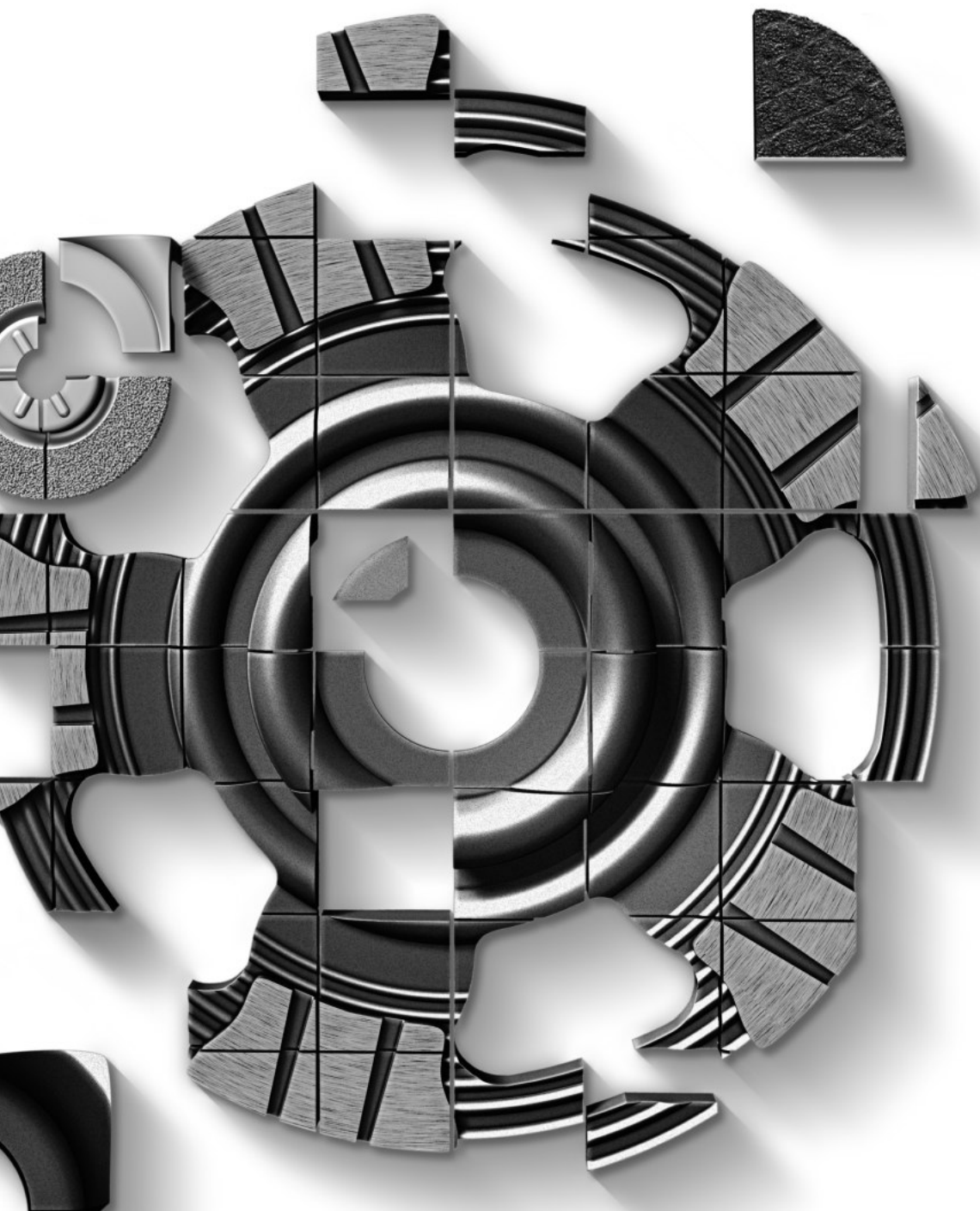


ROUGH GRINDING



6.4 Grinding vitrified bond

1–10

TECHNICAL INFORMATION AND PRODUCT INFORMATION

LUKAS vitrified grinding wheels

EFFICIENT AND PROFESSIONAL GRINDING

LUKAS vitrified grinding wheels are premium grinding tools with a long tool life that deliver high removal performance. They are perfect for efficient and effective grinding of various materials in numerous applications

From rough grinding to fine machining, we offer a range of grinding wheels in various shapes, sizes and qualities so that you always have the right grinding wheel for the job. LUKAS grinding wheels are designed for grinding all kinds of material (steel, cast steel, tool steel, cast iron, aluminium alloys, titanium and nickel alloys, plastic, glass, ceramic and many more).

QUALITY

Grinding covers a broad spectrum of processes, from rough grinding to fine machining. This requires grinding wheels that deliver the right balance of machining performance and tool life, while achieving the desired surface quality. Manufacturing quality grinding wheels involves knowing the conditions in which the tools will be used, selecting the raw materials and understanding how to combine them in the right specification. We stock a large assortment of sizes and qualities, however if these stock wheels do not meet your requirements we can manufacture wheels to meet your individual requirements

A ABRASIVE

LUKAS offers you the abrasive you need for every application – tailored to your requirements and the materials you are working with. The following overview contains all raw materials for LUKAS vitrified grinding wheels. The abbreviations for the respective abrasives can be found in the quality designation of the LUKAS vitrified grinding wheels (see right).

Aluminum oxide is generally used for grinding:

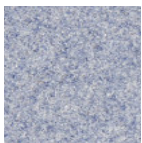
- Carbon steel
- Alloy steel
- High speed steel
- Wrought iron
- Hard bronzes

Silicone carbide is generally used for grinding:

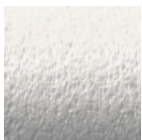
- Grey iron
- Non ferrous metals
- Stone
- Marble



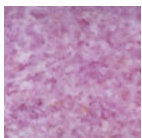
A
Regular Brown
Aluminum Oxide



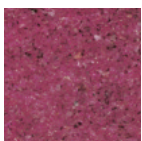
M
Mono Crystalline
Aluminum Oxide



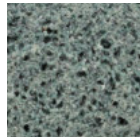
WA
Mono Crystalline White
Aluminum Oxide



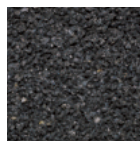
PA
Pink
Aluminum Oxide



RA
Ruby
Aluminium Oxide



GC
Green Silicone Carbide



C
Black Silicon carbide

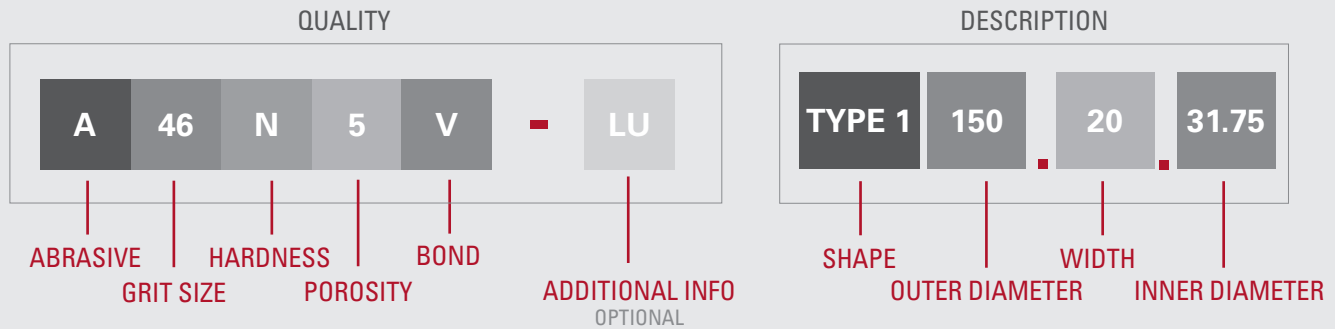
WE CAN MANUFACTURE WHEELS TO MEET YOUR
INDIVIDUAL REQUIREMENTS

DESIGNATION OF GRINDING WHEELS

All the important information in the product designation

All of the important quality information about your LUKAS grinding wheel is stated on the label: abrasive material, grit size, hardness, porosity and type of bond.

The following overview provides all the information concerning the abbreviations and markings.



46

GRIT SIZES AS PER ISO 525

From coarse to very fine, the numerical grit size value is clearly displayed in the quality designation.

coarse	medium	fine	very fine
14	46	80	220
16	54	90	240
20	60	100	280
24	70	120	320
30	–	150	400

N

HARDNESS AS PER ISO 525

The hardness indicates the strength holding the abrasive grain bonded to the grinding wheel. It is determined using special measuring tools. Letters are used to indicate the hardness grade. The hardness increases with alphabetical order.

extreme soft	very soft	soft	medium	hard	very hard	extreme hard
A	E	G	K	N	R	U
B	F	H	L	O	S	V
C	–	I	M	P	T	W
D	–	J	–	Q	–	X
–	–	–	–	–	–	Y
–	–	–	–	–	–	Z

ADDITIONAL INFORMATION (OPTIONAL)

Impregnation can improve the grinding properties of all vitrified bonds, especially for processing certain steels:

- **Lu** = with resin
- **W** = with wax

5

POROSITY

From extremely dense (1) to extremely porous (12), the numerical value increases proportionally with the increase porosity structure. If the porosity value is not displayed it is considered a medium porosity of 7.

Dense	Normal	Porous
0	4	10
1	5	11
2	6	12
3	7	–
–	8	–
–	9	–

V

BOND

The bond holds the abrasive grain to the grinding wheel.

Vitrified bond:

- **V** = vitrified bond

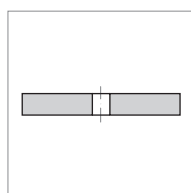
Organic bond:

- **B** = resin bond
- **BF** = fibre-reinforced resin bond
- **BFI** = internally fibre-reinforced resin bond
- **R** = rubber bond or bond using other elastomers
- **RF** = rubber bond, reinforced

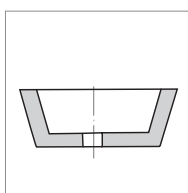
The code following the bond identifier is a factory-internal designation.

SHAPE

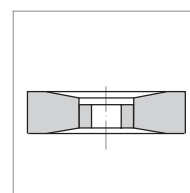
Summary of available shapes



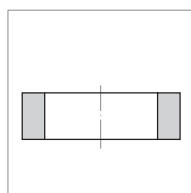
TYPE 1
Straight grinding wheel



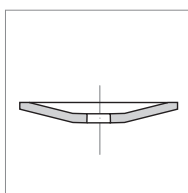
TYPE 11
Flaring cup wheel



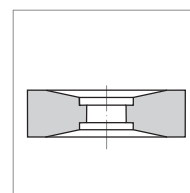
TYPE 25
Grinding wheel recessed one side and relieved both sides



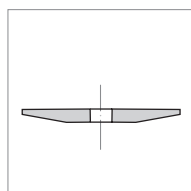
TYPE 2
Grinding cylinder



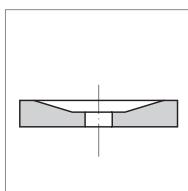
TYPE 12
Dish wheel



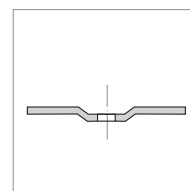
TYPE 26
Grinding wheel recessed and relieved both sides



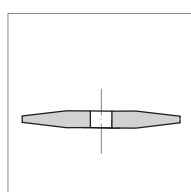
TYPE 3
Grinding wheel tapered one side



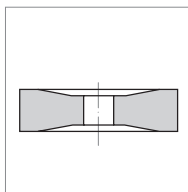
TYPE 20
Grinding wheel relieved one side



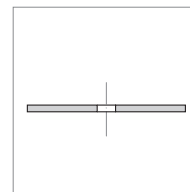
TYPE 27
Depressed centre wheel



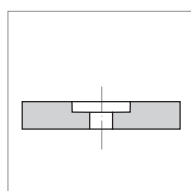
TYPE 4
Grinding wheel tapered both sides



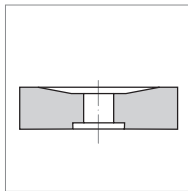
TYPE 21
Grinding wheel relieved both sides



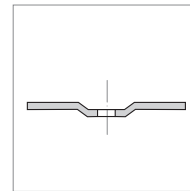
TYPE 41
Straight cutting wheel



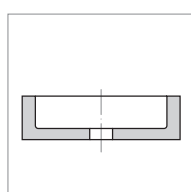
TYPE 5
Straight grinding wheel recessed one side



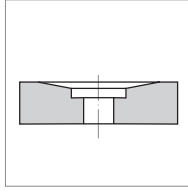
TYPE 22
Grinding wheel recessed one side and relieved other side



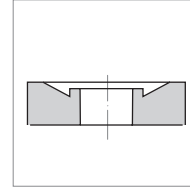
TYPE 42
Cutting wheel depressed centre



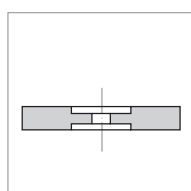
TYPE 6
Straight cup wheel



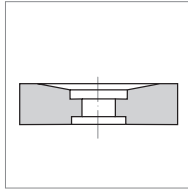
TYPE 23
Grinding wheel recessed and relieved one side



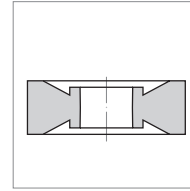
TYPE 115
Grinding wheel relieved one side raised boss



TYPE 7
Straight grinding wheel recessed both sides



TYPE 24
Grinding wheel recessed both sides and relieved one side





TYPE 116
Grinding wheel relieved both sides raised boss

AREA OF USE

Overview of types of LUKAS grinding wheels

■ best suitable ■ suitable

Type	Page	Symbol	Abrasive type	Colour	Materials							
					●	●		●	●	●	●	●
					Inox/Stainless-Rust-, acid- and heat-resistant steel	General purpose Steel	Alloyed/Hardened steels	Tool steels	Aluminium, magnesium and copper alloys	Stone/Construction material	Cast iron	Titanium and nickel alloys
 	3	A	Regular Brown Aluminium Oxide	Grey		■		■				
	4	GC	Green Silicone Carbide	Green	■	■	■	■	■	■	■	■
	*	WA	Mono Crystalline White Aluminium Oxide	White	■	■	■	■			■	■
	*	38A	White Aluminium Oxide	Blue/White	■		■	■			■	■
	*	C	Black Silicone Carbide	Black	■	■	■	■	■	■	■	■
	*	M	Mono Crystalline Aluminium Oxide	Blue	■	■	■	■	■			
	*	PA	Pink Aluminium Oxide	Pink	■	■	■	■			■	■
	*	RA	Ruby Aluminium Oxide	Ruby	■	■	■	■			■	■

OPERATING SPEED

LUKAS grinding wheels are developed and tested for specified maximum operating speeds and grinding processes. Before fixing the grinding tool to the machine, always check that the nominal speed of the machine (nameplate) is not high-

er than the maximum speed specified on the grinding wheel. Lukas produce grinding wheels with a maximum peripheral speed of 35 m/s.

Maximum operating speed	Grinding disc diameter (mm)									
	125	150	180	200	250	300	350	400	450	500
35 m/s	5,300	4,400	3,700	3,300	2,600	2,200	1,900	1,650	1,400	1,300
rpm										

WORK SAFETY

Safely grinding with LUKAS tools

LUKAS makes a serious commitment to customers with respect to work safety and ergonomics. Our products are designed and manufactured according to the strictest quality standards to provide maximum customer value at minimum risk. Safety is an essential mark of quality for any grinding tool.

When using and storing grinding wheels, always observe the safety and accident prevention regulations, along with the FEPA safety recommendations.

Our products are clearly labeled with all important in-

formation, which indicates the maximum permitted speed for the specific wheel

We do not use raw materials in our grinding wheels that are hazardous to health.

APPLIED STANDARDS

- Safety requirements for bonded abrasive products: EN 12413

SAFETY INFORMATION

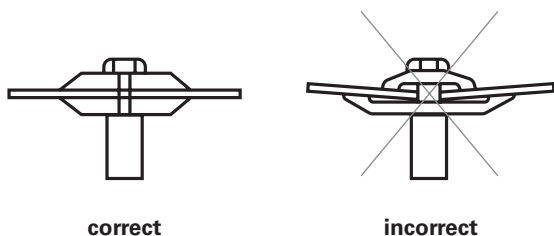
- Store discs **in a dry place at room temperature** that is protected from vibration
- **Avoid improper handling of the grinding wheels** as these wheels are extremely brittle
- Never exceed the maximum permitted speed specified **on the wheel**.
- Only use wheels that can be mounted on the machine without requiring force
- Always perform a **ring test** prior to use
- **Inspect wheels for possible cracks or damage** prior to mounting
- Don't overtighten the mounting nut or locking flange, as this may lead to fracturing of the wheel.
- Ensure correct **mounting of wheel and correct sizes**

of flanges

- Never use **damaged, dirty or uneven mounting flanges**
- A new wheel should always **run free at full speed** for five minutes prior to use
- Don't **use damaged wheels**.
- **Readjustment of the work rest and wheelguard** as wheel wears, ensure that the tool rest is no more than 3mm from the grinding surface
- All wheels may only be used with the appropriate **grinding wheel protective cover**, the guard should cover 75% of the wheels surface.
- Do not grind on the side of the wheel
- **Wear the correct personal protection equipment**
- Don't jam the work into the wheel.

CLAMPING SYSTEM

The use of flanges with different diameters is not permitted. Both flanges between which the bonded abrasive is mounted must have the same outer diameter and similar contact areas (according to EN 60745-2-3:2007 and ANSI B.7.1).

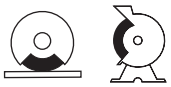


RING TEST

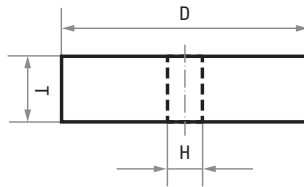
The ring test should be carried out immediately before mounting a new or used grinding wheel. Balance the grinding wheel on the finger or on a mandrel, larger wheels can be rested on the floor and tilted on edge. Then lightly tap the grinding wheel on one side and listen for a "ringing" noise; this indicates that portion of the wheel is not cracked. But if you hear a dead "thud" sound, this means the wheel could be cracked and shouldn't be used. Repeat this test by rotating the wheel and "sounding" it repeatedly until all areas of the wheel have been checked

LUKAS VITRIFIED GRINDING WHEELS

EXCELLENT QUALITY FOR TOP GRINDING PERFORMANCE



- grinding carbon steel, alloy steel, high speed steel, annealed malleable iron, wrought iron, hard bronzes
- tested quality: high level of safety through regular testing
- precise removal with high speed
- low odour and dust levels
- allows for ergonomical working with little use of force



Aluminum oxide grinding wheels



★★☆

Product number	Description	Quality	D mm	T mm	H mm	Grit	n _{max} rpm	Pack contains
5ZA125203236015	125x20x31.75 A36 GRIND WHEEL	A36 P5V	125	20	31.75	A36	5,300	1
5ZA125203246015	125x20x31.75 A46 GRIND WHEEL	A46 N5V	125	20	31.75	A46	5,300	1
5ZA125203260015	125x20x31.75 A60 GRIND WHEEL	A60 N5V	125	20	31.75	A60	5,300	1
5ZA150163203615	150x16x31.75 A36 GREY WHEEL	A36 P5V	150	16	31.75	A36	4,400	1
5ZA150163204615	150x16x31.75 A46 N5V GREY WHEEL	A46 N5V	150	16	31.75	A46	4,400	1
5ZA150163206068	150x16x31.75 A60 GREY WHEEL	A60 N5V	150	16	31.75	A60	4,400	1
5ZA150203236015	150x20x31.75 A36 P5V GREY WHEEL	A36 N5V	150	20	31.75	A36	4,400	1
5ZA150203246015	150x20x31.75 A46 N5V GREY WHEEL	A46 N5V	150	20	31.75	A46	4,400	1
5ZA150203260015	150x20x31.75 A60 N5V GREY WHEEL	A60 N5V	150	20	31.75	A60	4,400	1
5ZA150203280015	150x20x31.75 A80 N5V GREY WHEEL	A80 N5V	150	20	31.75	A80	4,400	1
5ZA150253236015	150x25x31.75 A36 P5V GREY WHEEL	A36 P5V	150	25	31.75	A36	4,400	1
5ZA150253246015	150x25x31.75 A46 N5V GREY WHEEL	A46 N5V	150	25	31.75	A46	4,400	1
5ZA150253260015	150x25x31.75 A60 N5V GREY WHEEL	A60 N5V	150	25	31.75	A60	4,400	1
5ZA180203236015	180x20x31.75 A36 P5V GREY WHEEL	A36 P5V	180	20	31.75	A36	3,700	1
5ZA180203246015	180x20x31.75 A46 N5V GREY WHEEL	A46 N5V	180	20	31.75	A46	3,700	1
5ZA180203260015	180x20x31.75 A60 N5V GREY WHEEL	A60 N5V	180	20	31.75	A60	3,700	1
5ZA180253236015	180x25x31.75 A36 GREY WHEEL	A36 P5V	180	25	31.75	A36	3,700	1
5ZA180253246015	180x25x31.75 A46 N5V GREY WHEEL	A46 N5V	180	25	31.75	A46	3,700	1
5ZA180253260015	180x25x31.75 A60 N5V GREY WHEEL	A60 N5V	180	25	31.75	A60	3,700	1
5ZA200203236015	200x20x31.75 A36 P5V GREY WHEEL	A36 P5V	200	20	31.75	A36	3,300	1
5ZA200203246015	200x20x31.75 A46 N5V GREY WHEEL	A46 N5V	200	20	31.75	A46	3,300	1
5ZA200203260015	200x20x31.75 A60 N5V GREY WHEEL	A60 N5V	200	20	31.75	A60	3,300	1
5ZA200253236015	200x25x31.75 A36 P5V GREY WHEEL	A36 P5V	200	25	31.75	A36	3,300	1
5ZA200253246015	200x25x31.75 A46 N5V GREY WHEEL	A46 N5V	200	25	31.75	A46	3,300	1

Recommended for: ● Steel

Product number	Description	Quality	D mm	T mm	H mm	Grit	n _{max} rpm	Pack contains
5ZA200253260015	200x25x31.75 A60 N5V GREY WHEEL	A60 N5V	200	25	31.75	A60	3,300	1
5ZA200255146015	200x25x50.8 A46 N5V GREY WHEEL	A46 N5V	200	25	50.8	A46	3,300	1
5ZA200255160015	200x25x50.8 A60 N5V GREY WHEEL	A60 N5V	200	25	50.8	A60	3,300	1
5ZA200323236015	200x32x31.75 A36 P5V GREY WHEEL	A36 P5V	200	32	31.75	A36	3,300	1
5ZA200323246015	200x32x31.75 A46 N5V GREY WHEEL	A46 N5V	200	32	31.75	A46	3,300	1
5ZA200323260015	200x32x31.75 A60 N5V GREY WHEEL	A60 N5V	200	32	31.75	A60	3,300	1
5ZA200325136068	200x32x50.8 A36 GREY WHEEL	A36 P5V	200	32	50.8	A36	3,300	1
5ZA200325160068	200x32x50.8 A60 GREY WHEEL	A60 N5V	200	32	50.8	A60	3,300	1
5ZA250253236015	250x25x31.75 A36 P5V GREY WHEEL	A36 P5V	250	25	31.75	A36	2,600	1
5ZA250253246015	250x25x31.75 A46 N5V GREY WHEEL	A46 N5V	250	25	31.75	A46	2,600	1
5ZA250253260015	250x25x31.75 A60 N5V GREY WHEEL	A60 N5V	250	25	31.75	A60	2,600	1
5ZA250257660015	250x25x76.2 A60 N5V GREY WHEEL	A60 N5V	250	25	76.2	A60	2,600	1
5ZA250323236015	250x32x31.75 A36 P5V GREY WHEEL	A36 P5V	250	32	31.75	A36	2,600	1
5ZA250323246015	250x32x31.75 A46 N5V GREY WHEEL	A46 N5V	250	32	31.75	A46	2,600	1
5ZA250323260015	250x32x31.75 A60 N5V GREY WHEEL	A60 N5V	250	32	31.75	A60	2,600	1
5ZA250325136068	250x32x50.8 A36 GREY WHEEL	A36 P5V	250	32	50.8	A36	2,600	1
5ZA250325146068	250x32x50.8 A46 GREY WHEEL	A46 N5V	250	32	50.8	A46	2,600	1
5ZA250325160068	250x32x50.8 A60 GREY WHEEL	A60 N5V	250	32	50.8	A60	2,600	1
5ZA250405136015	250x40x50.8 A36 P5V GREY WHEEL	A36 P5V	250	40	50.8	A36	2,600	1
5ZA250405146015	250x40x50.8 A46 N5V GREY WHEEL	A46 N5V	250	40	50.8	A46	2,600	1
5ZA250405160015	250x40x50.8 A60 N5V GREY WHEEL	A60 N5V	250	40	50.8	A60	2,600	1
5ZA250407660015	250x40x76.2 A60 N5V GREY WHEEL	A60 N5V	250	40	76.2	A60	2,600	1
5ZA300401274615	300x40x127 A46 N5V GREY WHEEL	A46 N5V	300	40	127	A46	2,200	1
5ZA300405136015	300x40x50.8 A36 P5V GREY WHEEL	A36 P5V	300	40	50.8	A36	2,200	1
5ZA300405146015	300x40x50.8 A46 N5V GREY WHEEL	A46 N5V	300	40	50.8	A46	2,200	1
5ZA300405160015	300x40x50.8 A60 N5V GREY WHEEL	A60 N5V	300	40	50.8	A60	2,200	1
5ZA300407636015	300x40x76.2 A36 P5V GREY WHEEL	A36 P5V	300	40	76.2	A36	2,200	1
5ZA300407646015	300x40x76.2 A46 N5V GREY WHEEL	A46 N5V	300	40	76.2	A46	2,200	1
5ZA300407660015	300x40x76.2 A60 N5V GREY WHEEL	A60 N5V	300	40	76.2	A60	2,200	1
5ZA300505136015	300x50x50.8 A36 P5V GREY WHEEL	A36 P5V	300	50	50.8	A36	2,200	1
5ZA300505146015	300x50x50.8 A46 N5V GREY WHEEL	A46 N5V	300	50	50.8	A46	2,200	1
5ZA300505160015	300x50x50.8 A60 N5V GREY WHEEL	A60 N5V	300	50	50.8	A60	2,200	1
5ZA300507636015	300x50x76.2 A36 P5V GREY WHEEL	A36 P5V	300	50	76.2	A36	2,200	1
5ZA350405136015	350x40x50.8 A36 N5V GREY WHEEL	A36 N5V	350	40	50.8	A36	1,900	1
5ZA350405146015	350x40x50.8 A46 N5V GREY WHEEL	A46 N5V	350	40	50.8	A46	1,900	1
5ZA350405160015	350x40x50.8 A60 N5V GREY WHEEL	A60 N5V	350	40	50.8	A60	1,900	1
5ZA350407636015	350x40x76.2 A36 P5V GREY WHEEL	A36 P5V	350	40	76.2	A36	1,900	1
5ZA350407646015	350x40x76.2 A46 N5V GREY WHEEL	A46 N5V	350	40	76.2	A46	1,900	1
5ZA350407660015	350x40x76.2 A60 N5V GREY WHEEL	A60 N5V	350	40	76.2	A60	1,900	1
5ZA3505012736015	350x50x127mm A36 N5V GREY WHEEL	A36 N5V	350	50	127	A36	1,900	1
5ZA3505012760015	350x50x127 A60 GRINDING WHEEL	A60 N5V	350	50	127	A60	1,900	1
5ZA350505136015	350x50x50.8 A36 P5V GREY WHEEL	A36 P5V	350	50	50.8	A36	1,900	1
5ZA350505146015	350x50x50.8 A46 N5V GREY WHEEL	A46 N5V	350	50	50.8	A46	1,900	1
5ZA350505160015	350x50x50.8 A60 N5V GREY WHEEL	A60 N5V	350	50	50.8	A60	1,900	1
5ZA400501273615	400x50x127 A36 GREY WHEEL	A36 P5V	400	50	127	A36	1,650	1
5ZA400501274615	400x50x127 A46 GREY WHEEL	A46 N5V	400	50	127	A46	1,650	1
5ZA400501276068	400x50x127 A60 GREY WHEEL	A60 N5V	400	50	127	A60	1,650	1
5ZA400502034615	400x50x203.2 A46 GREY WHEEL	A46 N5V	400	50	203.2	A46	1,650	1
5ZA400502036068	400x50x203.2 A60 GREY WHEEL	A60 N5V	400	50	203.2	A60	1,650	1
5ZA450655136015	450x65x50.8 A36 GREY WHEEL	A36 P5V	450	65	50.8	A36	1,400	1

Recommended for: ● Steel

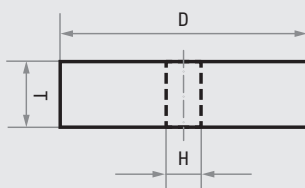
LUKAS VITRIFIED GRINDING WHEELS

MANUFACTURED TO MEET YOUR APPLICATION NEEDS

Silicone carbide grinding wheels



- grinding grey iron, chilled iron, brass, soft bronze, copper, aluminium, stone, marble, rubber, hard facing alloys and glass
- tested quality: high level of safety through regular testing
- precise removal with high speed
- low odour and dust levels
- allows for ergonomical working with little use of force

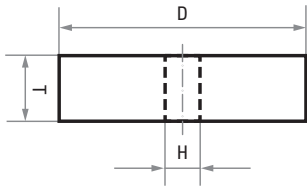


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Product number	Description	Quality	D mm	T mm	H mm	Grit	n _{max} rpm	Pack contains
5ZC150203260015	150x20x31.75 GC60 J5V GRN WHEEL	GC60 J5V	150	20	31.75	GC60	4,400	1
5ZC150203280015	150x20x31.75 GC80 J5V GRN WHEEL	GC80 J5V	150	20	31.75	GC80	4,400	1
5ZC150253260015	150x25x31.7 GC60 J5V GRN WHEEL	GC60 J5V	150	25	31.75	GC60	4,400	1
5ZC150253280015	150x25x31.75 GC80 GRND WHEEL	GC80 J5V	150	25	31.75	GC80	4,400	1
5ZC180253260015	180x25x31.75 GC60 J5V GRN WHEEL	GC60 J5V	180	25	31.75	GC60	3,700	1
5ZC200203260015	200x20x31.75 GC60 J5V GRN WHEEL	GC60 J5V	200	20	31.75	GC60	3,300	1
5ZC200253260015	200x25x31.75 GC60 J5V GRN WHEEL	GC60 J5V	200	25	31.75	GC60	3,300	1
5ZC200253280015	200x25x31.75 GC80 J5V GRN WHEEL	GC80 J5V	200	25	31.75	GC80	3,300	1
5ZC200253210015	200x25x31.75 GC100 J5V GRN WHEEL	GC100 J5V	200	25	31.75	GC100	3,300	1
5ZC200323260015	200x32x31.75 GC60 GREEN WHL J5V	GC60 J5V	200	32	31.75	GC60	3,300	1
5ZC200323210015	200x32x31.75 GC100 GREEN WHEEL	GC100 J5V	200	32	31.75	GC100	3,300	1
5ZC200325106068	200x32x50.8 GC60 GRINDING WHL	GC60 J5V	200	32	50.8	GC60	3,300	1
5ZC250253260015	250x25x31.75 GC60 J5V GRN WHEEL	GC60 J5V	250	25	31.75	GC60	2,600	1
5ZC250253280015	250x25x31.75 GC80 GREEN WHL	GC80 J5V	250	25	31.75	GC80	2,600	1
5ZC250323260015	250x32x31.75 GC60 J5V GRN WHEEL	GC60 J5V	250	32	31.75	GC60	2,600	1
5ZC250405160068	250x40x50.8 GC60 GRIND WHEEL	GC60 J5V	250	40	50.8	GC60	2,600	1
5ZC300253260015	300x25x31.75 GRIND WHEEL GC60	GC60 J5V	300	25	31.75	GC60	2,200	1
5ZC300405160015	300x40x50.8 GC60 J5V GRN WHEEL	GC60 J5V	300	40	50.8	GC60	2,200	1
5ZC300505160015	300x50x50.8 GC60 J5V GRN WHL	GC60 J5V	300	50	50.8	GC60	2,200	1
5ZC350405160015	350x40x50.8 GC60 JV GREEN WHL	GC60 J5V	350	40	50.8	GC60	1,900	1
5ZC350407660015	350x40x76 GC60 GRIND WHEEL	GC60 J5V	350	40	76	GC60	1,900	1

Recommended for: ● Steel

Reducer bushes



Product number	Description	D mm	T mm	H mm	Pack contains
5ZR321360068	31.75x12.7x6.3 Wheel bore reducer	31.75	6.3	12.7	1
5ZR321660068	31.75x15.88x6.3 Wheel bore reducer	31.75	6.3	15.88	1
5ZR321960068	31.75x19.05x6mm Wheel bore reducer	31.75	6.0	19.05	1
5ZR322260068	31.75x22.23x6mm Wheel bore reducer	31.75	6.0	22.23	1
5ZR322560068	31.75x25.4x6mm Wheel bore reducer	31.75	6.0	25.4	1
5ZR513290068	51x32x9mm Wheel bore reducer	51.00	9.0	32.0	1