492020
GR69 Euro	11,70	11,70	11,70	11,70
D	mm 8	12	16	20
A	mm 80	80	80	80
L	mm 115	115	115	115
d1	M6	M6	M6	M6
	10	10	10	10



Related products

BOSCH ELECTRIC ANGLE GRINDERS

Tech. Code	Power W	No-load speed Rpm	Ø Grinding wheels mm
N4215125/2	1300	11500	125

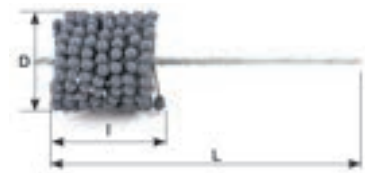


The products are available in chapter N

SiC

ITEM: G4930

Usable on CNC machines and drill presses
Speed and uniformity for a better finished surface
used in various sectors:
- general precision mechanical engineering
- automotive industry
- aviation industry
- ship building industry.



P	M	K	N	S	H
●	●	●			

Tech. Code	GR69 Euro	Model	Ø hole mm	Grit	Useful mm	D mm	I mm	L mm
G4930050SC120	(48,17)	BC5MM	5	120	4.75 - 5.00	5.5	38	203
G4930050SC180	(48,17)	BC5MM	5	180	4.75 - 5.00	5.5	38	203
G4930100SC120	(36,32)	BC10MM	10	120	9.50 - 10.0	11	57	203
G4930100SC180	(36,32)	BC10MM	10	180	9.50 - 10.0	11	57	203
G4930100SC240	(38,43)	BC10MM	10	240	9.50 - 10.0	11	57	203
G4930100SC320	(54,42)	BC10MM	10	320	9.50 - 10.0	11	57	203
G4930120SC120	(37,85)	BC12MM	12	120	11.0 - 12.0	13	57	203
G4930120SC180	(37,85)	BC12MM	12	180	11.0 - 12.0	13	57	203
G4930120SC240	(40,14)	BC12MM	12	240	11.0 - 12.0	13	57	203
G4930120SC320	(56,77)	BC12MM	12	320	11.0 - 12.0	13	57	203
G4930127SC120	(38,59)	BC1/2"	12.7	120	12.0 - 12.7	14.5	64	203
G4930127SC180	(38,59)	BC1/2"	12.7	180	12.0 - 12.7	14.5	64	203
G4930127SC240	(40,85)	BC1/2"	12.7	240	12.0 - 12.7	14.5	64	203
G4930127SC320	(57,76)	BC1/2"	12.7	320	12.0 - 12.7	14.5	64	203
G4930140SC120	(38,78)	BC14MM	14	120	12.7 - 14.0	15.5	64	203
G4930140SC180	(38,78)	BC14MM	14	180	12.7 - 14.0	15.5	64	203
G4930140SC240	(41,10)	BC14MM	14	240	12.7 - 14.0	15.5	64	203
G4930140SC320	(58,15)	BC14MM	14	320	12.7 - 14.0	15.5	64	203
G4930160SC120	(40,97)	BC5/8"	16	120	14.0 - 16.0	18	64	203
G4930160SC180	(40,97)	BC5/8"	16	180	14.0 - 16.0	18	64	203
G4930160SC320	(61,43)	BC5/8"	16	320	14.0 - 16.0	18	64	203
G4930180SC120	(42,05)	BC18MM	18	120	16.0 - 18.0	20	64	203
G4930180SC180	(42,05)	BC18MM	18	180	16.0 - 18.0	20	64	203
G4930180SC240	(44,54)	BC18MM	18	240	16.0 - 18.0	20	64	203
G4930180SC320	(63,05)	BC18MM	18	320	16.0 - 18.0	20	64	203
G4930190SC120	(43,14)	BC3/4"	19	120	18.0 - 19.0	21	64	203
G4930190SC180	(43,14)	BC3/4"	19	180	18.0 - 19.0	21	64	203
G4930190SC320	(64,68)	BC3/4"	19	320	18.0 - 19.0	21	64	203
G4930200SC120	(43,33)	BC20MM	20	120	19.0 - 20.0	22	64	203
G4930200SC180	(43,33)	BC20MM	20	180	19.0 - 20.0	22	64	203
G4930200SC320	(65,00)	BC20MM	20	320	19.0 - 20.0	22	64	203
G4930220SC120	(43,59)	BC7/8"	22	120	20.0 - 22.0	25	76	203
G4930220SC180	(43,59)	BC7/8"	22	180	20.0 - 22.0	25	76	203
G4930220SC320	(65,35)	BC7/8"	22	320	20.0 - 22.0	25	76	203
G4930254SC120	(46,54)	BC1"	25.4	120	23.8 - 25.4	28	76	203
G4930254SC180	(46,54)	BC1"	25.4	180	23.8 - 25.4	28	76	203
G4930254SC320	(69,71)	BC1"	25.4	320	23.8 - 25.4	28	76	203
G4930290SC120	(48,91)	BC1"-1/8	29	120	25.4 - 29.0	32	76	203
G4930290SC180	(48,91)	BC1"-1/8	29	180	25.4 - 29.0	32	76	203
G4930290SC320	(73,44)	BC1"-1/8	29	320	25.4 - 29.0	32	76	203
G4930318SC120	(52,73)	BC1"-1/4	31.8	120	29.0 - 31.8	35	76	203
G4930318SC180	(52,73)	BC1"-1/4	31.8	180	29.0 - 31.8	35	76	203
G4930318SC320	(79,24)	BC1"-1/4	31.8	320	29.0 - 31.8	35	76	203
G4930350SC120	(54,14)	BC1"-3/8	35	120	31.8 - 35.0	38.5	76	203
G4930350SC180	(54,14)	BC1"-3/8	35	180	31.8 - 35.0	38.5	76	203
G4930350SC320	(81,38)	BC1"-3/8	35	320	31.8 - 35.0	38.5	76	203
G4930380SC120	(58,18)	BC1"-1/2	38	120	35.0 - 38.0	41.5	76	203
G4930380SC180	(58,18)	BC1"-1/2	38	180	35.0 - 38.0	41.5	76	203
G4930380SC320	(87,14)	BC1"-1/2	38	320	35.0 - 38.0	41.5	76	203
G4930410SC120	(58,21)	BC1"-5/8	41	120	38.0 - 41.0	44.5	76	203
G4930410SC180	(58,21)	BC1"-5/8	41	180	38.0 - 41.0	44.5	76	203
G4930410SC320	(87,33)	BC1"-5/8	41	320	38.0 - 41.0	44.5	76	203
G4930510SC120	(62,99)	BC2"	51	120	47.6 - 51.0	54	76	203
G4930510SC180	(62,99)	BC2"	51	180	47.6 - 51.0	54	76	203
G4930510SC320	(94,59)	BC2"	51	320	47.6 - 51.0	54	76	203
G4930570SC120	(68,25)	BC2"-1/4	57	120	54.0 - 57.0	60.5	76	203
G4930570SC180	(68,25)	BC2"-1/4	57	180	54.0 - 57.0	60.5	76	203
G4930570SC320	(102,34)	BC2"-1/4	57	320	54.0 - 57.0	60.5	76	203

MOUNTED POINTS WITH PINK ALUMINUM OXIDE



ITEM: ZY

Cylinder-shaped, pink corundum, high-stability edges and shape, low-wear and long-lasting grinding wheels.
Suitable for mechanical workpiece grinding, bur removal, chamfers for welding preparation.



Tech. Code		G540502053	G540503063	G540504083	G540505103	G540506133
GR69	Euro	2,51	2,20	2,20	2,20	2,31
D x T	mm	2 x 5	3 x 6	4 x 8	5 x 10	6 x 13
Shank	mm	3	3	3	3	3
Specification		AR 100 O 5 V	AR 100 O 5 V	AR 100 O 5 V	AR 100 O 5 V	AR 100 O 5 V
		10	10	10	10	10

Tech. Code		G540508103	G540510133	G540506136	G540508106	G540510136
GR69	Euro	2,20	2,26	2,31	2,20	2,26
D x T	mm	8 x 10	10 x 13	6 x 13	8 x 10	10 x 13
Shank	mm	3	3	6	6	6
Specification		AR 80 O 5 V	AR 46 O 5 V	AR 100 O 5 V	AR 80 O 5 V	AR 46 O 5 V
		10	10	10	10	10

Tech. Code		G540513136	G540516206	G540520206	G540525256	G540532326
GR69	Euro	2,30	2,73	2,92	3,52	4,20
D x T	mm	13 x 13	16 x 20	20 x 20	25 x 25	32 x 32
Shank	mm	6	6	6	6	6
Specification		AR 46 O 5 V	AR 30 O 5 V	AR 30 O 5 V	AR 30 O 5 V	AR 24 O 5 V
		10	10	10	10	10

ITEM: KU

Sphere-shaped, pink corundum, high-stability edges and shape, low-wear and long-lasting grinding wheels.
Suitable for mechanical workpiece grinding, bur removal, chamfers for welding preparation.



Tech. Code		G5410053	G5410083	G5410103
GR69	Euro	2,51	2,71	2,72
D	mm	5	8	10
Shank	mm	3	3	3
Specification		AR 100 O 5 V	AR 80 O 5 V	AR 46 O 5 V
		10	10	10

Tech. Code		G5410106	G5410136	G5410166	G5410206
GR69	Euro	2,72	2,88	3,40	3,86
D	mm	10	13	16	20
Shank	mm	6	6	6	6
Specification		AR 46 O 5 V	AR 46 O 5 V	AR 30 O 5 V	AR 30 O 5 V
		10	10	10	10

ITEM: SP

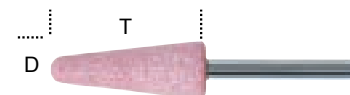
Ogve-shaped, pink corundum, high-stability edges and shape, low-wear and long-lasting grinding wheels.
Suitable for mechanical workpiece grinding, bur removal, chamfers for welding preparation.



Tech. Code		G541508166	G541513206	G541520326
GR69	Euro	2,72	3,27	4,49
D x T	mm	8 x 16	13 x 20	20 x 32
Shank	mm	6	6	6
Specification		AR 80 O 5 V	AR 46 O 5 V	AR 30 O 5 V
		10	10	10

ITEM: KE

Radial cone-shaped, pink corundum, high-stability edges and shape, low-wear and long-lasting grinding wheels.
Suitable for mechanical workpiece grinding, bur removal, chamfers for welding preparation.



Tech. Code		G542010256	G542016456	G542020326
GR69	Euro	3,40	5,16	4,09
D x T	mm	10 x 25	16 x 45	20 x 32
Shank	mm	6	6	6
Specification		AR 46 O 5 V	AR 46 O 5 V	AR 30 O 5 V
		10	10	10

MOUNTED POINTS WITH PINK ALUMINUM OXIDE



ITEM: ZY

Made with pink aluminum oxide and vitrified bond. For universal use on all kind of steel and cast iron. Made in Italy with high quality raw material in order to give a consistent cut rate and a good surface finish.

Specification of the mixture: AR - Abrasive (Pink corundum), P - Hardness (High), 5 - Structure (Close), V - Bond (Vitrified ceramic).



Cylindrical shape

Tech. Code	G540630206100	G540630306080	G540630408080	G540630510080	G540630612080	G540630812080
GR68	Euro	1,75	1,61	1,61	1,61	1,75
D x T	mm	2 x 6	3 x 6	4 x 8	5 x 10	6 x 12
Shank	mm	3 x 38	3 x 38	3 x 38	3 x 38	3 x 38
Specification		AR 100 P5V	AR 80 P5V	AR 80 P5V	AR 80 P5V	AR 80 P5V
		10	10	10	10	10

Tech. Code	G540631012060	G540660610060	G540660612100	G540660810080	G540661015060
GR68	Euro	2,09	1,98	2,25	2,39
D x T	mm	10 x 12	6 x 10	6 x 12	8 x 10
Shank	mm	3 x 38	6 x 40	6 x 40	6 x 40
Specification		AR 80 P5V	AR 60 P5V	AR 100 P5V	AR 80 P5V
		10	10	10	10

Tech. Code	G540661215060	G540661520046	G540662020046	G540662525046	G540663232036
GR68	Euro	2,43	2,71	3,14	4,36
D x T	mm	12 x 15	15 x 20	20 x 20	25 x 25
Shank	mm	6 x 40	6 x 40	6 x 40	6 x 40
Specification		AR 60 P5V	AR 46 P5V	AR 46 P5V	AR 36 P5V
		10	10	10	10

ITEM: KU

Spherical shape

Tech. Code	G5411306080	G5411308080	G5411310060
GR68	Euro	2,39	2,43
D	mm	6	8
Shank	mm	3 x 38	3 x 38
Specification		AR 80 P5V	AR 60 P5V
		10	10



Tech. Code	G5411610060	G5411612060	G5411615046	G5411620046
GR68	Euro	3,18	2,77	3,42
D	mm	10	12	15
Shank	mm	6 x 40	6 x 40	6 x 40
Specification		AR 60 P5V	AR 46 P5V	AR 46 P5V
		10	10	10

ITEM: SP

Ogival shape

Tech. Code	G541661220060	G541662032046
GR68	Euro	5,61
D x T	mm	12 x 20
Shank	mm	6 x 40
Specification		AR 60 P5V
		10



ITEM: KE

Conical shape

Tech. Code	G542161025060	G542162032046
GR68	Euro	3,80
D x T	mm	10 x 25
Shank	mm	6 x 40
Specification		AR 60 P5V
		10



POLIFLEX SHANK-MOUNTED ABRASIVE GRINDERS



ITEM: ZY

Cylinder-shaped, pink corundum and GR rubber bond. GR bond, soft and elastic, allows delicate grinding. Suitable for finishing steel, stainless steel and non-ferrous materials resulting in fine and shiny surfaces. Recommended for injection and pressure mold finishing.



Tech. Code		G551004083	G551006103	G551008123	G551010153
GR69	Euro	4,66	4,66	4,86	4,86
D x T	mm	4 x 8	6 x 10	8 x 12	10 x 15
Shank	mm	3	3	3	3
Specification		AR 120 GR	AR 120 GR	AR 120 GR	AR 120 GR
		10	10	10	10

Tech. Code		G551010156	G551015156	G551020206	G551025256
GR69	Euro	4,86	4,86	5,60	5,87
D x T	mm	10 x 15	15 x 15	20 x 20	25 x 25
Shank	mm	6	6	6	6
Specification		AR 120 GR	AR 120 GR	AR 120 GR	AR 120 GR
		10	10	10	10

ITEM: ZY

Cylinder-shaped with corundum and LR leather bond. LR hard bond provides good removal, long tool life and fine surface quality. Suitable for finishing steel, stainless steel and titanium material. Recommended for mold manufacturing and tool finishing.



Tech. Code		G552004083	G552006103	G552008123	G552010153
GR69	Euro	4,66	4,66	4,86	4,86
D x T	mm	4 x 8	6 x 10	8 x 12	10 x 15
Shank	mm	3	3	3	3
Specification		AW 120 LR	AW 120 LR	AW 120 LR	AW 120 LR
		10	10	10	10

Tech. Code		G552010156	G552015156	G552020206	G552025256
GR69	Euro	4,86	4,86	5,61	5,87
D x T	mm	10 x 15	15 x 15	20 x 20	25 x 25
Shank	mm	6	6	6	6
Specification		AW 120 LR	AW 120 LR	AW 120 LR	AW 120 LR
		10	10	10	10

GESSWEIN ABRASIVE GRINDERS - FOR HARD MATERIALS

These superior-quality grinders are made of aluminum oxide and cobalt alloyed by ceramic powder which provides the high resistance and rigidity required for removal and roughing. The ceramic binder releases the abrasive grains gradually so that when the abrasive starts to lose its cutting edge it is replaced by a new grain with sharp cutters. The blue grinders keep their shape in a perfect way and are suitable for use on hard tempered materials. They cut well and leave the surface smooth. Operating speed max 30 m/sec.

Use glasses or a visor during grinding operations.

Tech. Code		G5650B44	G5652B52	G5654B53	G5656B55	G5658B96	G5660B97	G5680W176
GR69	Euro	4,10	4,30	4,30	3,29	3,29	4,10	3,29
Dimension	mm	5.5 x 9.5	9.4 x 18.8	6.3 x 15.7	3.1 x 6.3	3.1 x 6.3	2.4 x 9.3	9.4 x 12.5
Shank ø	mm	3	3	3	3	3	3	3
Grit		120	120	120	120	120	120	120
		10	10	10	10	10	10	10



Tech. Code		G5662B105	G5664B123	G5668B125	G5670W142	G5672W144	G5674W145	G5676W153
GR69	Euro	3,29	3,47	4,10	3,07	2,84	3,29	3,29
Dimension	mm	6.3 x 6.3	4.7	6.3	2.4 x 6.3	3.1 x 6.3	3.1 x 9.4	4.7 x 9.4
Shank ø	mm	3	3	3	3	3	3	3
Grit		120	120	120	120	120	120	120
		10	10	10	10	10	10	10



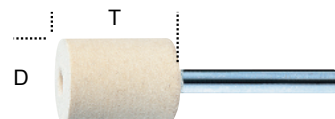
SHANK-MOUNTED FELT BOBS



ITEM: FK ZYA

Cylinder-shaped. Suitable for pre-polishing and polishing mechanical forms in general.
To be used with diamond paste and polishing paste.

Tech. Code		G570506103	G570508103	G570510143	G570510146	G570515206	G570520256	G570525306
GR69	Euro	2,05	2,05	2,24	2,24	3,41	4,17	5,18
D x T	mm	6 x 10	8 x 10	10 x 15	10 x 15	15 x 20	20 x 25	25 x 30
Shank	mm	3	3	3	6	6	6	6
Shape		Cilindrica	Cilindrica	Cilindrica	Cilindrica	Cilindrica	Cilindrica	Cilindrica
		10	10	10	10	10	10	10



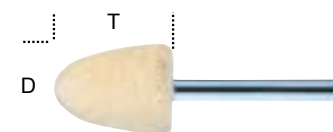
ITEM: FK SPK

Tech. Code		G571508123	G571510183	G571515206	G571520256
GR69	Euro	2,08	2,32	2,32	2,84
D x T	mm	8 x 12	10 x 18	15 x 20	20 x 25
Shank	mm	3	3	6	6
Shape		Pointed Conical	Pointed Conical	Pointed Conical	Pointed Conical
		10	10	10	10



ITEM: FK KEL

Tech. Code		G573015206	G573020256
GR69	Euro	2,29	4,27
D x T	mm	15 x 20	20 x 25
Shank	mm	6	6
Shape		Conical radius	Conical radius
		10	10

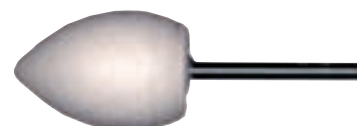


SHANK MOUNTED FELT BOBS

The felt rotary tools are produced with 100% best-quality Australian wool. Suitable for use with diamond paste to produce a mirror finish on moulds for plastics, dies etc.

Shank Ø 3x30 mm. Recommended speed 5-10m/sec. Length tolerance ±5%.

Tech. Code		G58559X153MO	G585013X203MO	G584510X303MO	G584020X303MO
GR69	Euro	1,55	2,20	1,81	4,28
Dimensions	mm	9 x 15	12 x 20	10 x 30	20 x 30
Shank Ø	mm	3	3	3	3
Material		Soft white felt	Soft white felt	Soft white felt	Soft white felt
		10	10	10	10



Tech. Code		G58254X83MO	G58206X153MO	G581510X203MO	G581015X253MO	G580520X303MO
GR69	Euro	1,52	1,42	1,55	2,66	3,90
Dimensions	mm	4 x 8	6 x 15	10 x 20	15 x 25	20 x 30
Shank Ø	mm	3	3	3	3	3
Material		Soft white felt	Soft white felt	Soft white felt	Soft white felt	Soft white felt
		10	10	10	10	10



Tech. Code		G58206X153RE	G581510X203RE	G581015X253RE	G580520X303RE
GR69	Euro	1,72	1,72	2,97	4,51
Dimensions	mm	6 x 15	10 x 20	15 x 25	20 x 30
Shank Ø	mm	3	3	3	3
Material		Hard resin-treated felt	Hard resin-treated felt	Hard resin-treated felt	Hard resin-treated felt
		10	10	10	10



Tech. Code		G5835D103MO	G5830D153MO
GR69	Euro	1,55	1,72
Dimensions	mm	10	15
Shank Ø	mm	3	3
Material		Soft white felt	Soft white felt
		10	10



SHANK MOUNTED SOFT FELT WHEELS

Shank mounted soft felt wheels.

Tech. Code		G5875D212,35	G5875D252,35
GR69	Euro	1,30	1,63
Dimensions Ø	mm	21	25
Shank Ø	mm	2.35	2.35
Material		Soft felt	Soft felt
		10	10



ROTARY FELT LAPPING TOOLS WITH SYNTHETIC SUPPORT

ITEM: G5880

Flexible body, steel shank.

Tech. Code		G5880D123	G5880D203	G5880D332	G5880D486
GR69	Euro	3,73	4,35	5,27	9,33
Description		Felt pad	Felt pad	Felt pad	Felt pad
Dimensions Ø	mm	12	20	32	48
Shank Ø	mm	3	3	3	6
		10	10	10	10



SELF-ADHESIVE FELT DISCS

ITEM: G5885

Replacement for rotary supports.

Tech. Code		G588512X3	G588520X3	G588532X3	G588548X3
GR69	Euro	1,03	1,22	1,83	2,46
Description		Felt pad	Felt pad	Felt pad	Felt pad
Dimensions Ø	mm	12	20	32	48
		10	10	10	10



SHANK MOUNTED SOFT COTTON STRING BUFFS

ITEM: G5935

Cotton wheel buffs of various sizes 21 mm, 30 mm and 40 mm, all with Ø 2.35 mm shank.

Tech. Code		G5935D21G2,35M	G5935D21G2,35D	G5935D30G2,35D	G5935D40G2,35D
GR69	Euro	(5,10)	(2,55)	(3,25)	(3,59)
Dimension	mm	21	21	30	40
Shank Ø	mm	2.35	2.35	2.35	2.35
Material		Soft cotton	Double twisted cotton	Double twisted cotton	Double twisted cotton
		10	10	10	10



POLISHING ABRASIVE PASTES

ITEM: PP

Polishing abrasive pastes are indicated by different colours, according to their specific use. Usually applied on G1440 felt discs. Indicative weight - 1.000 + 1.150 gr.

Tech. Code		G7984100	G7984300	G7984400
GR69	Euro	16,06	11,24	12,81
Application		Steel + Stainless Steel	Non ferrous metals	All metals
Colour		Green	Brown	Pink
Execution		Pre- polishing	Pre- polishing	Mirror polishing





INFORMATION FOR USE

Metal cleaning and polishing is becoming increasingly important in order to meet the needs of today's customers. Below we offer a standard selection of products that can be used for most operations that are carried out with cleaning machines. Fabric wheels should always be used with abrasive pastes and normally work at a speed of about 40 m/sec. Various types of fabrics are available on request in all sizes to meet any requirement.



STITCHED SISAL MOPS FOR CLEANING METALS

ITEM: SISAL

Specific for roughing and pre-polishing. High density, usually used with the coarsest abrasive pastes. The Sisal fabric guarantees a good abrasive capacity and good absorbency. Suitable for all types of steel and metals in general. The 20 mm hole can be used with shanks of up to 25 mm.

Tech. Code		G595215020	G595220020	G595225020	G595230020
GR69	Euro	8,17	10,05	14,82	25,69
Diameter	mm	150	200	250	300
Width *	mm	20	20	20	20
Hole	mm	20	20	20	20
		2	2	2	2

* Given the nature of the product, the width has a tolerance of approximately +/- 10%



COTTON POLISHING DISCS

ITEM: COTTON 20/20

Medium/high density hard-wearing disc, excellent cleaning performance. Good hydroscopic absorbency. Specific for ferrous and non-ferrous metals. Used for the most varied types of polishing operations. Also used for finishing gold and silver. The 20 mm hole can be used with shanks of up to 25 mm.

Tech. Code		G595515010	G595520020	G595525020	G595530020
GR69	Euro	14,15	18,64	24,86	37,99
Diameter	mm	150	200	250	300
Width *	mm	20	20	20	20
Hole	mm	10	20	20	20
		2	2	2	2

* Given the nature of the product, the width has a tolerance of approximately +/- 10%



VENTILATED COTTON POLISHING DISCS

ITEM: COTTON 20/20 VENTILATED

Medium density hard-wearing disc, excellent cleaning performance. Good hydroscopic absorbency. Specific for ferrous and non-ferrous metals. The ventilation allows the tool to be kept cooler, especially on automatic machines with very intense work cycles. The slightly crossed cut allows an improved and more uniform finish.

Tech. Code		G596015020G	G596020020G	G596025025C	G596030025C
GR69	Euro	6,57	6,91	22,44	29,35
Diameter	mm	150	200	250	300
Width *	mm	20	20	20	20
Hole	mm	20 with clip	20 with clip	25 with carton	25 with carton
		2	2	2	2

* Given the nature of the product, the width has a tolerance of approximately +/- 10%



SHANK MOUNTED VENTILATED COTTON DISCS

ITEM: COTTON 20/20 VENTILATED

Ventilated cotton disc mounted on a D.6 shank and can therefore be used on straight grinders.

Tech. Code		G5961D6	G5961100
GR69	Euro	5,47	8,63
Diameter		Shank	Disc
Width *	mm	6	100
Hole	mm	-	Conical
Hole	mm	-	Conico
		1	2

* Given the nature of the product, the width has a tolerance of approximately +/- 10%





LEGEND OF ICONS AND TECHNICAL INFO HARD METAL ROTARY BURRS

		CUT 1	CUT 3	CUT 4	CUT 6
P	< 500 N/mm ²		400 - 500	350 - 600	300 - 500
	< 850 N/mm ²		300 - 450	250 - 450	
	< 1200 N/mm ²		250 - 400	200 - 350	
M	< 600 N/mm ²			350 - 500	300 - 500
	< 850 N/mm ²			250 - 350	200 - 450
	Duplex			200 - 300	200 - 350
K	< 240 HB			200 - 350	300 - 450
	< 300 HB		200 - 450	200 - 350	300 - 450
N	< 10% Si	800 - 1,000			
	> 10% Si	600 - 800			
	Brass Copper		600 - 800		500 - 800
S	Ti6Al4V			max. 2,000 rev.	max. 2,000 rev.
	HTA			250 - 350	300 - 400
H	< 45 HRC			350 - 450	250 - 350
	< 60 HRC			250 - 400	150 - 300
	< 65 HRC			250 - 350	150 - 250

EXAMPLES OF PROCESSING AND RECOMMENDED FORMS

SYAS Form

KUD form

WRC form

RBF FORM

SPG form

SKM form

KEL form

TRE form



CARBIDE ROTARY BURRS - ZYAS TYPE

WODEX



ITEM: G6010

Cylinder-shaped with cutting on the perimeter and in the head. Suitable for machining all materials of various resistances. Ideal for deburring work.

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G60101,5833	12,43	1.5 x 8	3	40	3	1
G601021033	11,86	2 x 10	3	40	3	1
G601021034	14,31	2 x 10	3	40	4	1
G60102,51233	11,49	2.5 x 12	3	40	3	1
G601031333	9,98	3 x 13	3	40	3	1
G601031334	11,86	3 x 13	3	40	4	1
G601041033	15,97	4 x 10	3	45	3	1
G601041034	19,10	4 x 10	3	45	4	1
G601041036	17,60	4 x 10	3	45	6	1
G601041361	22,57	4 x 13	6	50	1	1
G601041363	20,52	4 x 13	6	50	3	1
G601041364	26,41	4 x 13	6	50	4	1
G601041366	22,57	4 x 13	6	50	6	1
G601051233	16,99	5 x 12	3	47	3	1
G601051234	20,44	5 x 12	3	47	4	1
G601051236	18,62	5 x 12	3	47	6	1
G601061333	18,07	6 x 13	3	48	3	1
G601061334	21,80	6 x 13	3	48	4	1
G601061336	19,89	6 x 13	3	48	6	1
G601061661	22,57	6 x 16	6	50	1	1
G601061663	20,52	6 x 16	6	50	3	1

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G601061664	26,41	6 x 16	6	50	4	1
G601061666	22,57	6 x 16	6	50	6	1
G601082061	28,76	8 x 20	6	65	1	1
G601082063	26,16	8 x 20	6	65	3	1
G601082064	29,87	8 x 20	6	65	4	1
G601082066	28,76	8 x 20	6	65	6	1
G6010102061	32,62	10 x 20	6	65	1	1
G6010102063	28,15	10 x 20	6	65	3	1
G6010102064	35,44	10 x 20	6	65	4	1
G6010102066	32,62	10 x 20	6	65	6	1
G6010122561	42,12	12 x 25	6	70	1	1
G6010122563	38,26	12 x 25	6	70	3	1
G6010122564	45,96	12 x 25	6	70	4	1
G6010122566	42,12	12 x 25	6	70	6	1
G6010162561	59,23	16 x 25	6	70	1	1
G6010162563	53,89	16 x 25	6	70	3	1
G6010162564	64,59	16 x 25	6	70	4	1
G6010162566	59,23	16 x 25	6	70	6	1
G6010202563	83,68	20 x 25	6	70	3	1
G6010202564	101,28	20 x 25	6	70	4	1
G6010202566	92,07	20 x 25	6	70	6	1



CARBIDE ROTARY BURRS WITH EXTENDED SHANK - ZYAS TYPE

WODEX



ITEM: G6160

Cylinder-shaped with cutting on the perimeter and in the head. Suitable for machining all materials of various resistances. Ideal for deburring work.

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G616061863	26,52	6 x 18	6	150	3	1
G616061864	33,25	6 x 18	6	150	4	1
G616061866	30,28	6 x 18	6	150	6	1
G616081863	32,97	8 x 20	6	150	3	1
G616081864	40,86	8 x 20	6	150	4	1
G616081866	35,93	8 x 20	6	150	6	1

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G6160102063	39,62	10 x 20	6	150	3	1
G6160102064	46,68	10 x 20	6	150	4	1
G6160102066	43,30	10 x 20	6	150	6	1
G6160122563	51,43	12 x 25	6	150	3	1
G6160122564	57,81	12 x 25	6	150	4	1
G6160122566	53,39	12 x 25	6	150	6	1



CARBIDE ROTARY BURRS - KUD TYPE

WODEX



ITEM: G6030

Sphere-shaped. Suitable for machining all materials of various resistances. Ideal for machining profiles, deburring internal holes and in pre-processing millworking on carryover welds.

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G60301,5133	13,77	1.5 x 1,35	3	40	3	1
G60301,5134	16,54	1.5 x 1,35	3	40	4	1
G60301,5136	15,10	1.5 x 1,35	3	40	6	1
G603021,533	13,15	2 x 1,8	3	40	3	1
G603021,534	15,80	2 x 1,8	3	40	4	1
G603021,536	14,55	2 x 1,8	3	40	6	1
G60302,5233	12,65	2.5 x 2,2	3	40	3	1
G60302,5234	15,10	2.5 x 2,2	3	40	4	1
G60302,5236	13,92	2.5 x 2,2	3	40	6	1
G603032,533	11,09	3 x 2,7	3	40	3	1
G603032,534	13,15	3 x 2,7	3	40	4	1
G603032,536	12,10	3 x 2,7	3	40	6	1
G603043,533	13,61	4 x 3,6	3	38,5	3	1
G603043,534	16,21	4 x 3,6	3	38,5	4	1
G603043,536	14,94	4 x 3,6	3	38,5	6	1
G603043,561	23,75	4 x 3,6	6	50	1	1
G603043,563	21,52	4 x 3,6	6	50	3	1
G603043,564	25,96	4 x 3,6	6	50	4	1
G603043,566	23,75	4 x 3,6	6	50	6	1
G60305433	13,98	5 x 4,5	3	39,5	3	1
G60305434	16,81	5 x 4,5	3	39,5	4	1

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G60305436	15,50	5 x 4,5	3	39,5	6	1
G60306533	14,94	6 x 5,4	3	40	3	1
G60306534	17,91	6 x 5,4	3	40	4	1
G60306536	16,43	6 x 5,4	3	40	6	1
G60306561	23,75	6 x 5,4	6	50	1	1
G60306563	21,52	6 x 5,4	6	50	3	1
G60306564	25,96	6 x 5,4	6	50	4	1
G60306566	23,75	6 x 5,4	6	50	6	1
G60308763	20,35	8 x 7,2	6	52	3	1
G60308764	24,29	8 x 7,2	6	52	4	1
G60308766	22,40	8 x 7,2	6	52	6	1
G603010963	23,96	10 x 9	6	54	3	1
G603010964	28,76	10 x 9	6	54	4	1
G603010966	26,25	10 x 9	6	54	6	1
G6030121163	28,85	12 x 10,8	6	56	3	1
G6030121164	34,66	12 x 10,8	6	56	4	1
G6030121166	31,77	12 x 10,8	6	56	6	1
G6030161563	41,01	16 x 14,4	6	60	3	1
G6030161564	49,19	16 x 14,4	6	60	4	1
G6030161566	45,11	16 x 14,4	6	60	6	1



CARBIDE ROTARY BURRS - WRC TYPE

WODEX



ITEM: G6050

Cylinder-shaped with spherical head. Suitable for machining all materials of various resistances. Ideal for working surfaces, profiles and in pre-processing millworking on fillet weld.

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G60501,5833	14,17	1,5 x 8	3	40	3	1
G60501,5834	16,99	1,5 x 8	3	40	4	1
G60501,5836	15,56	1,5 x 8	3	40	6	1
G605021033	13,68	2 x 10	3	40	3	1
G605021034	16,43	2 x 10	3	40	4	1
G605021036	15,02	2 x 10	3	40	6	1
G60502,51233	13,04	2,5 x 12	3	40	3	1
G60502,51234	15,64	2,5 x 12	3	40	4	1
G60502,51236	14,38	2,5 x 12	3	40	6	1
G605031433	11,42	3 x 14	3	40	3	1
G605031434	13,68	3 x 14	3	40	4	1
G605031436	12,59	3 x 14	3	40	6	1
G605041033	15,97	4 x 10	3	45	3	1
G605041034	19,10	4 x 10	3	45	4	1
G605041036	17,60	4 x 10	3	45	6	1
G605041461	22,97	4 x 13	6	50	1	1
G605041463	20,91	4 x 13	6	50	3	1
G605041464	25,02	4 x 13	6	50	4	1
G605041466	22,97	4 x 13	6	50	6	1
G605051233	16,66	5 x 12	3	47	3	1
G605051234	19,89	5 x 12	3	47	4	1
G605051236	18,22	5 x 12	3	47	6	1

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G605061433	18,46	6 x 13	3	48	3	1
G605061436	20,35	6 x 13	3	48	6	1
G605061861	22,97	6 x 16	6	50	1	1
G605061863	20,91	6 x 16	6	50	3	1
G605061864	25,02	6 x 16	6	50	4	1
G605061866	22,97	6 x 16	6	50	6	1
G605082061	29,56	8 x 20	6	65	1	1
G605082063	26,79	8 x 20	6	65	3	1
G605082064	32,14	8 x 20	6	65	4	1
G605082066	29,56	8 x 20	6	65	6	1
G6050102061	34,05	10 x 20	6	65	1	1
G6050102063	30,89	10 x 20	6	65	3	1
G6050102064	37,08	10 x 20	6	65	4	1
G6050102066	34,05	10 x 20	6	65	6	1
G6050122561	46,06	12 x 25	6	70	1	1
G6050122563	41,89	12 x 25	6	70	3	1
G6050122564	50,21	12 x 25	6	70	4	1
G6050122566	46,06	12 x 25	6	70	6	1
G6050162561	61,35	16 x 25	6	70	1	1
G6050162563	55,78	16 x 25	6	70	3	1
G6050162564	66,93	16 x 25	6	70	4	1
G6050162566	61,35	16 x 25	6	70	6	1



CARBIDE ROTARY BURRS WITH EXTENDED SHANK - WRC TYPE

WODEX



ITEM: G6161

Cylinder-shaped with spherical head. Suitable for machining all materials of various resistances. Ideal for working surfaces, profiles and in pre-processing millworking on carryover welds.

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G616161863	26,97	6 x 18	6	150	3	1
G616161864	33,23	6 x 18	6	150	4	1
G616161866	29,30	6 x 18	6	150	6	1
G616181863	33,68	8 x 20	6	150	3	1
G616181864	39,81	8 x 20	6	150	4	1
G616181866	38,69	8 x 20	6	150	6	1

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G6161102063	41,21	10 x 20	6	150	3	1
G6161102064	48,62	10 x 20	6	150	4	1
G6161102066	44,98	10 x 20	6	150	6	1
G6161122563	53,12	12 x 25	6	150	3	1
G6161122564	62,64	12 x 25	6	150	4	1
G6161122566	60,77	12 x 25	6	150	6	1



CARBIDE ROTARY BURRS - RBF TYPE

WODEX



ITEM: G6070

Tree-shaped. Suitable for machining all materials of various resistances. Ideal for machining narrow profiles.

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G607031433	11,09	3 x 13	3	40	3	1
G607031434	13,15	3 x 13	3	40	4	1
G607031436	12,10	3 x 13	3	40	6	1
G607041033	15,50	4 x 10	3	45	3	1
G607041034	18,46	4 x 10	3	45	4	1
G607041036	16,99	4 x 10	3	45	6	1
G607041461	26,89	4 x 14	6	50	1	1
G607041463	24,29	4 x 14	6	50	3	1
G607041464	29,08	4 x 14	6	50	4	1
G607041466	26,89	4 x 14	6	50	6	1
G607051233	16,90	5 x 12	3	47	3	1
G607051234	20,21	5 x 12	3	47	4	1
G607051236	18,56	5 x 12	3	47	6	1
G607061433	17,60	6 x 13	3	48	3	1
G607061434	21,07	6 x 13	3	48	4	1
G607061436	19,41	6 x 13	3	48	6	1
G607061861	26,89	6 x 18	6	50	1	1
G607061863	24,29	6 x 18	6	50	3	1

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G607061864	29,08	6 x 18	6	50	4	1
G607061866	26,89	6 x 18	6	50	6	1
G607081661	28,69	8 x 20	6	65	1	1
G607081663	26,10	8 x 20	6	65	3	1
G607081664	31,29	8 x 20	6	65	4	1
G607081666	28,69	8 x 20	6	65	6	1
G6070102061	33,16	10 x 20	6	65	1	1
G6070102063	30,18	10 x 20	6	65	3	1
G6070102064	36,14	10 x 20	6	65	4	1
G6070102066	33,16	10 x 20	6	65	6	1
G6070122561	40,08	12 x 25	6	70	1	1
G6070122563	36,46	12 x 25	6	70	3	1
G6070122564	43,77	12 x 25	6	70	4	1
G6070122566	40,08	12 x 25	6	70	6	1
G6070162861	57,29	16 x 30	6	75	1	1
G6070162863	52,10	16 x 30	6	75	3	1
G6070162864	62,46	16 x 30	6	75	4	1
G6070162866	57,29	16 x 30	6	75	6	1



CARBIDE ROTARY BURRS - SPG TYPE

WODEX



ITEM: G6090

Ogive-shaped. Suitable for machining all materials of various resistances. Ideal for machining narrow profiles and acute angles.

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G609031433	10,70	3 x 13	3	40	3	1
G609031434	12,75	3 x 13	3	40	4	1
G609031436	11,71	3 x 13	3	40	6	1
G609041033	13,36	4 x 10	3	45	3	1
G609041034	15,97	4 x 10	3	45	4	1
G609041036	14,72	4 x 10	3	45	6	1
G609041461	25,79	4 x 14	6	50	1	1
G609041463	23,51	4 x 14	6	50	3	1
G609041464	28,14	4 x 14	6	50	4	1
G609041466	25,79	4 x 14	6	50	6	1
G609051233	15,41	5 x 12	3	47	3	1
G609051236	16,90	5 x 12	3	47	6	1
G609061433	15,97	6 x 13	3	48	3	1
G609061434	19,10	6 x 13	3	48	4	1
G609061436	17,60	6 x 13	3	48	6	1
G609061861	25,79	6 x 18	6	50	1	1
G609061863	23,51	6 x 18	6	50	3	1
G609061864	28,14	6 x 18	6	50	4	1

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G609061866	25,79	6 x 18	6	50	6	1
G609081661	26,25	8 x 20	6	65	1	1
G609081663	23,86	8 x 20	6	65	3	1
G609081664	28,58	8 x 20	6	65	4	1
G609081666	26,25	8 x 20	6	65	6	1
G6090102061	32,62	10 x 20	6	65	1	1
G6090102063	29,62	10 x 20	6	65	3	1
G6090102064	35,59	10 x 20	6	65	4	1
G6090102066	32,62	10 x 20	6	65	6	1
G6090122561	38,51	12 x 25	6	70	1	1
G6090122563	34,98	12 x 25	6	70	3	1
G6090122564	41,94	12 x 25	6	70	4	1
G6090122566	38,51	12 x 25	6	70	6	1
G6090162861	56,11	16 x 30	6	75	1	1
G6090162863	51,06	16 x 30	6	75	3	1
G6090162864	61,23	16 x 30	6	75	4	1
G6090162866	56,11	16 x 30	6	75	6	1



CARBIDE ROTARY BURRS - SKM TYPE

WODEX



ITEM: G6110

Pointed cone shape. Suitable for machining all materials of various resistances. Ideal for machining narrow profiles, acute angles and surfaces.

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	α°	
G611031433	11,09	3 x 11	3	40	3	12	1
G611031434	13,15	3 x 11	3	40	4	12	1
G611031436	12,10	3 x 11	3	40	6	12	1
G611041033	13,36	4 x 10	3	45	3	19	1
G611041034	15,97	4 x 10	3	45	4	19	1
G611041036	14,62	4 x 10	3	45	6	19	1
G611041261	21,52	4 x 14	6	50	1	13	1
G611041263	19,59	4 x 14	6	50	3	13	1
G611041264	23,51	4 x 14	6	50	4	13	1
G611041266	21,52	4 x 14	6	50	6	13	1
G611051233	14,45	5 x 12	3	47	3	20	1
G611051234	17,39	5 x 12	3	47	4	20	1
G611051236	15,88	5 x 12	3	47	6	20	1
G611061433	15,50	6 x 13	3	48	3	23	1
G611061434	18,56	6 x 13	3	48	4	23	1
G611061436	16,99	6 x 13	3	48	6	23	1
G611061861	21,52	6 x 18	6	50	1	16	1
G611061863	19,59	6 x 18	6	50	3	16	1

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	α°	
G611061864	23,51	6 x 18	6	50	4	16	1
G611061866	21,52	6 x 18	6	50	6	16	1
G611081561	20,35	8 x 15	6	60	1	20	1
G611081563	18,46	8 x 15	6	60	3	20	1
G611081564	22,06	8 x 15	6	60	4	20	1
G611081566	20,35	8 x 15	6	60	6	20	1
G6110101861	24,21	10 x 20	6	65	1	25	1
G6110101863	22,06	10 x 20	6	65	3	25	1
G6110101864	26,50	10 x 20	6	65	4	25	1
G6110101866	24,21	10 x 20	6	65	6	25	1
G6110122061	33,08	12 x 25	6	70	1	25	1
G6110122063	30,10	12 x 25	6	70	3	25	1
G6110122064	36,07	12 x 25	6	70	4	25	1
G6110122066	33,08	12 x 25	6	70	6	25	1
G6110162261	47,32	16 x 25	6	70	1	32	1
G6110162263	42,97	16 x 25	6	70	3	32	1
G6110162264	51,47	16 x 25	6	70	4	32	1
G6110162266	47,32	16 x 25	6	70	6	32	1



CARBIDE ROTARY BURRS - KEL TYPE

WODEX



ITEM: G6130

Cone-shaped with rounded point. Suitable for machining all materials of various resistances.

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	α°	
G613031434	13,15	3 x 14	3	40	4	6	1
G613031436	12,10	3 x 14	3	40	6	6	1
G613041433	15,17	4 x 14	3	49	3	10	1
G613041434	18,22	4 x 14	3	49	4	10	1
G613041436	16,73	4 x 14	3	49	6	10	1
G613041461	22,97	4 x 14	6	50	1	10	1
G613041463	20,91	4 x 14	6	50	3	10	1
G613041464	27,51	4 x 14	6	50	4	10	1
G613041466	22,97	4 x 14	6	50	6	10	1
G613051633	16,99	5 x 16	3	51	3	10	1
G613051634	20,44	5 x 16	3	51	4	10	1
G613051636	18,71	5 x 16	3	51	6	10	1
G613062033	18,96	6 x 20	3	55	3	10	1
G613062034	22,78	6 x 20	3	55	4	10	1
G613062036	20,91	6 x 20	3	55	6	10	1
G613062061	22,97	6 x 20	6	50	1	10	1
G613062063	20,91	6 x 20	6	50	3	10	1
G613062064	27,51	6 x 20	6	50	4	10	1

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	α°	
G613062066	22,97	6 x 20	6	50	6	10	1
G613082461	32,62	8 x 20	6	65	1	14	1
G613082463	29,62	8 x 20	6	65	3	14	1
G613082464	35,83	8 x 20	6	65	4	14	1
G613082466	32,62	8 x 20	6	65	6	14	1
G6130102861	40,40	10 x 20	6	65	1	18	1
G6130102863	36,77	10 x 20	6	65	3	18	1
G6130102864	44,08	10 x 20	6	65	4	18	1
G6130102866	40,40	10 x 20	6	65	6	18	1
G6130123061	48,22	12 x 30	6	75	1	18	1
G6130123063	43,92	12 x 30	6	75	3	18	1
G6130123064	52,73	12 x 30	6	75	4	18	1
G6130123066	48,22	12 x 30	6	75	6	18	1
G6130163861	72,98	16 x 30	6	75	1	25	1
G6130163863	66,30	16 x 30	6	75	3	25	1
G6130163864	79,51	16 x 30	6	75	4	25	1
G6130163866	72,98	16 x 30	6	75	6	25	1



CARBIDE ROTARY BURRS - TRE TYPE

WODEX 



ITEM: G6150

Drop-shaped, suitable for machining all materials of various resistances.

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G61503533	11,09	3 x 7	3	40	3	1
G61503534	13,15	3 x 7	3	40	4	1
G61503536	12,10	3 x 7	3	40	6	1
G61504633	13,68	4 x 7	3	42	3	1
G61504634	16,43	4 x 7	3	42	4	1
G61504636	15,02	4 x 7	3	42	6	1
G61504661	24,43	4 x 7	6	50	1	1
G61504663	22,25	4 x 7	6	50	3	1
G61504664	26,64	4 x 7	6	50	4	1
G61504666	24,43	4 x 7	6	50	6	1
G61505833	15,17	5 x 8	3	43	3	1
G61505834	18,22	5 x 8	3	43	4	1
G61505836	16,73	5 x 8	3	43	6	1
G61506933	16,43	6 x 10	3	45	3	1
G61506934	19,59	6 x 10	3	45	4	1
G61506936	17,91	6 x 10	3	45	6	1
G61506961	24,43	6 x 10	6	50	1	1
G61506963	22,25	6 x 10	6	50	3	1

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G61506964	26,64	6 x 10	6	50	4	1
G61506966	24,43	6 x 10	6	50	6	1
G615081461	27,20	8 x 13	6	59	1	1
G615081463	24,76	8 x 13	6	59	3	1
G615081464	29,62	8 x 13	6	59	4	1
G615081466	27,20	8 x 13	6	59	6	1
G6150101661	31,10	10 x 16	6	61	1	1
G6150101663	28,29	10 x 16	6	61	3	1
G6150101664	33,95	10 x 16	6	61	4	1
G6150101666	31,10	10 x 16	6	61	6	1
G6150122161	38,99	12 x 20	6	66	1	1
G6150122163	35,43	12 x 20	6	66	3	1
G6150122164	42,50	12 x 20	6	66	4	1
G6150122166	38,99	12 x 20	6	66	6	1
G6150162561	56,57	16 x 25	6	70	1	1
G6150162563	51,47	16 x 25	6	70	3	1
G6150162564	61,75	16 x 25	6	70	4	1
G6150162566	56,57	16 x 25	6	70	6	1



CARBIDE ROTARY BURRS FOR DIES

WODEX 

ITEM: WX7480

Cylinder-shaped with cutting on the perimeter and in the head.
Suitable for machining dies and moulds.

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G617016506	19,16	1 x 6	3	50	6	1
G61701,58506	17,25	1.5 x 8	3	50	6	1

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G6170210506	11,50	2 x 10	3	50	6	1
G6170210656	12,77	2 x 10	3	65	6	1



CARBIDE ROTARY BURRS FOR DIES

WODEX 

ITEM: WX7480

Cylinder-shaped with cutting on the perimeter and in the head.
Suitable for machining dies and moulds.

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G61752,512506	11,11	2.5 x 12	3	50	6	1
G61752,512656	12,64	2.5 x 12	3	65	6	1

Tech. Code	GR61 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut	
G6175314506	10,73	3 x 14	3	50	6	1
G6175314656	12,25	3 x 14	3	65	6	1



CARBIDE ROTARY BURRS - ZYAS TYPE - IN KIT

WODEX 



ITEM: G6015

Set of 5 rotary burrs, featuring G6010 6mm cut 6 shank. Cylinder-shaped with perimeter and head cutting performance. Suitable for machining all materials of various resistances. Ideal for deburring operations

Tech. Code		G6015BOX1
GR61	Euro	150,66
Description	Set of D 4 - 6 - 8 - 10 - 12	
Pcs.	5	
	1	



CARBIDE ROTARY BURRS - WRC TYPE - IN KIT

WODEX 



ITEM: WX7456/S5

Set of 5 rotary burrs, featuring G6050 6mm cut 6 shank. Cylinder-shaped with spherical head. Suitable for machining all materials of various resistances. Ideal for working surfaces, profiles and in pre-processing millwork on carryover welds.

Tech. Code		G6055BOX1
GR61	Euro	150,66
Description	Set of D 4 - 6 - 8 - 10 - 12	
Pcs.	5	
	1	



CARBIDE ROTARY BURRS - RBF TYPE - IN KIT

WODEX 



ITEM: WX7459/S5

Set of 5 rotary burrs, featuring G6070 6mm cut 6 shank. Tree-shaped. Suitable for machining all materials of various resistances. Ideal for machining narrow profiles.

Tech. Code		G6075BOX1
GR61	Euro	150,66
Description	Set of D 4 - 6 - 8 - 10 - 12	
Pcs.	5	
	1	



Related products



PNEUMATIC DIE GRINDERS

Tech. Code	Collet Ø mm	Power Kw	Rpm max.
L130106	6	0.3	25,000



The products are available in chapter L



CARBIDE ROTARY BURRS PFERD – TECHNICAL NOTES

Cut		Steel and steel casting	Stainless steel	Non ferrous materials	Cast iron	Plastic and others
Alu		-	-	N	-	H
3		-	-	N	K	-
3 PLUS		P	-	-	K	-
4		-	M	N	-	-
5		P	M	N	-	-

	Materials groups	Machining type	Cutting	Cutting speed
P	Carbon and construction steel. Steel used for tools, non-alloy steel, casehardened steel. Steel casting.	Coarse milling= high material removal	3	450 - 600 m/min
P	Carbon and construction steel. Steel used for tools, non-alloy steel, casehardened steel. Steel casting.	Coarse milling= high material removal	3 PLUS	450 - 600 m/min
P	Carbon and construction steel. Steel used for tools, non-alloy steel, casehardened steel. Steel casting.	Fine milling for ex. deburring	3	500 - 600 m/min
P	Tool steel, hardened and tempered steel, alloy steel with >35HRC mechanical resistance	Coarse milling= high material removal	3	250 - 350 m/min
P	Tool steel, hardened and tempered steel, alloy steel with >35HRC mechanical resistance	Coarse milling= high material removal	3 PLUS	250 - 350 m/min
P	Tool steel, hardened and tempered steel, alloy steel with >35HRC mechanical resistance	Coarse milling= high material removal	4	250 - 350 m/min
P	Tool steel, hardened and tempered steel, alloy steel with >35HRC mechanical resistance	Fine milling for ex. deburring	5	300 - 400 m/min
M	Austenitic and ferritic stainless steel.	Coarse milling= high material removal	3 PLUS	250 - 350 m/min
M	Austenitic and ferritic stainless steel.	Coarse milling= high material removal	4	250 - 350 m/min
M	Austenitic and ferritic stainless steel.	Fine milling for ex. deburring	5	350 - 450 m/min
N	Aluminum, Brass, Copper, Zinc alloys.	Coarse milling= high material removal	Alu	600 - 900 m/min
N	Aluminum, Brass, Copper, Zinc alloys.	Fine milling for ex. deburring	Alu	800 - 900 m/min
N	Bronze, Titanium and related alloys. Extremely hard aluminum alloys (Yes>12%).	Coarse milling= high material removal	3	250 - 350 m/min
N	Bronze, Titanium and related alloys. Extremely hard aluminum alloys (Yes>12%).	Coarse milling= high material removal	4	250 - 350 m/min
N	Bronze, Titanium and related alloys. Extremely hard aluminum alloys (Yes>12%).	Fine milling for ex. deburring	3	350 - 450 m/min
N	Nickel-based alloys. Cobalt-based alloys. Exotic material alloys in general.	Coarse milling= high material removal	3 PLUS	300 - 450 m/min
N	Nickel-based alloys. Cobalt-based alloys. Exotic material alloys in general.	Coarse milling= high material removal	4	300 - 450 m/min
N	Nickel-based alloys. Cobalt-based alloys. Exotic material alloys in general.	Fine milling for ex. deburring	5	350 - 500 m/min
K	Gray cast iron. Spheroidal cast iron.	Coarse milling= high material removal	3	450 - 600 m/min
K	Gray cast iron. Spheroidal cast iron.	Coarse milling= high material removal	3 PLUS	450 - 600 m/min
K	Gray cast iron. Spheroidal cast iron.	Fine milling for ex. deburring	3	500 - 600 m/min
H	Fibre reinforced synthetic materials. Thermoplastic materials.	Coarse milling= high material removal	Alu	500 - 900 m/min
H	Fibre reinforced synthetic materials. Thermoplastic materials.	Fine milling for ex. deburring	Alu	500 - 900 m/min

CARBIDE ROTARY BURRS



ITEM: SKM

Pointed cone shape. Suitable for working all materials with different strengths. Ideal for working with narrow profiles, acute angles and surfaces.

Tech. Code	GR69 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut
G6270031134	25,67	3 x 11	3	41	4
G6270031135	26,23	3 x 11	3	41	5
G6270061333P	37,35	6 x 13	3	43	3P
G6270061335	35,90	6 x 13	3	43	5

Tech. Code	GR69 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut
G6270061863P	41,45	6 x 18	6	55	3P
G6270102063P	64,90	10 x 20	6	60	3P
G6270122563P	85,99	12 x 25	6	60	3P
G6270122564	91,04	12 x 25	6	60	4



**ITEM: ZYAS**

Cylinder-shaped with cutting on the perimeter and in the head. Suitable for working all materials with different strengths. Ideal for deburring work.

Tech. Code	GR69 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut
G6210021035	23,07	2 x 10	3	40	5
G6210031333P	19,01	3 x 13	3	43	3P
G6210031335	19,19	3 x 13	3	43	5
G6210061333P	33,72	6 x 13	3	43	3P
G6210061663P	38,21	6 x 16	6	55	3P
G6210061664	40,24	6 x 16	6	55	4
G6210082063	49,56	8 x 20	6	60	3
G6210082063P	43,98	8 x 20	6	60	3P
G6210082064	47,88	8 x 20	6	60	4

Tech. Code	GR69 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut
G6210102063	52,82	10 x 20	6	60	3
G6210102063P	52,82	10 x 20	6	60	3P
G6210102064	56,74	10 x 20	6	60	4
G621012256ALU	74,49	12 x 25	6	65	ALU
G6210122563	74,64	12 x 25	6	65	3
G6210122563P	74,64	12 x 25	6	65	3P
G6210122564	78,90	12 x 25	6	65	4
G6210162563P	83,64	16 x 25	6	65	3P
G6210162564	91,78	16 x 25	6	65	4

**ITEM: KUD**

Sphere-shaped. Suitable for working all materials with different strengths. Ideal for machining profiles, deburring internal holes and in pre-processing millworking on fillet weld.

Tech. Code	GR69 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut
G6230030233P	20,49	3 x 2	3	33	3P
G6230030234	24,44	3 x 2	3	33	4
G6230030235	19,33	3 x 2	3	33	5
G6230040333P	32,27	4 x 3	3	34	3P
G6230040334	31,01	4 x 3	3	34	4
G6230040335	31,21	4 x 3	3	34	5
G6230060533P	27,27	6 x 5	3	35	3P
G6230080763	33,04	8 x 7	6	47	3

Tech. Code	GR69 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut
G6230080763P	29,95	8 x 7	6	47	3P
G6230080764	31,34	8 x 7	6	47	4
G6230100964	37,83	10 x 9	6	49	4
G6230121063P	43,41	12 x 10.8	6	50	3P
G6230121064	46,41	12 x 10.8	6	50	4
G6230161463P	61,56	16 x 14.3	6	54	3P
G6230161464	66,19	16 x 14.3	6	54	4

**ITEM: WRC**

Cylinder-shaped with spherical head. Suitable for working all materials with different strengths. Ideal for machining surfaces, profiles, and in pre-processing millworking on fillet weld.

Tech. Code	GR69 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut
G6240031333P	21,47	3 x 13	3	43	3P
G6240031334	25,67	3 x 13	3	43	4
G6240031335	19,19	3 x 13	3	43	5
G6240061335	49,49	6 x 13	3	43	5
G6240061663P	36,94	6 x 16	6	55	3P
G6240082063	52,61	8 x 20	6	60	3
G6240082063P	41,58	8 x 20	6	60	3P

Tech. Code	GR69 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut
G6240082064	45,91	8 x 20	6	60	4
G6240102063P	51,51	10 x 20	6	60	3P
G6240102064	61,88	10 x 20	6	60	4
G624012256ALU	77,71	12 x 25	6	65	ALU
G6240122563	66,65	12 x 25	6	65	3
G6240122563P	66,65	12 x 25	6	65	3P
G6240162563P	94,50	16 x 25	6	65	3P

**ITEM: RBF**

TREE shape. Suitable for working all materials with different strengths. Ideal for working with narrow profiles.

Tech. Code	GR69 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut
G6250030735	23,07	3 x 7	3	37	5
G6250061333P	41,13	6 x 13	3	43	3P
G6250061335	39,85	6 x 13	3	43	5
G6250061863	42,78	6 x 18	6	55	3
G6250061863P	36,57	6 x 18	6	55	3P

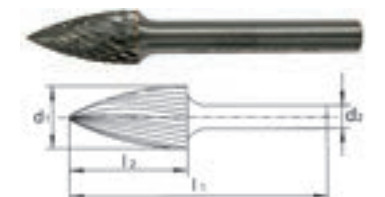
Tech. Code	GR69 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut
G6250082063P	51,29	8 x 20	6	60	3P
G6250102063	58,80	10 x 20	6	60	3
G6250102063P	58,80	10 x 20	6	60	3P
G6250122563	64,48	12 x 25	6	65	3
G6250122563P	64,48	12 x 25	6	65	3P

**ITEM: SPG**

Ogive-shaped. Suitable for working all materials with different strengths. Ideal for working with narrow profiles and acute angles.

Tech. Code	GR69 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut
G6260031335	23,52	3 x 13	3	43	5
G6260061334	28,29	6 x 13	3	43	4
G6260061863P	35,32	6 x 18	6	55	3P
G6260061864	36,94	6 x 18	6	55	4
G6260102063	50,66	10 x 20	6	60	3

Tech. Code	GR69 Euro	d1 x l2 mm	d2 mm	l1 mm	Cut
G6260102064	53,47	10 x 20	6	60	4
G6260122563	63,04	12 x 25	6	65	3
G6260122563P	63,04	12 x 25	6	65	3P
G6260122564	66,55	12 x 25	6	65	4
G6260163063P	90,16	16 x 30	6	70	3P





HSS ROTARY BURRS PFERD - TECHNICAL NOTES

Cut		Steel and steel casting	Stainless Steel	Non ferrous materials	Cast iron	Plastic materials and others
Alu		-	-	N	-	H
3		P	-	-	K	-

	Materials groups	Machining types	Cutting	Cutting speed
P	Structural steels, carbon steels, tool steels, not alloy steels, casehardened steels, steel castings	Coarse milling = high material removal	3	60 - 80 m/min
P	Structural steels, carbon steels, tool steels, not alloy steels, casehardened steels, steel castings	Fine milling for ex. deburring	3	80 - 100 m/min
M	Austenitic and ferritic stainless steel	Coarse milling = high material removal	1	60 - 80 m/min
M	Austenitic and ferritic stainless steel	Fine milling for ex. deburring	2	60 - 80 m/min
N	Aluminum, Copper, Brass, Zinc alloys	Coarse milling = high material removal	Alu	200 - 300 m/min
K	Grey cast iron. Spheroidal cast iron	Fine milling for ex. deburring	3	200 - 250 m/min
K	Grey cast iron. Spheroidal cast iron	Coarse milling = high material removal	3	60 - 80 m/min
H	Thermoplastics and duroplastics fibre-reinforced, rubber, wood synthetic materials	Fine milling for ex. deburring	2	80 - 100 m/min
H	Thermoplastics and duroplastics fibre-reinforced, rubber, wood synthetic materials	Coarse milling = high material removal	Alu	200 - 300 m/min

HSS ROTARY BURRS



ITEM: A-ST

Cylinder-shaped with cutting on the perimeter and in the head. Suitable for machining materials with low mechanical strength. Ideal for deburring work.

Tech. Code	GR69 Euro	Dim d1 x l2 mm	Shank D2 mm	Dim l1 mm	Cut Z	
G6310061663	15,76	6 x 16	6	60	3 5	
G6310082063	18,42	8 x 20	6	60	3 5	
G6310102063	29,48	10 x 20	6	60	3 5	

Tech. Code	GR69 Euro	Dim d1 x l2 mm	Shank D2 mm	Dim l1 mm	Cut Z	
G6310122563	33,92	12 x 25	6	65	3 5	
G6310162563	43,53	16 x 25	6	65	3 5	



ITEM: C

Cylinder-shaped with spherical head. Suitable for machining materials with low mechanical strength. Ideal for machining surfaces, profiles, and in pre-processing millworking on fillet weld.

Tech. Code	GR69 Euro	Dim d1 x l2 mm	Shank D2 mm	Dim l1 mm	Cut Z	
G6320061663	15,76	6 x 16	6	60	3 5	
G6320082063	18,42	8 x 20	6	60	3 5	

Tech. Code	GR69 Euro	Dim d1 x l2 mm	Shank D2 mm	Dim l1 mm	Cut Z	
G6320102063	29,60	10 x 20	6	60	3 5	
G6320122563	33,92	12 x 25	6	65	3	



ITEM: F

Sphere-shaped. Suitable for machining materials with low mechanical strength. Ideal for machining profiles, deburring internal holes and in pre-processing millworking on fillet weld.

Tech. Code	GR69 Euro	Dim d1 x l2 mm	Shank D2 mm	Dim l1 mm	Cut Z	
G6330060563	15,76	6 x 5	6	55	3 5	
G6330080763	26,20	8 x 7	6	55	3 5	
G6330100963	30,54	10 x 9	6	49	3 5	

Tech. Code	GR69 Euro	Dim d1 x l2 mm	Shank D2 mm	Dim l1 mm	Cut Z	
G6330121063	36,59	12 x 10	6	51	3 5	
G6330161463	43,53	16 x 14	6	54	3 5	



HSS ROTARY BURRS

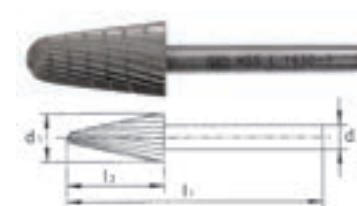


ITEM: L

Rounded cone shape. Suitable for machining materials with low mechanical strength. Ideal for working with narrow profiles.

Tech. Code	GR69 Euro	Dim d1 x l2 mm	Shank D2 mm	Dim l1 mm	Cut Z	
G6340102063	28,81	10 x 20	6	60	3 5	
G6340122563	32,18	12 x 25	6	65	3 5	

Tech. Code	GR69 Euro	Dim d1 x l2 mm	Shank D2 mm	Dim l1 mm	Cut Z	
G6340163063	43,53	16 x 30	6	70	3 5	

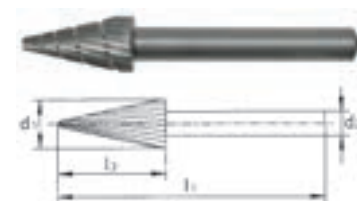


ITEM: G

Pointed cone shape. Suitable for machining materials with low mechanical strength. Ideal for working with narrow profiles, acute angles and surfaces.

Tech. Code	GR69 Euro	Dim d1 x l2 mm	Shank D2 mm	Dim l1 mm	Cut Z	
G6350061863	15,76	6 x 18	6	60	3 5	
G6350102063	26,20	10 x 20	6	60	3 5	

Tech. Code	GR69 Euro	Dim d1 x l2 mm	Shank D2 mm	Dim l1 mm	Cut Z	
G6350122563	33,92	12 x 25	6	65	3 5	



ITEM: K

Ogive-shaped. Suitable for machining materials with low mechanical strength. Ideal for working with narrow profiles and acute angles.

Tech. Code	GR69 Euro	Dim d1 x l2 mm	Shank D2 mm	Dim l1 mm	Cut Z	
G6360061863	15,76	6 x 18	6	60	3 5	
G6360102063	30,54	10 x 20	6	60	3 5	

Tech. Code	GR69 Euro	Dim d1 x l2 mm	Shank D2 mm	Dim l1 mm	Cut Z	
G6360122563	32,49	12 x 25	6	65	3 5	
G6360163063	43,53	16 x 30	6	70	3 5	



Related products

WRK GLOVES IN CONTINUOUS POLYESTER WIRE COATED IN POLYURETHANE

Tech. Code	Size	EU size
K23107	M	7
K23108	L	8
K23109	XL	9



The products are available in chapter K



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GRINDING WHEELS

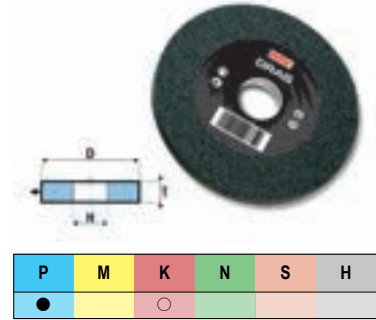
WRK

A

ITEM: G7200

Grinding wheels in grey aluminium oxide. Suitable machining steels, ferrous material in general.

Tech. Code		G720015036	G720015060	G720020036	G720020060
GR68	Euro	33,26	33,26	53,34	53,34
D x T x H	mm	150 x 20 x 32/20	150 x 20 x 32/20	200 x 25 x 32/20	200 x 25 x 32/20
Specification		1A36-P5V	1A60-P5V	1A36-P5V	1A60-P5V



P	M	K	N	S	H
●	●	○	○	○	○

A

ITEM: G7208

Grinding wheels in white Aluminium oxide. Suitable for machining steels and HSS steels, ferrous material in general and hard bronze.

Tech. Code		G7208150202046	G7208150202060	G7208150252046	G7208150252060
GR68	Euro	36,42	36,42	42,09	42,09
D x T x H	mm	150 x 20 x 32/20	150 x 20 x 32/20	150 x 25 x 32/20	150 x 25 x 32/20
Specification		8A46-M5V	8A60-M5V	8A46-M5V	8A60-M5V



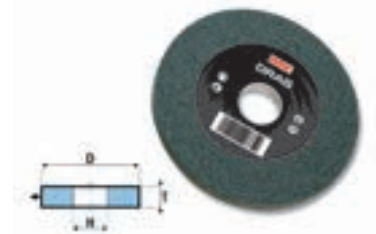
P	M	K	N	S	H
●	●	○	○	○	○

SiC

ITEM: G7204

Grinding wheels in green Silicon carbide. Harder and sharper than aluminium oxide. Suitable for machining metal carbides, brass and soft bronze, copper, aluminium and its alloys and non-metal materials.

Tech. Code		G7204150202080	G7204150252080	G7204200202080	G7204200252080
GR68	Euro	35,66	40,64	52,18	60,25
D x T x H	mm	150 x 20 x 32/20	150 x 25 x 32/20	200 x 20 x 32/20	200 x 25 x 32/20
Specification		2C80-K5V	2C80-K5V	2C80-K5V	2C80-K5V



P	M	K	N	S	H
●	●	○	●	●	●

GRINDING WHEELS

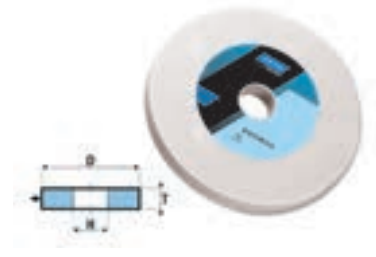
NORTON
SINCE 1888

A

ITEM: G7210

Aluminium oxide. Suitable for machining steels and HSS steels, ferrous material in general and hard bronze. Friable. Cold cutting. Abrasive 38A, white colour.

Tech. Code		G72101502020B	G72101502032	G72101502520	G72102002032
GR69	Euro	39,30	39,30	41,42	43,45
D x T x H	mm	150 x 20 x 32	150 x 20 x 32	150 x 25 x 20	200 x 20 x 32
Specification		38A46-MVS	38A60-NVS	38A60-MVS	38A60-NVS



P	M	K	N	S	H
●	●	○	○	○	○

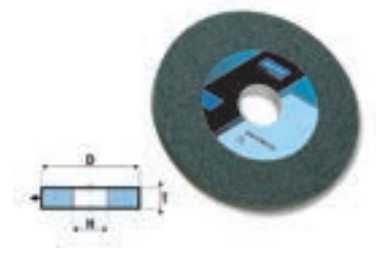
SiC

ITEM: G7205

Silicon carbide. Harder and sharper than aluminium oxide. Suitable for machining metal carbides, brass and soft bronze, copper, aluminium and its alloys and non-metal materials.

Abrasive 39C, green colour.

Tech. Code		G72051502020	G72051502520	G72052002020	G72052002520	G72052503232
GR69	Euro	35,95	41,54	56,60	63,50	95,89
D x T x H	mm	150 x 20 x 20	150 x 25 x 20	200 x 20 x 20	200 x 25 x 20	250 x 32 x 32
Specification		39C80-KVS	39C80-KVS	39C80-KVS	39C80-KVS	39C80-KVS



P	M	K	N	S	H
●	●	○	●	●	●

GRINDING WHEELS

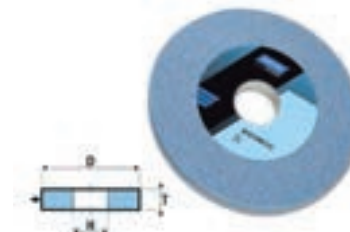
NORTON
SANTOCOLOR

C

ITEM: G7220

High concentration SG Norton ceramic aluminum oxide. Self-restoring microcrystalline structure. Outstanding cutting performances and long service life. Suitable for very hard steels. Abrasive 35G, light blue colour.

Tech. Code		G72201501032	G72201501632
GR69	Euro	49,71	54,29
D x T x H	mm	150 x 10 x 32	150 x 16 x 32
Specifications		3SG60-LVX	3SG60-LVX
		2	2



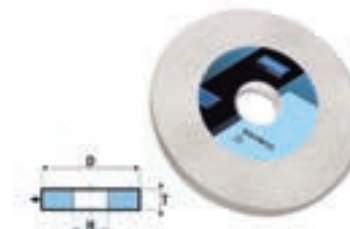
P	M	K	N	S	H
●	●	○	●	○	○

C

ITEM: G7230

Next generation Quanton Norton + Vitrium ceramic abrasive. Minimum clogging and significantly reduced heat development. Unmatched removal performances and long life service up to 35%. Highly versatile product. First choice for roughing and finishing operations on HSS steels. Abrasive 2NQ + VITRIUM 3, ivory colour.

Tech. Code		G72301801332	G72302002032
GR69	Euro	58,55	70,33
D x T x H	mm	180 x 13 x 32	200 x 20 x 32
Specifications		2NQ46IVS3	2NQ60IVS3
		2	2



P	M	K	N	S	H
●	●	○	●	○	○

CUP GRINDING WHEELS

NORTON
SANTOCOLOR

A

ITEM: G7305

Aluminum oxide. Suitable for machining steels and hardened steels. Machine use for surface grinding. Abrasive 38A, white colour.

Tech. Code		G7305180AA	G7305200AA	G7305200BB
GR69	Euro	94,95	128,97	128,97
D x T x H	mm	180 x 76 x 78	200 x 82 x 78	200 x 82 x 78
Specification		38A36-JVS	38A36-HVS3	38A46-HVS3
		2	2	2



P	M	K	N	S	H
●	●	○	○	○	○

A

ITEM: G7310

Aluminum oxide. Suitable for machining SR steel. Use on universal sharpeners. Abrasive 38A, white colour.

Tech. Code		G7310100A60	G7310100A80
GR69	Euro	46,23	46,23
D x T x H	mm	100 x 50 x 20	100 x 50 x 20
Specification		38A60-MVS	38A80-LVS
		2	2



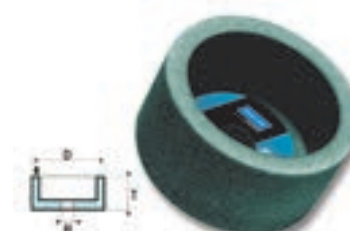
P	M	K	N	S	H
●	●	○	○	○	○

SiC

ITEM: G7315

Silicon carbide. Suitable for machining metal carbides. Use on universal sharpeners. Abrasive 39C, green colour.

Tech. Code		G7315100CBO
GR69	Euro	48,91
D x T x H	mm	100 x 50 x 20
Specification		39C80-JVS
		2



P	M	K	N	S	H
●	●	○	○	○	○

GRINDING SEGMENTS

NORTON
abrasive

A

ITEM: G7405

Aluminum oxide. SE shape. Suitable for working hardened steels.
Abrasive 38A, white colour.

Tech. Code		G7405A46VS3
GR69	Euro	8,64
a x c x b	mm	50 x 45 x 16
Length	mm	90
Specification		38A46HVS3
		4



P	M	K	N	S	H
●	●	●	●	●	●

C

ITEM: G7410

High-performance ceramic oxide. SE shape. Suitable for machining steel and hardened steel. Machine use for surface grinding.
Abrasive 2NQ, ivory colour.

Tech. Code		G7410NQ46VS3
GR69	Euro	12,11
a x c x b	mm	50 x 45 x 16
Length	mm	90
Specification		2NQ46GVS3
		4



P	M	K	N	S	H
●	●	●	●	●	●

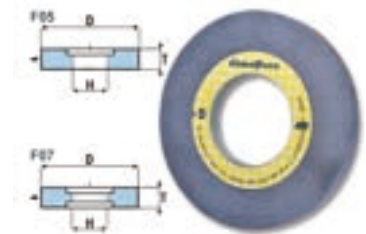
GRINDING WHEELS FOR FLAT SURFACE RECTIFYING PROCESSING

NORTON
abrasive

ITEM: GLOBAL FORCE

G7440P205 - Open, porous structure. For hard steel, superior finishing
G7440P255 - Open, porous structure. Universal use for steel up to 50-55 Rockwell
G7440P305 - Medium structure, non-porous grinding wheel.
Suitable for medium-mild steel and in the event of interrupted cutting
G7440P357 - Open, porous structure. Universal use for steel up to 50-55 Rockwell

Tech. Code		G7440P205	G7440P255	G7440P305	G7440P357
GR69	Euro	375,66	525,39	525,39	734,91
D x T x H	mm	355 x 50 x 127	406 x 50 x 127	406 x 50 x 127	406 x 76 x 127
Specification		GF54E12VXPM	GF46F12VXPC	GF46IVX	GF46F12VXPC
Shape		05	05	05	07



P	M	K	N	S	H
●	●	●	○	○	○

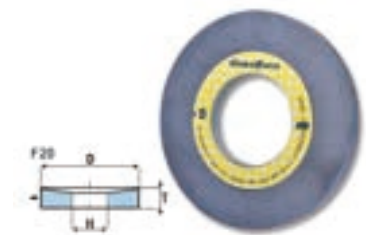
GRINDING WHEELS FOR EXTERNAL ROUND SURFACE RECTIFYING PROCESSING

NORTON
abrasive

ITEM: GLOBAL FORCE

G7450TE2020 - For mild steel
G7450TE2520 - For medium and hard steel up to 50-55 Rockwell
G7450P3020 - Universal version, fit for a wide range of materials
G7450P3540 - For medium and hard steel up to 50-55 Rockwell

Tech. Code		G7450TE2020	G7450TE2520	G7450P3020	G7450P3540
GR69	Euro	(216,46)	(290,91)	(388,85)	(487,47)
D x T x H	mm	300 x 40 x 127	355 x 40 x 127	406 x 40 x 127	406 x 50 x 127
Specification		GF60-MVX	GF60-LVX	GF60-KVX	GF60-LVX
Shape		20	20	20	20



P	M	K	N	S	H
●	●	●	○	○	○

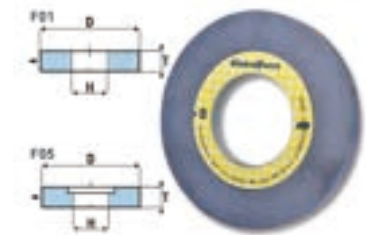
SPECIFIC GRINDING WHEELS FOR RECT. PROCESSING " JONES AND SHIPMAN"

NORTON
abrasive

ITEM: GLOBAL FORCE

G7460JS2005 - Fit for mild steel, medium structure, superior finishing
G7460JS2501 - High-porosity fine grain grinding wheel, high removal capacity and good surface finishing

Tech. Code		G7460JS2005	G7460JS2501
GR69	Euro	93,37	113,02
D x T x H	mm	180 x 20 x 31,75	200 x 20 x 31,75
Specification		3SG60JVS	3SG60GVSPF
Shape		05	01
		2	2



P	M	K	N	S	H
●	●	●	○	○	○

GRINDING WHEEL DRESSERS

ITEM: G7710

For dressing and sharpening. With a sturdy wooden handle. Stainless steel rolls.

Tech. Code		G771036	G771055	G7711R36	G7711R55
GR69	Euro	66,30	91,70	27,70	43,30
Wheel ø	mm	36	55	36	55
Length	mm	285	435	-	-
Toothed wheels	n°	3	4	3	4
Spare part		-	-	Wheel Ø36	Wheel Ø55



SILICON CARBIDE DRESSER STICKS

ITEM: 37C

For conventional grinding wheels. Round section.
Dark grey colour.

Tech. Code		G761020200C30	G761025200C30
GR69	Euro	17,33	18,39
Shape		●	●
D x L	mm	20 x 200	25 x 200
Specification		37C30-TV	37C30-TV
		10	10



ALUMINUM OXIDE ABRASIVE STONES

ITEM: 38A

White corundum abrasive stones ideal for cleaning diamond and CBN wheels. Placed with a slight pressure on the wheels, they allow cleaning of the same while keeping the cut constant and uniform. The 320 grit stone is suitable for very fine grit wheels, up to a maximum of 76 grit. For coarser grits it is advisable to use the 220 grit stone.

Tech. Code		G76150220	G76150320
GR69	Euro	10,39	11,44
Shape		■	■
Dimension	mm	13 x 25 x 150	13 x 25 x 150
Specification		38A220	38A320
		10	10



DIAMOND DRESSERS

ITEM: G7620

Single diamond. Suitable for all types of conventional abrasives.

Tech. Code		G76200508	G762003310	G762010010	G762005012
GR69	Euro	137,83	119,98	149,29	137,83
Kt		0.50	0.33	1.00	0.50
Shank	mm	8	10	10	12



DIAMOND MULTI-TIPPED DRESSER

ITEM: G7630

Multi-tipped diamond dresser.
Dark grey colour.

Tech. Code		G7630258
GR69	Euro	224,82
Specification		Multi tipped diamond, 8 x 11 conic shank MK1

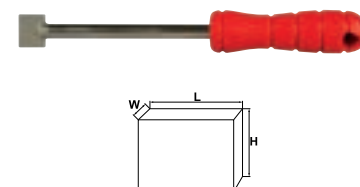


MANUAL DIAMOND DRESSERS

ITEM: G7640

Manual diamond dressing tool suitable for most bench wheels. The agglomerated diamond granules inside the plate ensure constant wear.

Tech. Code		G76402015A
GR69	Euro	(97,65)
L x H x W	mm	20 x 15 x 4,5
Carat	Kr	4



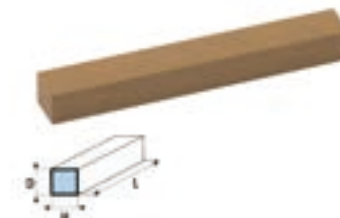
**ITEM: G7505**

Impregnation procedure with special oils. Homogeneous agglomeration, uniform hardness, dimensional accuracy. Suitable for sharpening and touch-up deburring works. Square section.

Tech. Code	G750513FF46	G750516MF56	G750519FF66	G750519MF66
GR69	Euro	10,29	10,82	11,91
Shape	■	■	■	■
D x H x L mm	13 x 13 x 150	16 x 16 x 150	19 x 19 x 150	19 x 19 x 150
Specification	FF-46	MF-56	FF-66	MF-66
	5	5	5	5

FF = Brick color fine grain

MF = Brown medium grain



P	M	K	N	S	H
○	○	○	○	○	○

**ITEM: G7510**

Impregnation procedure with special oils. Homogeneous agglomeration, uniform hardness, dimensional accuracy. Suitable for sharpening and touch-up deburring works. Triangular section.

Tech. Code	G751010FF136	G751010MF136	G751013FF146	G751013MF146	G751016FF156	G751016MF156
GR69	Euro	10,82	10,82	11,33	11,33	11,91
Shape	▲	▲	▲	▲	▲	▲
D x H x L mm	10 x 10 x 150	10 x 10 x 150	13 x 13 x 150	13 x 13 x 150	16 x 16 x 150	16 x 16 x 150
Specification	FF-136	MF-136	FF-146	MF-146	FF-156	MF-156
	5	5	5	5	5	5

FF = Brick color fine grain

MF = Brown medium grain



P	M	K	N	S	H
○	○	○	○	○	○

**ITEM: G7515**

Impregnation procedure with special oils. Homogeneous agglomeration, uniform hardness, dimensional accuracy. Suitable for sharpening and touch-up deburring works: Rectangular section.

Tech. Code	G75150625FB14	G75150625MB14	G75151325FB24	G75151325MB24
GR69	Euro	9,88	9,88	10,41
Shape	■	■	■	■
D x H x L mm	6 x 25 x 100	6 x 25 x 100	13 x 25 x 100	13 x 25 x 100
Specification	FB-14	MB-14	FB-24	MB-24
	5	5	5	5

Tech. Code	G75151338MB26	G75151650MB36	G75152550FB8	G75152550MB8
GR69	Euro	15,37	16,32	27,63
Shape	■	■	■	■
D x H x L mm	13 x 38 x 150	16 x 50 x 150	25 x 50 x 200	25 x 50 x 200
Specification	MB-26	MB-36	FB-8	MB-8
	5	5	5	5



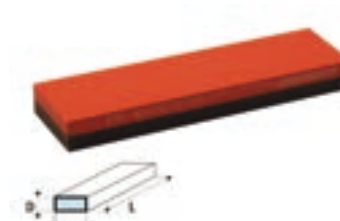
P	M	K	N	S	H
○	○	○	○	○	○

**ITEM: G7520**

Impregnation procedure with special oils. Homogeneous agglomeration, uniform hardness, dimensional accuracy. Suitable for sharpening and touch-up deburring works: Rectangular section. Combined grain.

Tech. Code		G75202550IB6
GR69	Euro	23,79
Shape		■
D x H x L	mm	25 x 50 x 150
Specification		38A320-SV / 57A100-OV
		5

Combined grain



P	M	K	N	S	H
○	○	○	○	○	○

SYNTHORIZED BORON CARBIDE HAND LAPPING, GRIT-BIT



ITEM: GRIT-BIT

Grit-Bit represents a long-service life, high-performance, cost-effective tool. A 2X magnifier built in the handle allows for an accurate check of the tool's cutting edge.

Main features:

It helps prevent chipping of hard metal inserts, burr and roughness that may develop on the cutting edge subsequent to the sharpening process is completely avoided.

Tech. Code	G8710240	G8710320	G8710400	G8710600
GR69	Euro	(71,00)	(75,00)	(97,00)
Shape	Flat	Flat	Flat	Flat
Model	GB-240	GB-320	GB-400	GB-400
Application	Degreasing	Sanding	Lapping	Ultra-fine
Grit	240	320	400	600



GESSWEIN ABRASIVE STONES - DIE MAKER (DF)



ITEM: G7800

Medium-hard stones made of aluminum oxide.

They combine fast cutting and moderate friability. Ideal for general use on hard and soft steel such as 2344, 2311, 2083 and to pre-finish aluminum.

Tech. Code	GR69 Euro	Dimension mm	Grit	
G78006X3400	7,43	6 x 3 x 150	400	12
G78006X3600	8,38	6 x 3 x 150	600	12
G78006X3900	8,77	6 x 3 x 150	900	12
G780513X6150	9,15	13 x 6 x 150	150	12
G780513X6220	9,15	13 x 6 x 150	220	12
G780513X6320	10,46	13 x 6 x 150	320	12
G780513X6400	10,46	13 x 6 x 150	400	12



GESSWEIN ABRASIVE STONES - EDM



ITEM: G7810 - G7815

They remove the tough and tenacious deposits produced during electro-erosion processes much faster than any other stone. They contain very sharp Premium aluminum oxide for fast cutting action. A special clay-based binder allows EDM stones to keep their shape well during the machining of small details and live angles.

They crumble slowly, cut fast and do not paste up.

Tech. Code	GR69 Euro	Dimension mm	Grit	
G78106X3120	6,90	6 x 3 x 150	120	12
G78106X3180	7,03	6 x 3 x 150	180	12
G78106X3220	7,03	6 x 3 x 150	220	12
G78106X3320	7,00	6 x 3 x 150	320	12
G78106X3400	7,43	6 x 3 x 150	400	12
G78106X3600	8,50	6 x 3 x 150	600	12
G781513X6120	9,55	13 x 6 x 150	120	12
G781513X6180	9,55	13 x 6 x 150	180	12
G781513X6220	9,55	13 x 6 x 150	220	12
G781513X6320	10,67	13 x 6 x 150	320	12
G781513X6400	9,06	13 x 6 x 150	400	12



Tech. Code	GR69 Euro	Dimension mm	Grit	
G781513X6120	9,55	13 x 6 x 150	120	12
G781513X6180	9,55	13 x 6 x 150	180	12
G781513X6220	9,55	13 x 6 x 150	220	12
G781513X6320	10,67	13 x 6 x 150	320	12
G781513X6400	9,06	13 x 6 x 150	400	12

GESSWEIN ABRASIVE STONES - OIL TREATED (OT)



ITEM: G7820

Medium hard stones with White Aluminum Oxide impregnated with oil; can be used without lubrication.

Excellent for machined surfaces, fine cutting.

They maintain their form well to polish the details of the moulds, moderate crushing.

Tech. Code	GR69 Euro	Dimension mm	Grit	
G78206X3120	7,64	6 x 3 x 150	120	12
G78206X3220	7,64	6 x 3 x 150	220	12
G78206X3320	7,89	6 x 3 x 150	320	12
G78206X3400	7,93	6 x 3 x 150	400	12
G78206X3600	8,87	6 x 3 x 150	600	12
G78206X31200	10,46	6 x 3 x 150	1200	12
G782513X6120	10,30	13 x 6 x 150	120	12
G782513X6220	10,30	13 x 6 x 150	220	12
G782513X6320	12,02	13 x 6 x 150	320	12
G782513X6400	12,02	13 x 6 x 150	400	12



CERAMIC FIBRE STONES

C

ITEM: G7850

The long ceramic fibres and a special hardening resin make these stones flexible and heat-resistant, ideal for finishing in tight spaces. Primarily intended for use with ultrasound equipment but will also provide good performance with manual filing machines or by hand.

Tech. Code	GR69 Euro	Colour	Dimension mm	Grain size	
G78501X4120	16,45	Green	1 x 4 x 100	120	1
G78501X4180	16,45	Gold	1 x 4 x 100	180	1
G78501X4300	16,45	Brown	1 x 4 x 100	300	1
G78501X4400	16,45	Orange	1 x 4 x 100	400	1
G78501X4600	16,45	Grey	1 x 4 x 100	600	1
G78501X4800	14,75	Blue	1 x 4 x 100	800	1
G78501X41000	14,75	White	1 x 4 x 100	1000	1
G78501X41200	14,75	Red	1 x 4 x 100	1200	1
G78551X6120	24,90	Green	1 x 6 x 100	120	1
G78551X6180	24,90	Gold	1 x 6 x 100	180	1
G78551X6300	24,90	Brown	1 x 6 x 100	300	1
G78551X6400	24,90	Orange	1 x 6 x 100	400	1
G78551X6600	24,90	Grey	1 x 6 x 100	600	1
G78551X6800	22,50	Blue	1 x 6 x 100	800	1
G78551X61000	22,50	White	1 x 6 x 100	1000	1
G78551X61200	22,50	Red	1 x 6 x 100	1200	1
G78651X10120	32,65	Green	1 x 10 x 100	120	1
G78651X10180	32,65	Gold	1 x 10 x 100	180	1
G78651X10300	32,65	Brown	1 x 10 x 100	300	1
G78651X10400	32,65	Orange	1 x 10 x 100	400	1
G78651X10600	32,65	Grey	1 x 10 x 100	600	1
G78651X101000	29,54	White	1 x 10 x 100	1000	1
G78651X101200	29,54	Red	1 x 10 x 100	1200	1



CERAMIC FIBRE STONES

C

ITEM: G7875

The long ceramic fibres and a special hardening resin make these stones flexible and heat-resistant, ideal for finishing in tight spaces. Primarily intended for use with ultrasound equipment but will also provide good performance with the DIPROFIL filing machine or by hand.

Tech. Code	GR69 Euro	Colour	Dimension mm	Grain size	
G7875D3120	17,16	Green	Ø 3 X 50	120	1
G7875D3180	17,16	Gold	Ø 3 X 50	180	1
G7875D3300	17,16	Brown	Ø 3 X 50	300	1
G7875D3400	17,16	Orange	Ø 3 X 50	400	1
G7875D3600	17,16	Grey	Ø 3 X 50	600	1
G7875D3800	15,23	Blue	Ø 3 X 50	800	1
G7875D31000	15,23	White	Ø 3 X 50	1000	1
G7875D31200	15,23	Red	Ø 3 X 50	1200	1
G7880D3120	33,40	Green	Ø 3 x 100	120	1
G7880D3180	33,40	Gold	Ø 3 x 100	180	1
G7880D3300	33,40	Brown	Ø 3 x 100	300	1
G7880D3400	33,40	Orange	Ø 3 x 100	400	1
G7880D3600	33,40	Grey	Ø 3 x 100	600	1
G7880D3800	30,24	Blue	Ø 3 x 100	800	1
G7880D31000	30,24	White	Ø 3 x 100	1000	1
G7880D31200	30,24	Red	Ø 3 x 100	1200	1



WOOD BARS FOR LAPPING AND POLISHING

ITEM: G7950

The wooden bars are ideal for use with diamond paste. They are made of laminated strips of wood bonded with a resin binder.

Tech. Code	GR69 Euro	Dimension mm	Material	Shape	
G79503X3D	1,83	3 x 3 x 150	Hardwood = Resin-treated beechwood	■	10
G79504,5X4,5D	2,05	4,5 x 4,5 x 150	Hardwood = Resin-treated beechwood	■	10
G79506,5X6,5D	2,84	6,5 x 6,5 x 150	Hardwood = Resin-treated beechwood	■	10
G79553X7D	2,25	3 x 7 x 150	Hardwood = Resin-treated beechwood	■	10
G79558X12,5D	3,86	8 x 12,5 x 150	Hardwood = Resin-treated beechwood	■	10
G7960D3D	1,83	Ø 3 x 150	Hardwood = Resin-treated beechwood	●	10
G7960D4,5D	2,84	Ø 4,5 x 150	Hardwood = Resin-treated beechwood	●	10
G7960D6,5D	3,47	Ø 6,5 x 150	Hardwood = Resin-treated beechwood	●	10



SUPPORTS FOR ABRASIVE STONES

ITEM: G8010

Support for abrasive stones. Supports round stones Ø 6 mm and rectangular stones having a thickness of 3 mm and a width of 6 mm.

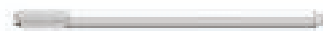
Tech. Code		G801066
GR69	Euro	(20,96)
Dim. supported	mm	Ø 6.0 - 3 x 6 - 6x6



ITEM: G8011

Support for round abrasive stones Ø 3 mm.

Tech. Code		G801130
GR69	Euro	15,91
Dim. supported	mm	Ø 3.0



ITEM: G8012

Support for rectangular abrasive stones.

Tech. Code		G801241	G801261	G8012101
GR69	Euro	9,64	9,64	9,64
Dim. supported	mm	4 x 1	6 x 1	10 x 1



ITEM: G8013

Support for rectangular abrasive stones with clamping screw. Suitable for 13x6 mm stones.

Tech. Code		G8013136
GR69	Euro	51,57
Dim. supported	mm	13 x 6



LUBRICATING FLUID FOR DIAMOND PASTES AND FLUIDS

ITEM: G7985

Liquid Lubricant Type OS, soluble in oil. Oil based low viscosity fluid. Suitable for use with type KD pastes. Recommended for cleaning tools and polishing moulds.

Tech. Code		G7985OS0,45	G7985OS5
GR69	Euro	31,42	132,06
Type		OS	OS
Package		Bottle with sprayer	Drum
Quantity	l	0.45	5



DIAMOND PASTES - TYPE KD

ITEM: G7979

A series of diamond pastes for specific applications that complement the range of polishing products.

All pastes are made according to ISO 9001. The KD pastes are soluble in both oil and water.

Packaged in 5 g. "Applikator" type syringes.

Tech. Code		G79791KDC25	G79793KDC45	G79796KDC35	G79798KDC45
GR69	Euro	34,26	64,75	67,95	103,21
Use		Mirror finishing of steel, metallographic polishing of tungsten carbide.	Mirror finishing of tungsten carbide, sapphire, ruby.	Excellent rapid polishing of steel, sapphire, ruby. Improved polishing for general use.	Elimination of scratches and preliminary polishing of steel. Medium polishing of tungsten carbide, sapphire, ruby. Lapping of steel, tungsten carbide.
Microns		1	3	6	8
Colour		Sky blue	Green	Yellow	Red



Tech. Code		G797914KDC35	G797925KDC35	G797945KDC35	G797960KDC25
GR69	Euro	103,21	103,21	103,21	128,11
Use		Rapid removal of steel, preliminary polishing of tungsten carbide.	Rapid material removal with good finish on steel. Good material removal from tungsten carbide.	Ultra rapid removal of steel, especially deep roughness, undulating surfaces and craters (notches). Rapid removal of material from tungsten carbide.	Roughing of hard materials.
Microns		14	25	45	60
Colour		Brown	Mahogany	Crimson	Orange

DIAMOND PASTES FOR LAPPING

NORTON
SINO-OSAM

ITEM: G7970

Synthetic diamond powder, perfectly selected by size, is mixed in a paste.

When used, it should be diluted in water or alcohol; excellent for manual lapping operations of a wide range of parts.

To give a super-finish to electronic components, semiconductors, magnetic heads, hard drives and optical glass.

Traditional finishing operations, preparatory lapping, high material removal and roughing.

Tech. Code	G7970AVORIO5	G7970GIALLO5	G7970ARANCIO5	G7970VERDE5	G7970AZZURRO5
GR69	Euro	35,20	39,65	47,83	52,87
Micron		1	3	6	9
Colour		Ivory	Yellow	Orange	Green
Content	g	5	5	5	5

Tech. Code	G7970BLU5	G7970MARRONE5	G7970ROSSO5	G7970NOCCIOLA5
GR69	Euro	52,87	64,17	64,17
Micron		15	20	30
Colour		Blue	Brown	Red
Content	g	5	5	5



USAGE INFORMATION FOR DIAMOND GRINDING WHEELS

The extreme hardness of the diamond makes it valid in the processing of hard metal, glass, graphite, precious metals and all synthetic materials reinforced with fibers. Being the same carbon compound it is not suitable for machining steel. Cubic boron nitride (CBN), on the other hand, is particularly suitable for the machining of hardened steel above 50 Rockwell and superrapid steel (HSS).



DIAMOND WHEELS FORM 1A1R

TYROLIT

ITEM: G7731

High efficiency cutting-off wheels for hard metal. Can be used with manual stationary or automatic parting systems, generally wet. Maximum working speed 50 m/s.

Tech. Code	G77311251126
GR69	Euro
D	mm
T	mm
H	mm
X	mm
Specification	D126 C100 B



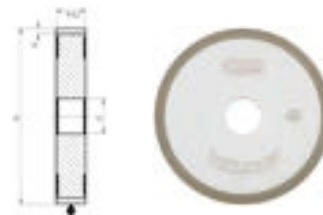
DIAMOND WHEELS FORM 1A1

TYROLIT

ITEM: G7736

Resin bonded diamond grinding wheels for hard metal working. For grounded, rounded and centerless grinding. Allows you to work with a high degree of precision. The high removal efficiency combined with reduced wear allows a considerable economic advantage over conventional silicon carbide wheels. Recommended lubrication. Max working speed 63 m/s

Tech. Code	G773610010126
GR69	Euro
D	mm
T	mm
H	mm
X	mm
Specification	11 D126 C75 B52 AL



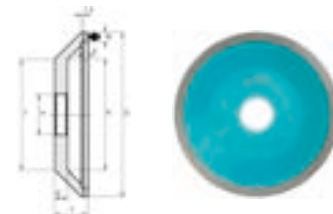
DIAMOND WHEELS FORM 12A2D



ITEM: G7746

Resin bonded grinding wheels for sharpening and grinding, typically dry, to carbide cutting tools. Compared to traditional silicon carbide wheels, they offer greater durability and greater dimensional accuracy.

Tech. Code		G77461002564	G774610025126
GR69	Euro	187,95	187,95
D	mm	100	100
T	mm	25	25
H	mm	20	20
W - X	mm	6 x 2	6 x 2
Specification		11 D64 C50 B52 AL	11 D126 C75 B52 AL



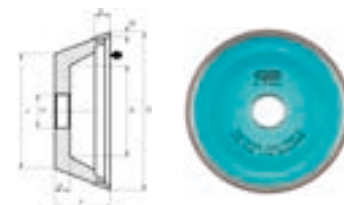
DIAMOND WHEELS FORM 11V9



ITEM: G7751

Resin bonded grinding wheels for sharpening and grinding, typically dry, to carbide cutting tools. Compared to traditional silicon carbide wheels, they offer greater durability and greater dimensional accuracy.

Tech. Code		G77511003564	G775110035126
GR69	Euro	174,30	(174,30)
D	mm	100	100
T	mm	35	35
H	mm	20	20
W - X	mm	3 x 10	3 x 10
Specification		11 D64 C50 B DIAGO	11 D126 C75 B DIAGO



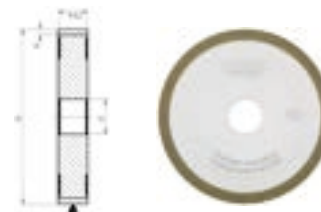
WHEELS OF CBN FORM 1A1



ITEM: G7760

Resin bonded CBN grinding wheels for machining high-alloy and super-rapid steel. For grounded, rounded and centerless grinding. Allows you to work a high degree of precision. The high removal efficiency combined with reduced wear allows a considerable economic advantage over conventional silicon carbide wheels. Recommended lubrication. Max working speed 63 m/s.

Tech. Code		G776010010126
GR69	Euro	430,50
D	mm	100
T	mm	10
H	mm	20
X	mm	6
Specification		51 B126 C50 B54 BA



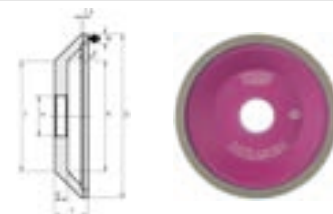
WHEELS OF CBN FORM 12A2D



ITEM: G7770

CBN resin bonded grinding wheels for sharpening and grinding, typically dry, of cutting tools in non-alloy steels and super-rapid steels. Compared to traditional silicon carbide wheels, they offer greater durability and greater dimensional accuracy.

Tech. Code		G777010025126
GR69	Euro	217,35
D	mm	100
T	mm	25
H	mm	20
W - X	mm	6 x 2
Specification		51 B126 C50 B54 AL



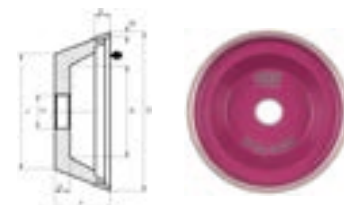
WHEELS OF CBN FORM 11V9



ITEM: G7780

CBN resin bonded grinding wheels for sharpening and grinding, typically dry, of cutting tools in unalloyed and low alloy steel, highly alloyed steel and super-rapid steel. Compared to traditional silicon carbide wheels, they offer greater durability and greater dimensional accuracy.

Tech. Code		G778010035126
GR69	Euro	189,00
D	mm	100
T	mm	35
H	mm	20
W - X	mm	3 x 10
Specification		51 B126 C75 B



SHANK-MOUNTED DIAMOND GRINDERS

ITEM: G5610

EC-electroplated diamond for internal grinding. High speed removal, consistent profiling.

Tech. Code	GR69 Euro	D x T mm	Shank mm	Specification	
G5610010040	15,60	1 x 4	3 x 40	D 107	5
G5610015040	14,50	1.5 x 4	3 x 40	D 107	5
G5610020050	14,50	2 x 5	3 x 40	D 107	5
G5610025060	14,50	2.5 x 6	3 x 40	D 107	5
G5610030060	15,30	3 x 6	3 x 40	D 107	5
G5610040060	16,60	4 x 6	3 x 40	D 107	5

Tech. Code	GR69 Euro	D x T mm	Shank mm	Specification	
G5610050060	17,90	5 x 6	3 x 40	D 107	5
G5610060070	19,90	6 x 7	6 x 70	D 107	5
G5610080090	25,50	8 x 9	6 x 70	D 107	5
G5610100100	30,10	10 x 10	6 x 70	D 107	5
G5610120100	34,40	12 x 10	6 x 70	D 107	5



ITEM: G5613

Spherical head electroplated diamond for internal grinding. High speed removal, consistent profiling.

Tech. Code	GR69 Euro	D mm	Shank mm	Specification	
G56130203	8,47	2	3 x 46	D126	10
G56130303	8,47	3	3 x 46	D126	10
G56130403	10,59	4	3 x 46	D126	10
G56130503	12,53	5	3 x 46	D126	10

Tech. Code	GR69 Euro	D mm	Shank mm	Specification	
G56130603	12,53	6	3 x 46	D126	10
G56130803	15,62	8	3 x 46	D126	10
G56131003	17,57	10	3 x 46	D126	10





APPLICATION AREAS OF FILES

The number of cuts in the files identifies the type of the same and refers to a number of teeth present in one centimeter of the file measured perpendicular to the axis of the same as in the table below. the greater number refers to a greater number of teeth per cm, therefore, as the number increases, the file will become more and more sweet. in mechanical files we define with cut 1 the bastard file, with cut 2 the medium soft and with cut 3 the SOFT.

Teeth per cm (tolerance according to ISO 234)	8	12	14	16	20	25	31	38	46
Files for mechanics	mm 100-125			1	2	3			
Files for mechanics	mm 150-200			1	2	3			
Files for mechanics	mm 250-350			1	2	3			
Raspe	mm 250-300			1	2				
Needle files					00	0	1	2	3



ENGINEER'S FILES - FLAT

WODEX



ITEM: WX7600

DIN 7261 A FLAT shapes. High carbon steel.

Excellent dimensional accuracy, distribution and tooth-depth uniformity.



NEW

Tech. Code	G8306100T1	G8306100T2	G8306100T3	G8306150T1	G8306150T2
GR61	Euro	6,14	6,65	6,77	7,08
Shape	■	■	■	■	■
L	mm	100	100	150	150
Section	mm	12 x 2,5	12 x 2,5	16 x 4	16 x 4
Cut		1-B	2-MD	1-B	2-MD
		12	12	12	12

Tech. Code	G8306150T3	G8306200T1	G8306200T2	G8306200T3	G8306250T1
GR61	Euro	7,70	8,11	8,63	9,05
Shape	■	■	■	■	■
L	mm	150	200	200	250
Section	mm	16 x 4	20 x 5	20 x 5	25 x 6
Cut		3-D	1-B	2-MD	1-B
		12	12	12	12

Tech. Code	G8306250T2	G8306250T3	G8306300T1	G8306300T2	G8306300T3
GR61	Euro	11,75	12,80	14,46	15,60
Shape	■	■	■	■	■
L	mm	250	250	300	300
Section	mm	25 x 6	25 x 6	30 x 6,5	30 x 6,5
Cut		2-MD	3-D	1-B	2-MD
		12	12	6	6



NEW

ITEM: WX7602

DIN 7261 E HALF-ROUND shapes. High carbon steel.
Excellent dimensional accuracy, distribution and tooth-depth uniformity.



Tech. Code		G8308100T1	G8308100T2	G8308100T3	G8308150T1	G8308150T2
GR61	Euro	8,42	9,07	9,88	9,97	9,97
Shape						
L	mm	100	100	100	150	150
Section	mm	11 x 3	11 x 3	11 x 3	16 x 4,5	16 x 4,5
Cut		1-B	2-MD	3-D	1-B	2-MD
		12	12	12	12	12

Tech. Code		G8308150T3	G8308200T1	G8308200T2	G8308200T3	G8308250T1
GR61	Euro	10,54	11,86	12,49	13,41	14,88
Shape						
L	mm	150	200	200	200	250
Section	mm	16 x 4,5	20 x 6	20 x 6	20 x 6	25 x 7
Cut		3-D	1-B	2-MD	3-D	1-B
		12	12	12	12	12

Tech. Code		G8308250T2	G8308250T3	G8308300T1	G8308300T2	G8308300T3
GR61	Euro	15,84	17,08	19,65	20,69	23,11
Shape						
L	mm	250	250	300	300	300
Section	mm	25 x 7	25 x 7	30 x 8,5	30 x 8,5	30 x 8,5
Cut		2-MD	3-D	1-B	2-MD	3-D
		12	12	6	6	6



NEW

ITEM: WX7604

DIN 7261 F ROUND shapes. High carbon steel.
Excellent dimensional accuracy, distribution and tooth-depth uniformity.



Tech. Code		G8310100T1	G8310100T2	G8310100T3	G8310150T1	G8310150T2
GR61	Euro	6,14	6,96	8,02	6,65	7,60
Shape						
L	mm	100	100	100	150	150
Section	mm	Ø 4	Ø 4	Ø 4	Ø 6	Ø 6
Cut		1-B	2-MD	3-D	1-B	2-MD
		12	12	12	12	12

Tech. Code		G8310150T3	G8310200T1	G8310200T2	G8310200T3	G8310250T1
GR61	Euro	8,42	7,60	8,33	9,26	9,46
Shape						
L	mm	150	200	200	200	250
Section	mm	Ø 6	Ø 8	Ø 8	Ø 8	Ø 10
Cut		3-D	1-B	2-MD	3-D	1-B
		12	12	12	12	12

Tech. Code		G8310250T2	G8310250T3	G8310300T1	G8310300T2	G8310300T3
GR61	Euro	10,63	11,67	12,49	13,53	15,60
Shape						
L	mm	250	250	300	300	300
Section	mm	Ø 10	Ø 10	Ø 12	Ø 12	Ø 12
Cut		2-MD	3-D	1-B	2-MD	3-D
		12	12	6	6	6

ENGINEER'S FILES - SQUARE

WODEX



ITEM: WX7606

DIN 7261 D SQUARE shapes. High carbon steel.
Excellent dimensional accuracy, distribution and tooth-depth uniformity.



NEW

Tech. Code		G8312100T1	G8312100T2	G8312100T3	G8312150T1	G8312150T2
GR61	Euro	6,65	7,60	8,65	7,18	8,11
Shape		■	■	■	■	■
L	mm	100	100	100	150	150
Section	mm	4 x 4	4 x 4	4 x 4	6 x 6	6 x 6
Cut		1-B	2-MD	3-D	1-B	2-MD
		12	12	12	12	12

Tech. Code		G8312150T3	G8312200T1	G8312200T2	G8312200T3	G8312250T1
GR61	Euro	9,26	8,11	9,07	9,88	11,45
Shape		■	■	■	■	■
L	mm	150	200	200	200	250
Section	mm	6 x 6	8 x 8	8 x 8	8 x 8	10 x 10
Cut		3-D	1-B	2-MD	3-D	1-B
		12	12	12	12	12

Tech. Code		G8312250T2	G8312250T3	G8312300T1	G8312300T2	G8312300T3
GR61	Euro	11,45	12,60	13,41	14,66	16,76
Shape		■	■	■	■	■
L	mm	250	250	300	300	300
Section	mm	10 x 10	10 x 10	12 x 12	12 x 12	12 x 12
Cut		2-MD	3-D	1-B	2-MD	3-D
		12	12	6	6	6

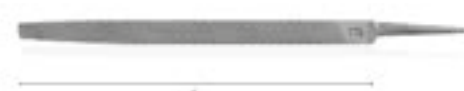
ENGINEER'S FILES - TRIANGULAR

WODEX



ITEM: WX7608

DIN 7261 C TRIANGULAR shapes High carbon steel.
Excellent dimensional accuracy, distribution and tooth-depth uniformity.



NEW

Tech. Code		G8314100T1	G8314100T2	G8314100T3	G8314150T1	G8314150T2
GR61	Euro	7,60	8,33	9,07	8,33	9,07
Shape		▲	▲	▲	▲	▲
L	mm	100	100	100	150	150
Section	mm	8	8	8	11	11
Cut		1-B	2-MD	3-D	1-B	2-MD
		12	12	12	12	12

Tech. Code		G8314150T3	G8314200T1	G8314200T2	G8314200T3	G8314250T1
GR61	Euro	9,97	10,14	10,92	12,07	13,41
Shape		▲	▲	▲	▲	▲
L	mm	150	200	200	200	250
Section	mm	11	15	15	15	17,5
Cut		3-D	1-B	2-MD	3-D	1-B
		12	12	12	12	12

Tech. Code		G8314250T2	G8314250T3	G8314300T1	G8314300T2	G8314300T3
GR61	Euro	14,55	15,84	17,60	18,72	20,17
Shape		▲	▲	▲	▲	▲
L	mm	250	250	300	300	300
Section	mm	17,5	17,5	20	20	20
Cut		2-MD	3-D	1-B	2-MD	3-D
		12	12	6	6	6

ENGINEER'S FILES - IN SERIES

WODEX

ITEM: WX7617/S5

Series of 5 files for engineers with thermoplastic resin handle in roll-up fabric bag.

Tech. Code		G832605
GR61	Euro	68,30
mm		200
Cut		2-MD
		1



NEW

FLAT NEEDLE FILES

WODEX 



NEW

ITEM: WX7750

Flat, parallel shape in high-carbon steel. Excellent dimensional accuracy, distribution and tooth-depth uniformity.



Tech. Code		G8552160T0	G8552160T1	G8552160T2	G8552180T0	G8552180T1
GR61	Euro	7,73	7,73	7,73	9,11	9,11
Shape						
L	mm	160	160	160	180	180
Section	mm	5,5 x 1,4	5,5 x 1,4	5,5 x 1,4	6 x 1,5	6 x 1,5
Cut		0	1	2	0	1
		12	12	12	12	12

Tech. Code		G8552180T2	G8552200T0	G8552200T1	G8552200T2
GR61	Euro	9,11	10,20	10,20	10,20
Shape					
L	mm	180	200	200	200
Section	mm	6 x 1,5	6,4 x 1,6	6,4 x 1,6	6,4 x 1,6
Cut		2	0	1	2
		12	12	12	12

SEMI-ROUND NEEDLE FILES

WODEX 



NEW

ITEM: WX7752

Semi-round shape in high-carbon steel. Excellent dimensional accuracy, distribution and tooth-depth uniformity.



Tech. Code		G8554160T0	G8554160T1	G8554160T2	G8554180T0	G8554180T1
GR61	Euro	10,67	10,67	10,67	12,14	12,14
Shape						
L	mm	160	160	160	180	180
Section	mm	5,6 x 1,8	5,6 x 1,8	5,6 x 1,8	6 x 2	6 x 2
Cut		0	1	2	0	1
		12	12	12	12	12

Tech. Code		G8554180T2	G8554200T0	G8554200T1	G8554200T2
GR61	Euro	12,14	13,49	13,49	13,49
Shape					
L	mm	180	200	200	200
Section	mm	6 x 2	6,5 x 2	6,5 x 2	6,5 x 2
Cut		2	0	1	2
		12	12	12	12

ROUND NEEDLE FILES

WODEX 



NEW

ITEM: WX7754

Round shape in high-carbon steel. Excellent dimensional accuracy, distribution and tooth-depth uniformity.



Tech. Code		G8556160T0	G8556160T1	G8556160T2	G8556180T0	G8556180T1
GR61	Euro	7,73	7,73	7,73	9,11	9,11
Shape						
L	mm	160	160	160	180	180
Section	mm	Ø 3,25	Ø 3,25	Ø 3,25	Ø 3,5	Ø 3,5
Cut		0	1	2	0	1
		12	12	12	12	12

Tech. Code		G8556180T2	G8556200T0	G8556200T1	G8556200T2
GR61	Euro	9,11	10,20	10,20	10,20
Shape					
L	mm	180	200	200	200
Section	mm	Ø 3,5	Ø 3,75	Ø 3,75	Ø 3,75
Cut		2	0	1	2
		12	12	12	12

TRIANGULAR NEEDLE FILES

WODEX



ITEM: WX7758

Triangular shape in high-carbon steel. Excellent dimensional accuracy, distribution and tooth-depth uniformity.

NEW

Tech. Code		G8562160T0	G8562160T1	G8562160T2	G8562180T0	G8562180T1
GR61	Euro	9,09	9,09	9,09	10,29	10,29
Shape		▲	▲	▲	▲	▲
L	mm	160	160	160	180	180
Section	mm	3,7	3,7	3,7	4,1	4,1
Cut		0	1	2	0	1
		12	12	12	12	12

Tech. Code		G8562180T2	G8562200T0	G8562200T1	G8562200T2
GR61	Euro	10,29	11,52	11,52	11,52
Shape		▲	▲	▲	▲
L	mm	180	200	200	200
Section	mm	4,1	4,4	4,4	4,4
Cut		2	0	1	2
		12	12	12	12

SQUARED NEEDLE FILES

WODEX



ITEM: WX7756

Squared shape in high-carbon steel. Excellent dimensional accuracy, distribution and tooth-depth uniformity.

NEW

Tech. Code		G8558160T0	G8558160T1	G8558160T2	G8558180T0	G8558180T1
GR61	Euro	9,09	9,09	9,09	10,29	10,29
Shape		■	■	■	■	■
L	mm	160	160	160	180	180
Section	mm	2,5	2,5	2,5	2,7	2,7
Cut		1	0	2	0	1
		12	12	12	12	12

Tech. Code		G8558180T2	G8558200T0	G8558200T1	G8558200T2
GR61	Euro	10,29	11,52	11,52	11,52
Shape		■	■	■	■
L	mm	180	200	200	200
Section	mm	2,7	3	3	3
Cut		2	0	1	2
		12	12	12	12

NEEDLE FILES IN SET

WODEX

ITEM: WX7768/S6

6-needle file set, in plastic casing. High carbon steel. Excellent dimensional accuracy, distribution and tooth-depth uniformity. Content: 1 flat parallel file, 1 half round, 1 triangular, 1 squared, 1 round, 1 flat-head shaped file.

NEW

Tech. Code		G8568160T0	G8568160T1	G8568160T2
GR61	Euro	58,77	58,77	58,77
Length	mm	160	160	160
Cut		0	1	2
		1	1	1



FILES FOR MECHANICS IN FOAM

WODEX



ITEM: WX7620/SE5

Set of 5 files complete with Eva Tray module for Wodex trolleys, module dimension 400 x 223.5 mm - Horizontal position.

Composition:

- WX7600** Flat file 8" - 200 mm T2 medium soft
- WX7602** Half round file 8" - 200 mm T2 medium soft
- WX7604** Round file 8" - 200 mm T2 medium soft
- WX7606** Square file 8" - 200 mm T2 medium soft
- WX7608** Triangular file 8" - 200 mm T2 medium soft
- WX7742** Handle in wood - 2 x 120 mm - 3 x 130 mm

Tech. Code	GR61 Euro	Pieces	
G832805	72,00	10	1



NEW

FLAT DIAMOND NEEDLE FILES

WODEX 

ITEM: WX7770

Flat needle files with electroplated diamond on 4 sides. Suitable for metal carbides, hardened and nitrided steel, stellite, ferrite, silicon, glass, ceramics, hard stone and carbon.

NEW



Tech. Code	G8715140126	G8715160126	G8715215151
GR61 Euro	21,10	24,70	102,10
Shape	■	■	■
Section mm	5,5 x 1,5	6 x 1,5	10 x 3
L mm	140	160	215
Specification	D126	D126	D151
	1	1	1

SEMI-ROUND DIAMOND NEEDLE FILES

WODEX 

ITEM: WX7772

Semi-round needle files with electroplated diamond. Suitable for metal carbides, hardened and nitrided steel, stellite, ferrite, silicon, glass, ceramics, hard stone and carbon.

NEW



Tech. Code	G8716140126	G8716160126	G8716215151
GR61 Euro	21,10	24,70	102,10
Shape	⤿	⤿	⤿
Section mm	5 x 2	6 x 2	13 x 4
L mm	140	160	215
Specification	D126	D126	D151
	1	1	1

ROUND DIAMOND NEEDLE FILES

WODEX 

ITEM: WX7774

Round diamond needle files with electroplated diamond. Suitable for metal carbides, hardened and nitrided steel, stellite, ferrite, silicon, glass, ceramics, hard stone and carbon.

NEW



Tech. Code	G8717140126	G8717160126	G8717215151
GR61 Euro	21,10	24,70	102,10
Shape	●	●	●
Section mm	3	3,5	5
L mm	140	160	215
Specification	D126	D126	D151
	1	1	1

SQUARE DIAMOND NEEDLE FILES

WODEX 

ITEM: WX7776

Square diamond needle files with electroplated diamond. Suitable for metal carbides, hardened and nitrided steel, stellite, ferrite, silicon, glass, ceramics, hard stone and carbon.

NEW



Tech. Code	G8718140126	G8718160126	G8718215151
GR61 Euro	21,10	24,70	102,10
Shape	■	■	■
Section mm	3 x 3	3,5 x 3,5	6 x 6
L mm	140	160	215
Specification	D126	D126	D215
	1	1	1

TRIANGULAR DIAMOND NEEDLE FILES

WODEX 

ITEM: WX7778

Triangular diamond needle files with electroplated diamond. Suitable for metal carbides, hardened and nitrided steel, stellite, ferrite, silicon, glass, ceramics, hard stone and carbon.

NEW



Tech. Code	G8719140126	G8719160126	G8719215151
GR61 Euro	21,10	24,70	102,10
Shape	▲	▲	▲
Section mm	4 x 4	4,5 x 4,5	10 x 10
L mm	140	160	215
Specification	D126	D126	D215
	1	1	1

SET OF DIAMOND NEEDLE FILES

WODEX 

ITEM: WX7780

Electroplated diamond.

Suitable for metal carbides, hardened steel, ferrite, silicon, glass, ceramic oxide materials and similar.

Composition: supplied with 5 needle files of G8705 range kit, 1 flat, 1 half-round, 1 round, 1 squared, 1 triangular.

Tech. Code		G87075L140	G87075L160
GR61	Euro	105,00	120,80
Lunghezza	mm	140	160
		1	1



NEW

RESIN HANDLES FOR MECHANICAL FILES

WODEX 

ITEM: WX7740

Ergonomic handles in thermoplastic resin for files.

Tech. Code		G840001	G840002	G840003
GR61	Euro	3,12	3,78	4,50
For files		4" - 6"	8"	10" - 12"
		1	1	1



NEW

WOODEN HANDLES FOR MECHANICAL FILES

WODEX 

ITEM: WX7742

Wooden handles with metal ring for files.

Tech. Code		G8405080	G8405090	G8405100	G8405110
GR61	Euro	1,39	1,43	1,59	1,72
Dimension	N.	0	1	2	3
Length	mm	80	90	100	110
For files		4"	6"	6"	8"
		1	1	1	1



NEW

Tech. Code		G8405120	G8405130	G8405140
GR61	Euro	1,85	2,12	2,26
Dimension	N.	4	5	6
Length	mm	120	130	140
For files		8"	10"	12"
		1	1	1

WOODEN HANDLES WITH BRASS MANDREL FOR NEEDLE FILES

WODEX 

ITEM: WX7795

Beech wood handles with brass mandrel and setting nut rod for needle files.

Tech. Code		G859003
GR61	Euro	(5,90)
Description		For files needle length 140,160 e 180 mm
		1



NEW

QUICK-SNAP PLASTIC HANDLES FOR NEEDLE FILES

PEERD 

ITEM: 210-1

Quick-clamping plastic handles for needle files.

Tech. Code		G8825001
GR69	Euro	5,27
Description		For models 140 - 160 - 180 - 200 mm
		10



DUAL-COMPONENT PLASTIC HANDLES FOR FILES

PEERD 

ITEM: FH

Tech. Code		G88350406A	G88350810PH	G88350810TQR	G88351214PH	G88351214TQR
GR69	Euro	3,41	4,38	4,38	5,07	5,07
Model		3-10	4/1-10	4-10	5/1-10	5-10
Lime		4"-6"	8"-10"	8"-10"	12"-14"	12"-14"
Shape		All	flat - half-round	3 sp - square - round	flat - half-round	3 sp - square - round
		10	10	10	10	10



SUSPENDED 230/240V MOTORS COMPLETE WITH CONTRONIC RHEOSTAT

FARO

ITEM: G9500

The FARO laboratory motor offers the absolute security of double insulation, the durability of a motor sized for work far in excess of your work load, the quality of a product made with cutting-edge technologies.

Technical Data:

- Motor with double insulation
- High torque also at low rotation speed
- Power 300 W
- Speed 22000 rev/min.
- Electronic rheostat to ensure good progression of the motor rotation speed
- Rheostat speed from 8000 to 22000 rev/min - "Contronics" version from 3000 to 20000 rev/min

The arm for suspension, the flexible shaft and the handpiece are not included.



Tech. Code		G9500MOTORE
GR69	Euro	(741,00)

REINFORCED FLEXIBLE SHAFTS

FARO

ITEM: G9510

The flexible shaft is particularly robust and easy to handle, thanks to the universal joint (patented) that is also useful to insulate the hose from the motor; the rotation is vibration-free.

Ready for use with SLIP-coupling handpieces.

Technical data:

- Coupling $\varnothing$ 5 mm
- Length 950 mm

Tech. Code		G9510ALB5X950
GR69	Euro	(261,00)



SUSPENSION ARMS FOR MOTORS

ITEM: G9520

Complete with screw for fastening to workbench.
Painted grey with chrome extension.

Technical Data:

- Clamping capacity 0-60 mm
- Extension min/max 610/930 mm

Tech. Code		G9520BRACCIO
GR69	Euro	(218,00)



STRAIGHT SLIP-COUPLING HANDPIECES

FARO

ITEM: G9530

The Faro laboratory handpiece rotates on auto-adjusting ball bearings; particularly suitable for use with mini-cutters, cotton discs, felt and woods with shank for polishing.
Ruggedly built, lightweight and simple to use.

Technical Data:

- Speed up to 22000 rev/min.
- SLIP-type coupling (to flexible shaft)
- Collet $\varnothing$ 2.35mm - $\varnothing$ 3,00mm

Tech. Code		G9530MAN2,35	G9530MAN3,00
GR69	Euro	(179,00)	179,00
Collet for shank $\varnothing$ mm		2,35	3,00



MICRO GRINDER EMAX EVOLUTION



ITEM: EV410-230

Suitable for deburring polishing and engraving. The ideal tool for mould makers. Equipped with a large digital display. Memory speed function. Two micromotors can be mounted and managed independently and simultaneously. The standard micro motor can be adjusted from 1,000 to 40,000 rpm and can be used with many types of attachments according to the needs of the user.

It is brushless, extremely lightweight, vibration-free and equipped with a button for switching it on and off directly on the workstation. Foot controller available on request.

Composition:

- Controller NE249 230
- Power supply cord
- Motor ENK-410S
- Attachment IR-310
- Collet 2.35 mm
- Collet 3.00 mm
- Handpiece stand
- Maintenance tools

Control unit technical data:

- Power supply 230 V 50-60 Hz
- Dimensions 130 x 524 x 97 mm
- Weight 2.3 Kg



Tech. Code		G9430100
GR69	Euro	2300,00

STANDARD MOTOR FOR EMAX EVOLUTION



ITEM: ENK-410S

Standard lightweight, compact and a small diameter motor. High rotation speed and high torque. Brushless, On/Off switch, perfect for high precision work. Can be used with many types of hand pieces.

Technical data:

- Speed adjustable from 1,000 - 40,000 rpm
- Max power 73 W
- Max torque 4.3 Ncm
- Cable length 1.5 m
- Weight without cable 90 g



Tech. Code		G9432100
GR69	Euro	(1090,00)

ATTACHMENTS FOR EMAX EVOLUTION



The modular Nakanishi system features various easily interchangeable attachments to modify the machine for a variety of operations.

Tech. Code	GR69 Euro	Item Supplier	Type	Max speed Rpm	
G9434100	(530,00)	IR-310	Straight standard	40.000	
G9434200	(510,00)	HG-200	Straight for attachment of 6 mm	30.000	
G9434300	(660,00)	IC-300	Angled head of 90°	30.000	
G9434400	(660,00)	KC-300	Angled head of 50°	30.000	

MICRO GRINDER ESPERT 500



ITEM: ES50T-HR

Suitable for all situations where high torque is required at a high RPM. Equipped with a large digital display. Memory speed function. Two micromotors can be mounted and managed independently and simultaneously. The high torque motor can be adjusted from 1,000 to 50,000 rpm and can be used with many types of attachment according to the needs of the user. Brushless, extremely silent and vibration-free for extremely precise work. Foot controller available on request.

Composition

- Controller NE249
- Power supply cord
- Motor ENK-50T-HR
- Attachment EHR-500
- Collet 2.35 mm
- Collet 3.00 mm
- Handpiece stand
- Maintenance tools

Technical data:

- Power supply 230 V 50-60 Hz
- Dimensions 172 x 230 x 94 mm
- Weight 2.6 Kg



Tech. Code	G9450100
GR69 Euro	(3220,00)

STANDARD MOTOR FOR ESPERT 500



ITEM: ENK-500T

High power high torque brushless motor. Equipped with On/Off switch. Can be used with many types of hand pieces. High precision and sturdiness.

Technical data:

- Speed adjustable from 1,000 - 50,000 rpm
- Max power 200 W
- Max torque 8.7 Ncm
- Cable length 1.5 m
- Weight without cable 160 g

Tech. Code	G9452100
GR69 Euro	(1230,00)



ATTACHMENTS FOR ESPERT 500



The modular Nakanishi system features various easily interchangeable attachments to modify the machine for a variety of operations.

Tech. Code	GR69 Euro	Item Supplier	Type	Max speed Rpm	
G9454100	(720,00)	EHR-500	Straight standard	50.000	
G9454200	(630,00)	EHG-400	Straight for attachment of 6 mm	40.000	
G9454300	(693,00)	EIC-300	Angled head of 90°	30.000	
G9454400	(693,00)	EKC-300	Angled head of 50°	30.000	

ITEM	PAG.	ITEM	PAG.	ITEM	PAG.	ITEM	PAG.	ITEM	PAG.
J1318	J.23	J4170	J.36	J7730	J.52	K0700	K.3	K2321	K.19
J1320	J.23	J4180	J.36	J7735	J.52	K0750	K.3	K2324	K.20
J1330	J.23	J4410	J.37	J7740	J.52	K1120	K.8	K2325	K.21
J1340	J.23	J4412	J.37	J7810	J.52	K1200	K.8	K2327	K.20
J1345	J.24	J4414	J.37	J7812	J.52	K1201	K.8	K2328	K.20, N.60
J1347	J.24	J4500	J.38	J7814	J.52	K1202	K.8	K2330	K.21
J1350	J.24	J4510	J.38	J8010	J.54	K1203	K.9	K2331	K.21
J1351	J.24	J4520	J.38	J8015	J.54	K1204	K.9	K2335	K.21
J1353	J.24	J4530	J.39	J8020	J.54	K1205	K.9	K2346	K.21, M.13, P.8
J2120	J.25	J4540	J.39	J8025	J.54	K1206	K.9	K2400	K.22
J2140	J.25	J4550	J.39	J8030	J.54	K1207	K.10	K2402	K.22
J2150	J.25	J5110	J.42	J8113	J.54	K1208	K.10	K2404	K.22
J2160	J.25	J5210	J.42	J8115	J.55	K1209	K.9	K2420	K.22
J2450	J.26	J5221	J.40	J8150	J.55	K1210	K.10, L.21	K2423	K.22
J2455	J.26	J5226	J.40	J8155	J.55	K1211	K.9	K2501	K.23
J2460	J.26	J5229	J.41	J8160	J.55	K1620	K.10	K2502	K.23
J2465	J.26	J5231	J.41	J8200	J.56	K1640	K.10	K2512	K.23
J3510	J.27	J5240	J.41	J8208	J.56	K1642	K.10, M.17, P.24	K2513	K.23
J3515	J.27	J5310	J.41	J8212	J.56	K1645	K.13	K2516	K.23
J3518	J.29	J5415	J.40	J8213	J.56	K1680	K.12	K2610	K.23
J3520	J.27	J5420	J.42	J8240	J.56	K1681	K.12, M.23, P.53	K3100	K.25
J3525	J.28	J5421	J.42	J8250	J.57	K1702	K.12	K3102	K.25
J3530	J.27	J5422	J.42	J8255	J.57	K1706	K.12	K3103	K.26
J3540	J.30	J5425	J.43	J8258	J.57	K1707	K.12	K3107	K.26
J3545	J.29	J6111	J.44	J8260	J.57	K1708	K.12	K3108	K.26
J3552	J.29	J6114	J.44	J8411	J.58	K1715	K.13	K3110	K.26
J3560	J.30	J6116	J.44	J8412	J.58	K1720	K.13	K3201	K.25
J3565	J.30	J6118	J.44	J8414	J.58	K1730	K.13	K3204	J.31, K.24
J3620	J.28	J6125	J.45	J8420	J.59	K1740	K.13	K3205	K.25
J3640	J.28	J6130	J.45	J8425	J.59	K2100	K.16	K3207	K.27
J3650	J.28	J7020	J.48	J8435	J.58	K2110	K.16	K4006	K.27
J3670	J.29	J7050	J.46	J8440	J.59	K2113	K.16	K4102	K.27
J3680	J.27	J7053	J.46	J8445	J.59	K2120	K.16	K4103	K.28
J3685	J.30	J7060	J.46	J8610	J.60	K2125	K.16	K4105	K.28
J3810	J.31	J7215	J.48	J8612	J.60	K2130	K.17	K4107	K.30
J4110	J.32	J7220	J.48	J8616	J.60	K2140	K.17	K4108	K.29
J4111	J.32	J7227	J.47	J8618	J.60	K2150	K.17	K4111	K.30
J4120	J.32	J7228	J.47	J8620	J.61	K2170	K.16	K4120	B.19, K.28, M.20, N.37
J4122	J.32	J7230	J.47	J8640	J.61	K2212	K.17	K4121	K.29
J4124	J.32	J7240	J.47	J8650	J.61	K2213	K.18	K4122	K.29
J4125	J.32	J7310	J.48	J8670	J.61	K2214	K.18	K4123	K.29
J4130	J.33	J7315	J.48	J8672	J.61	K2215	K.17	K4124	K.30
J4131	J.33	J7320	J.48	J8675	J.61	K2216	K.17	K4126	K.28
J4132	J.33	J7420	J.48	K0595	K.4	K2225	K.20	K4130	K.30
J4134	J.33	J7430	J.49	K0596	K.4	K2228	K.18	K4132	K.31
J4135	J.33	J7435	J.49	K0601	K.4	K2230	K.18	K4139	K.31
J4136	J.34	J7450	J.49	K0610	K.4	K2280	K.22	K4155	K.32
J4137	J.33	J7460	J.49	K0615	K.5	K2302	K.18	K4156	K.32
J4138	J.34	J7465	J.49	K0618	K.5	K2310	B.99, E.100, G.45, K.20, N.24	K4157	K.32
J4139	J.34	J7620	J.50	K0620	K.5	K2311	D.24, K.20, N.66	K4160	K.32
J4140	J.36	J7623	J.50	K0621	K.5	K2313	K.19	K4200	K.33
J4145	J.36	J7625	J.50	K0670	K.2	K2314	E.25, K.18	K4206	K.33
J4146	J.36	J7627	J.50	K0671	K.2	K2315	K.19	K4300	K.34
J4152	J.35	J7711	J.51	K0672	K.2	K2316	K.19	K4301	K.34
J4153	J.35	J7714	J.51	K0673	K.2	K2317	K.19	K4305	K.34
J4165	J.35	J7715	J.51	K0674	K.3	K2319	K.19	K4306	K.34
J4167	J.35	J7719	J.51	K0675	K.3	K2320	A.92, .F103, F.73, K.21, L.45	K4308	K.35

ITEM	PAG.	ITEM	PAG.	ITEM	PAG.	ITEM	PAG.	ITEM	PAG.
K4320	K.35	L0068	L.7	L3160	L.23	L5134	L.35	L5525	L.48
K4325	K.35	L0070	L.7	L3162	L.24	L5135	L.35	L5530	L.48
K4330	K.35	L0072	L.7	L3165	L.24	L5150	L.40	L5535	L.49
K4333	K.35	L0075	L.8	L3166	L.24	L5152	L.40	L5570	L.49
K4340	K.36	L0080	L.8	L3167	L.24	L5154	L.40	L5600	L.46
K4345	K.36	L0085	L.8	L3168	L.24	L5156	L.40	L5605	L.47
K4346	K.36	L1006	L.9	L3169	L.24	L5158	L.40	L5610	L.47
K5200	K.38	L1010	L.9	L3200	L.25	L5160	L.40	L5615	L.47
K5205	K.38	L1013	L.9	L3205	L.25	L5161	L.41	L5620	L.48
K5210	K.38	L1020	L.9	L3207	L.25	L5162	L.41	L5625	L.48
K5215	K.38	L1022	L.10	L3210	L.25	L5164	L.41	L5630	L.49
K5220	K.38	L1202	L.10	L3220	L.25	L5170	L.41	L5635	L.49
K5300	K.38	L1203	L.10	L3230	L.25	L5200	L.44	L5710	L.49
K5310	K.38	L1204	L.10	L3232	L.25	L5202	L.44	L6290	L.50
K5320	K.39	L1210	L.11	L3250	L.26	L5204	L.44	L6300	L.50
K5336	K.38	L1214	L.11	L3252	L.26	L5205	L.44	L6305	L.50
K5340	K.39	L1220	L.12	L3254	L.26	L5208	L.37	L6330	L.50
K5343	K.39	L1224	L.12	L4130	L.27	L5210	L.45	L6335	L.50
K5344	K.39	L1295	L.12	L4140	L.27	L5215	L.37	M0005	M.2
K5350	K.39	L1301	G.41, L.13	L4150	L.27	L5220	L.45	M0012	M.3
K5380	J.31, K.39	L1302	L.13	L4160	L.28	L5225	L.37	M0013	M.4
K5400	K.39	L1305	L.13	L4170	L.28	L5230	L.45	M0014	M.5
K5401	K.39	L1340	L.14	L4180	L.28	L5250	L.38	M0155	M.7
K6000	K.42	L1342	L.14	L4200	L.29	L5260	L.45	M0165	M.8
K6010	K.42	L1410	L.14	L4205	L.29	L5300	L.46	M0175	M.8
K6100	K.42	L1502	L.15	L4210	L.29	L5301	L.34	M0910	M.6
K6112	K.42	L1504	L.15	L4250	L.29	L5310	L.46	M0920	M.6
K6116	K.42	L1550	L.16	L4251	L.30	L5400	L.46	M0930	M.6
K6130	K.40	L1551	L.16	L4253	L.30	L5410	L.46	M0950	M.6
K6135	K.40	L1580	L.16	L4255	L.30	L5411	L.37	M0955	M.6
K6136	K.40	L1590	L.17	L4258	L.30	L5415	L.37	M0960	M.6
K6137	K.40	L1600	L.17	L5080	L.31	L5420	L.37	M0970	M.5
K6138	K.41	L1700	L.17	L5090	L.31	L5425	L.37	M0980	M.7
K6200	K.41	L2100	L.18	L5091	L.31	L5430	L.38	M0990	M.7
K6210	K.41	L2105	L.18	L5095	L.31	L5435	L.38	M1010	M.11
K7000	K.43	L2200	L.18	L5096	L.31	L5440	L.38	M1015	M.13
K7002	K.43	L2202	L.18	L5100	L.42	L5445	L.37	M1020	M.14
K7003	K.45	L2210	L.19	L5103	L.32	L5451	L.38	M1030	M.15
K7004	K.45	L2220	L.19	L5104	L.32	L5452	L.38	M1040	M.16
K7005	K.44	L2225	L.19	L5105	L.42	L5454	L.39	M1045	M.17
K7006	K.44	L2230	L.20	L5108	L.32	L5456	L.39	M1210	M.16
K7007	K.44	L2245	L.20	L5110	L.43	L5458	L.39	M1220	M.19
K7008	K.44	L2250	L.21	L5111	L.36	L5460	L.39	M1230	M.18
K7200	K.42	L2252	L.21	L5114	L.33	L5462	L.39	M1240	M.19
K7500	K.45	L3100	L.22	L5115	L.43	L5464	L.39	M1250	M.12
L0010	L.4	L3101	L.22	L5116	L.33	L5480	L.41	M1310	M.21
L0045	L.3	L3105	L.22	L5117	L.36	L5482	L.41	M1320	M.22
L0048	L.4	L3110	L.22	L5118	L.34	L5484	L.42	M1330	M.23
L0049	L.3	L3115	L.22	L5120	L.43	L5486	L.42	M1340	M.24
L0050	L.3	L3120	L.22	L5121	L.34	L5488	L.42	M1410	M.25
L0051	L.4	L3150	L.23	L5122	L.34	L5490	L.42	M1415	M.25
L0052	L.5	L3151	L.23	L5123	L.43	L5500	L.46	M1420	M.25
L0053	L.5	L3152	L.24	L5124	L.36	L5501	L.44	M1430	M.25
L0054	L.5	L3153	L.23	L5125	L.43	L5505	L.47	M1440	M.22
L0055	L.6	L3154	L.23	L5130	L.44	L5510	L.47	M1600	M.26
L0056	L.6	L3155	L.23	L5131	L.35	L5515	L.47	M1610	M.20
L0060	L.6	L3156	L.23	L5132	L.35	L5520	L.48	M2000	M.27

ITEM	PAG.	ITEM	PAG.	ITEM	PAG.	ITEM	PAG.	ITEM	PAG.
M3010	M.28	M7480	M.53	M9415	M.74	N1035	N.11	N4080	N.32
M3012	M.29	M7485	M.53	M9420	M.75	N1040	N.11	N4081	N.32
M3030	M.31	M7490	M.54	M9425	M.75	N1300	N.13	N4090	N.33
M3050	M.30	M7510	M.54	M9435	M.76	N1310	N.13	N4091	N.33
M3055	M.30	M7515	M.54	M9440	M.76	N1315	N.13	N4095	N.33
M3060	M.31	M7520	M.55	M9445	M.77	N1490	N.12	N4096	N.29
M4010	M.32	M7525	M.55	M9450	M.77	N2291	N.14	N4098	N.33
M4020	M.32	M7530	M.55	M9460	M.78	N2293	N.14	N4099	N.33
M4030	M.33	M8020	M.56	M9465	M.78	N2296	N.14	N4100	N.35
M4040	M.33	M8030	M.58	M9470	M.79	N2299	N.15	N4101	N.29
M4070	M.9	M8040	M.59	M9475	M.79	N2310	N.15	N4102	N.35
M4080	M.9	M8050	M.60	N0026	N.79	N2326	N.16	N4103	N.35
M5010	M.34	M8060	M.61	N0027	N.79	N2327	N.16	N4104	N.35
M5020	M.34	M8065	M.62	N0028	N.79	N2328	N.17	N4105	N.36
M6010	M.35	M8100	M.87	N0031	N.79	N2329	N.17	N4109	N.36
M6015	M.35	M8104	M.87	N0033	N.79	N3102	N.18	N4110	N.36
M6020	M.35	M8110	M.64	N0035	N.79	N3104	N.18	N4111	N.36
M7010	M.36	M8120	M.65	N0036	N.79	N3106	N.18	N4121	N.37
M7015	M.36	M8130	M.66	N0038	N.79	N3108	N.18	N4122	N.37
M7020	M.37	M8140	M.67	N0039	N.79	N3109	N.18	N4130	N.38
M7022	M.37	M8150	M.67	N0042	N.79	N3110	N.19	N4133	N.38
M7025	M.39	M8160	M.68	N0043	N.79	N3116	N.19	N4140	N.38
M7028	M.39	M8170	M.68	N0045	N.79	N3118	N.19	N4143	N.39
M7030	M.41	M8180	M.68	N0046	N.79	N3120	N.19	N4160	N.39
M7035	M.41	M9002	M.72	N0048	N.79	N3121	N.18	N4162	N.39
M7040	M.40	M9003	M.70	N0051	N.78	N3200	N.20	N4203	N.41
M7042	M.40	M9004	M.71	N0052	N.78	N3205	N.20	N4205	N.41
M7045	M.38	M9006	M.72	N0360	N.3	N3210	N.20	N4207	N.42
M7047	M.38	M9007	M.73	N0380	N.2	N4012	N.22	N4208	N.42
M7050	M.42	M9008	M.83	N0438	N.2	N4020	N.22	N4210	N.41
M7055	M.42	M9009	M.73	N0442	N.3	N4021	N.24	N4212	N.43
M7210	M.44	M9010	M.83	N0501	N.6	N4023	N.23	N4213	N.42
M7220	M.44	M9114	M.84	N0510	N.5	N4025	N.23	N4214	N.42
M7225	M.45	M9115	M.84	N0520	N.5	N4026	N.23	N4215	G.28, N.43
M7310	M.46	M9120	M.85	N0530	N.5	N4027	N.24	N4217	N.44
M7320	M.47	M9125	M.85	N0600	N.6	N4048	N.32	N4218	N.43
M7325	M.48	M9135	M.85	N0605	N.7	N4050	N.25	N4220	N.44
M7330	M.48	M9141	M.86	N0610	N.7	N4051	N.22	N4222	N.45
M7335	M.48	M9210	M.80	N0612	N.8	N4054	N.25	N4224	N.46
M7340	M.48	M9220	M.80	N0614	N.8	N4055	N.26	N4226	N.47
M7350	M.48	M9230	M.81	N0616	N.9	N4056	N.26	N4227	N.47
M7355	M.48	M9235	M.81	N0618	N.8	N4057	N.26	N4228	N.45
M7360	M.49	M9240	M.82	N0620	N.9	N4058	N.25	N4229	N.45
M7365	M.49	M9245	M.82	N0622	N.9	N4059	N.27	N4231	N.46
M7370	M.49	M9250	M.80	N0624	N.9	N4061	N.27	N4232	N.46
M7410	M.50	M9255	M.81	N0630	N.9	N4063	N.27	N4234	N.46
M7415	M.50	M9260	M.82	N0632	N.10	N4067	N.30	N4237	N.40
M7420	M.50	M9265	M.83	N0634	N.10	N4068	G.9, N.32	N4238	N.40
M7440	M.51	M9352	M.86	N0636	N.10	N4069	N.28	N4240	N.48
M7445	M.51	M9362	M.86	N0638	N.10	N4070	N.28	N4241	N.48
M7450	M.51	M9363	M.87	N0646	N.10	N4071	N.28	N4242	N.48
M7452	M.52	M9365	M.87	N0648	N.10	N4073	N.29	N4243	N.48
M7455	M.52	M9375	M.88	N0650	N.11	N4074	N.30	N4251	N.49
M7458	M.52	M9376	M.88	N1010	N.11	N4076	N.30	N4252	N.49
M7460	M.51	M9377	M.89	N1015	N.11	N4077	N.31	N4260	N.49
M7470	M.53	M9378	M.89	N1020	N.11	N4078	N.31	N4262	N.49
M7475	M.53	M9410	M.74	N1025	N.11	N4079	N.31	N4265	N.50

ITEM	PAG.	ITEM	PAG.	ITEM	PAG.	ITEM	PAG.	ITEM	PAG.
N4270	N.50	N5234	N.61	N6801	N.83	N8032	N.97	N8690	N.113
N4303	N.50	N5240	N.62	N6802	N.83	N8035	N.98	N8701	N.117
N4305	N.51	N5241	N.62	N6810	N.83	N8040	N.100	N8704	N.117
N4307	N.51	N5242	N.63	N6811	N.83	N8045	N.98	N8711	N.117
N4308	N.51	N5245	N.63	N6812	N.83	N8050	N.100	N8714	N.118
N4310	N.52	N5248	N.63	N6850	N.84	N8055	N.98	N8718	N.118
N4401	N.52	N5250	N.64	N6851	N.84	N8060	N.101	N8719	N.118
N4501	N.52	N5252	N.64	N6860	N.84	N8065	N.98	N8722	N.118
N4520	N.53	N5253	N.64	N6861	N.84	N8070	N.101	N8731	N.119
N4601	N.53	N5260	N.64	N6862	N.84	N8075	N.98	N8732	N.119
N5050	N.47	N5270	N.65	N6870	N.85	N8080	N.102	N8734	N.119
N5055	N.52	N5272	N.65	N6880	N.85	N8082	N.99	N8746	N.119
N5101	N.54	N5273	N.65	N6900	N.85	N8085	N.99	N8751	N.120
N5102	N.54	N5274	N.65	N6910	N.85	N8090	N.102	N8756	N.120
N5103	N.54	N5276	N.66	N6911	N.85	N8091	N.99	N8757	N.120
N5104	N.54	N5277	N.66	N6920	N.85	N8101	N.103	N8758	N.120
N5105	N.54	N5278	N.67	N6921	N.86	N8102	N.103	N8759	N.121
N5106	N.54	N5280	N.67	N6950	N.86	N8103	N.103	N8761	N.121
N5107	N.55	N5285	N.68	N6953	N.86	N8104	N.103	N8771	N.121
N5108	N.55	N5293	N.68	N6955	N.86	N8105	N.104	N8772	N.121
N5111	N.57	N5301	N.69	N6960	N.86	N8110	N.104	N8781	N.122
N5112	N.57	N5302	N.69	N6962	N.86	N8111	N.104	N8783	N.122
N5113	N.57	N5305	N.69	N6970	N.86	N8205	N.114	N8785	N.122
N5114	N.57	N5306	N.69	N6990	N.87	N8207	N.114	N8787	N.123
N5120	N.55	N5310	N.70	N7010	N.89	N8210	N.114	N8850	N.123
N5121	N.55	N5350	N.70	N7011	N.89	N8215	N.114	N8855	N.123
N5122	N.55	N5351	N.70	N7015	N.88	N8220	N.115	N8860	N.123
N5123	N.55	N5352	N.70	N7017	N.88	N8223	N.116	N8870	N.124
N5124	N.55	N5353	N.70	N7045	N.87	N8225	N.115	N9100	N.124
N5125	N.55	N5400	N.71	N7046	N.87	N8227	N.116	N9115	N.124
N5126	N.56	N5410	N.71	N7047	N.87	N8230	N.115	N9131	N.124
N5130	N.56	N5420	N.71	N7050	N.88	N8350	N.105	N9137	N.125
N5131	N.56	N5430	N.72	N7060	N.90	N8355	N.105	N9138	N.125
N5132	N.56	N5439	N.72	N7065	N.90	N8358	N.105	N9142	N.125
N5150	N.56	N5440	N.72	N7066	N.90	N8360	N.106	N9159	N.125
N5170	N.56	N5450	N.72	N7069	N.90	N8365	N.106	N9180	N.125
N5180	N.56	N5455	N.72	N7070	N.90	N8368	N.106	N9210	N.127
N5190	N.56	N5890	N.73	N7078	N.91	N8400	N.107	N9220	N.127
N5191	N.57	N5900	N.74	N7079	N.91	N8410	N.107	N9230	N.128
N5198	L.16, N.57	N5910	N.74	N7080	E.113, N.91	N8412	N.107	N9256	N.128
N5201	N.58	N5920	N.74	N7081	N.91	N8420	N.108	N9270	N.128
N5202	N.58	N5930	N.74	N7083	N.91	N8430	N.108	N9280	N.129
N5203	N.58	N5980	N.75	N7085	N.92	N8435	N.108	N9281	N.129
N5204	N.58	N5990	N.75	N7086	N.92	N8440	N.109	N9284	N.126
N5210	N.58	N5995	N.75	N7087	N.92	N8441	N.109	N9285	N.126
N5211	N.59	N5997	N.75	N7090	N.92	N8445	N.109	N9286	N.126
N5215	N.59	N6005	N.76	N7092	N.92	N8500	N.110	N9288	N.127
N5216	N.59	N6008	N.76	N7094	N.93	N8510	N.110	N9289	N.127
N5220	N.59	N6010	N.78	N7100	N.93	N8520	N.110	N9290	N.129
N5221	N.59	N6015	N.77	N7103	N.94	N8530	N.111	N9291	N.129
N5223	N.59	N6020	N.77	N7110	N.95	N8602	N.111	N9295	N.128
N5225	N.70	N6055	N.80	N7115	N.94	N8603	N.111	N9296	N.128
N5227	N.60	N6057	N.80	N7116	N.94	N8611	N.112	N9300	N.129
N5228	N.60	N6060	N.81	N8010	N.95	N8612	N.112	N9310	N.130
N5230	N.61	N6062	N.81	N8011	N.96	N8630	N.113	N9320	N.130
N5231	N.61	N6065	N.81	N8012	N.96	N8650	N.113	N9340	N.130
N5233	N.61	N6800	N.83	N8030	N.97	N8670	N.113	N9350	N.130

ITEM	PAG.	ITEM	PAG.	ITEM	PAG.	ITEM	PAG.	ITEM	PAG.
N9360	N.130	P1051	P.11	P3148	P.21	P4426	P.34	P6955	P.48
N9370	N.130	P1052	P.11	P3172	P.21	P4427	P.34	P6960	P.48
N9400	N.130	P1053	P.11	P3174	P.21	P4429	P.34	P6961	P.49
N9410	N.131	P1054	P.11	P3175	P.21	P4430	P.35	P6962	P.49
N9420	N.131	P1055	P.11	P3180	P.25	P4431	P.34	P6963	P.49
N9422	N.131	P2110	P.12	P3182	P.25	P4440	P.34	P6965	P.49
N9430	N.131	P2115	P.14	P3190	P.25	P4511	P.36	P7007	P.50
N9440	N.131	P2118	P.14	P3290	P.25	P4515	P.36	P7010	P.50
N9450	N.132	P2120	P.12	P3301	P.20	P4520	P.35	P7014	M.66, P.50
N9501	N.132	P2122	P.14	P3311	P.23	P5135	P.36	P7019	P.51
N9520	N.132	P2125	P.14	P3321	P.23	P5141	P.37	P7030	P.51
N9538	N.125	P2261	P.15	P3330	P.27	P5315	P.37	P7040	P.51
N9560	N.132	P2262	P.16	P3510	P.21	P5332	P.37	P7110	P.52
N9575	N.132	P2265	P.17	P4113	P.28	P5410	P.37	P7112	P.52
P0011	P.2	P2270	P.15	P4119	P.28	P5421	P.38	P7115	P.52
P0015	P.2	P2271	P.15	P4120	P.29	P5431	P.38	P7116	P.53
P0021	P.2	P2273	P.15	P4210	P.29	P5441	P.38	P7117	P.53
P0025	P.2	P2274	P.17	P4215	P.29	P5520	P.39	P7118	P.53
P0026	P.6	P2277	P.16	P4220	P.29	P5610	P.39	P7120	P.54
P0027	P.3	P2278	P.17	P4225	P.29	P6120	P.41	P7121	P.54
P0028	P.6	P2279	P.18	P4230	P.29	P6308	P.42	P7125	P.54
P0030	P.4	P2280	P.19	P4235	P.29	P6309	P.42	P7126	P.55
P0031	P.6	P2281	P.19	P4240	P.28	P6310	P.42	P7130	P.55
P0036	P.6	P2282	P.19	P4270	P.31	P6311	P.42	P7220	P.55
P0038	P.7	P2283	P.18	P4275	P.31	P6320	P.43	P7225	P.56
P0040	P.4	P2284	P.17	P4280	P.31	P6400	P.43	P7230	P.56
P0041	P.7	P2285	P.18	P4285	P.31	P6410	P.43	P7320	P.56
P0046	P.8	P2286	P.18	P4300	P.32	P6470	P.27	P7325	P.56
P0047	P.8	P2287	P.18	P4302	P.33	P6620	P.43	P7330	P.57
P0048	P.8	P2288	P.16	P4310	P.32	P6710	P.44	P7421	P.57
P0049	P.8	P2289	P.17	P4312	P.32	P6715	P.44	P7422	P.57
P0050	P.6	P2290	P.16	P4316	P.33	P6730	P.44	P7426	P.57
P0053	P.3	P2291	P.16	P4320	P.31	P6735	P.44	P7430	P.58
P0073	P.27	P2292	P.16	P4325	P.33	P6810	P.45	P7435	P.58
P0149	P.8	P2293	P.17	P4330	P.29	P6811	P.45	P7440	P.58
P0240	P.4	P2295	P.15	P4340	P.29	P6812	P.45	P7500	P.59
P0250	P.4	P3053	P.22	P4350	P.30	P6813	P.45	P7510	P.59
P0260	P.3	P3055	P.22	P4355	P.30	P6815	P.45	P7511	P.59
P0270	P.3	P3057	P.22	P4360	P.30	P6818	P.46	P7515	P.59
P0310	P.9	P3059	P.22	P4365	P.30	P6819	P.46	P7516	P.59
P0315	P.9	P3064	P.23	P4368	P.30	P6820	P.46	P7630	P.61
P0320	P.9	P3065	P.19	P4370	P.30	P6821	P.47	P7700	P.61
P0325	P.9	P3066	P.19	P4375	P.30	P6825	P.46	P7730	P.61
P0326	P.9	P3068	P.24	P4410	P.35	P6826	P.47	P8100	P.62
P1044	P.10	P3069	P.24	P4415	P.33	P6829	P.47	P8102	P.62
P1045	P.10	P3070	P.24	P4416	P.33	P6900	P.47	P8104	P.62
P1046	P.10	P3110	P.20	P4417	P.33	P6910	P.48	P8200	P.62
P1049	P.10	P3111	P.20	P4420	P.35	P6920	P.48	P8201	P.62
P1050	P.11	P3140	P.20	P4425	P.34	P6950	P.48		

TERMS OF SALE AND DELIVERY

1 SCOPE

Our terms of sale and delivery apply exclusively. We do not recognize customer conditions opposing or deviating from our terms of sale and delivery unless expressly validated in writing. Our terms of sale and delivery always apply, even if the delivery goes ahead with knowledge of opposing or deviating terms of sale and delivery made by the customer. Our terms of sale and delivery also apply to all present and future business transactions with the customer.

All agreements made between us and the customer for the implementation of the present contract are made in writing.

2 OFFER AND CONTRACT CONCLUSION

Our offers are non-binding and noncommittal in every aspect if not agreed otherwise.

Order is considered accepted only if it has been confirmed by us in writing. The same applies to additions, changes or special agreements.

Drawings, illustrations, weight and measurement data or other performance data are only binding if these have been expressly agreed upon in writing.

3 PRICES

Our prices are quoted in EUROS, if not otherwise reported in our order confirmation, and are „from factory” including loading in the plant.

They do not include packaging, freight, insurance, duty or other expenses. Any additional cost is invoiced separately.

Tax as required by law (value added tax) is not included in our prices. The lawful amount as of the day of invoicing will be listed separately on the invoice.

If certain prices are not agreed upon, then the prices valid at the time of the delivery apply.

4 PAYMENT TERMS

Payment terms have to be confirmed by us in writing a payment is not made according to the date agreed on the order confirmation, we are entitled without further reminder to charge an interest rate of 8 % p. a. over and above the respective base interest rate.

5 DELIVERY TERMS

The indicated delivery time begins with the dispatch of the order confirmation, but not before all technical questions have been clarified and the customer has provided all documents, permits, releases, and the agreed deposit has been paid.

The delivery time is agreed between the Contracting Parties. It assumes that all commercial and technical questions between the Contracting Parties have been clarified and the customer has fulfilled all his obligations such as providing the necessary official certificates or permits or a deposit. If this is not the case, then the delivery time will be extended accordingly.

This does not apply if the delay is caused by the supplier.

Foreseeable delays will be communicated by the supplier as soon as possible.

The delivery time is deemed as kept if the product has left the plant or if it is ready for dispatch by the deadline.

As far as an acceptance has to take place, with the exception of a justified refusal of acceptance, the date of acceptance or, if necessary, the notice of acceptance applies.

If the dispatch and/or the acceptance of the delivery are delayed through circumstances arising from the customer, then any costs incurred will be charged, beginning one month after the dispatch or acceptance notice. If the dispatch is delayed on the customer's request, then the supplier is entitled, after setting a reasonable deadline, to use the items as he sees fit.

If the delivery time is not kept due to a "Force Majeure" or other circumstances beyond the control of the supplier, then the delivery time will be delayed accordingly. The supplier will communicate to the customer the beginning and the end of such an event as soon as possible.

The customer can withdraw from the contract without notice, if the supplier is unable to complete the full service.

The customer can withdraw from the contract if a part of the order cannot be delivered and he has a justified cause for refusing a partial delivery. If this is not the case, then the customer has to pay the contract price due for the partial delivery. The same applies in the case of the supplier's insolvency. If the impossibility or insolvency occurs during the course of acceptance or if the customer is solely or predominantly responsible for these events, payment remains obligatory.

6 TRANSFER OF RISK

The risk is transferred to the customer once the object of the delivery has left the factory, including any partial deliveries or where the supplier has offered additional services such as delivery costs or delivery and installation. Where an acceptance is going to take place, it is authoritative for the transfer of risk. Transfer of risk must be completed on the acceptance date, or immediately after the supplier's acceptance notice.

The customer cannot reject the acceptance in case of an insignificant defect.

Partial shipments are allowed.

7 CLAIMS FOR DEFECTS

In case of material or legal defects in the delivery, the supplier offers guarantee, disqualifying all other claims, as follows:

Material Defects

All parts found to be flawed as a result of circumstances prior to the transfer of risk, are to be fixed or replaced without charge by parts free of defects as chosen by the supplier. The ascertainment of such defects has to be communicated immediately to the supplier. Replaced parts become property of the supplier in writing.

To carry out all the improvements and replacement deliveries necessary for the supplier, the customer has to provide the necessary time and opportunity as per agreement with the supplier; otherwise the supplier is free from the resulting responsibilities for the consequences.

There is no guarantee in the following cases: Inappropriate or inadequate use, incorrect assembly or activation by the customer or by a third party, natural wear, incorrect or negligent handling, improper maintenance, inappropriate operative materials, incorrect construction works, inadequate construction foundation, chemical, electrochemical or electric interferences - as long as the supplier is not responsible for these.

The supplier is only responsible for defects in the material delivered by the customer if he or she should have recognised the defects as expected from a professional. For preparations according to the drawing of the customer, the supplier is responsible only for the execution according to the drawings.

If the customer or a third party makes alterations, the supplier is not responsible for their consequences.

The same applies to alterations of the delivered object made without the consent of the supplier.

8 COPYRIGHT

The customer takes on all responsibilities for the documentation to be presented by him or her, such as drawings, instructions, samples etc. The customer has to ensure that the instruction drawings presented by him or her do not infringe the copyright laws of third parties. The supplier is not obliged to prove to the customer whether the protection rights of third parties are infringed by the submission of offers due to a presentation made by him or her. If a liability of the supplier arises from facts based on claims, the customer must indemnify the supplier.

9 EXPIRATION

All claims by the customer - whatever the legal reasons may be - expire after 12 months.

10 RETURNS AND REFUNDS

For returns and refunds, an administration fee of up to 20% of the value of the item applies, unless the reason for return or refund is a circumstance for which we are accountable.

11 PRACTICABLE RIGHT, COMPETENT COURT, PARTIAL NULLITY

For every legal relationship between the supplier and the customer, only the Italian laws are considered valid.

The Competent Court is the court corresponding to the domicile of the supplier. The supplier is, however, entitled to file complaints in the main domicile of the customer.

If an article of these conditions is to become void or ineffective, wholly or partly, the remaining sections remain unaffected.

The ineffective article is replaced by the corresponding legal regulation.

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