Machines:

KLINGSPOR abrasive mop wheels can, depending on the dimensions, be used with the following machines:

Stroke grinders

Flexible shafts

Stationary floor-stand grinders

The abrasive mop wheel

Developed by KLINGSPOR over 40 years ago the abrasive mop wheel has found many practical and economical uses in surface finishing work. The KLINGSPOR abrasive mop wheel is comprised of high quality grinding flaps coated with aluminium oxide. The fan-shaped radial arrangement is firmly anchored by a resign core at the centre of the abrasive mop wheel. The structure of the abrasive mop wheel provides for very soft, comfortable grinding behaviour and adapts optimally to the contours of the work piece. KLINGSPOR abrasive mop wheels are especially suited for achieving a very smooth surface finish.

KLINGSPOR has the perfect abrasive mop wheel to suit every surface, ranging from even to profiled surfaces, and is suited for nearly every material.

Minimum order quantities for manufactured items

Product	Diameter in mm	Mininum order quantities
FSR 618	165	20 pieces
	200 – 300	10 pieces
	350 – 400	4 pieces
MM 650	100 – 165	20 pieces
	200 – 300	10 pieces

Product	Diameter in mm	Mininum order quantities
SM 611 SM 611 W	100 – 165	20 pieces
	200 – 300	10 pieces
	350 – 410	4 pieces
NFW 600 / NCW 600	100 – 165	20 pieces
	200 – 300	10 pieces
	350 – 410	4 pieces

Description	Type	Page	Material applications																Machine applications					
			Metal	Apparatus / container engineering	Precision engineering	Mould making	Fittings	Pipes	Profiled sections	Tools	Mountings	Cutlery	Wood	Contoured wood	Model construction	Profiled sections	Paint / varnish / fillers	Plastics	Flexible shafts	Drilling machines	Stroke grinder	Automatic grinders	Floor-stand grinders	Angle grinderr
Abrasive mops	SM 611	158, 167	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	
	SM 611 W	160	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	
	SM 611 H	160	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	
	MM 630	162	●	○		○		○	○				●	●	●	●	●	○	●	●	●			
	MM 650	161	●	●	○	○	○	○	●		○		●	●	●	●	●	○	●		●		●	
	WSM 617	163	●	●	●	●	●	●	●	●	●	●	○	○	●	●	●	●	○					●
	FSR 618	164	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	○	●			●	●	
	NCW 600	165, 167	●	●	●	●	●	●	●	●	●	●						○	●		●			
	NFW 600	165, 168	●	●	●	●	●	●	●	●	●	●												

● = main application ○ = possible application

Mounting

**Abrasive mop wheels SM 611, MM 650,
Abrasive cloth mop wheels NCW/NFW 600**

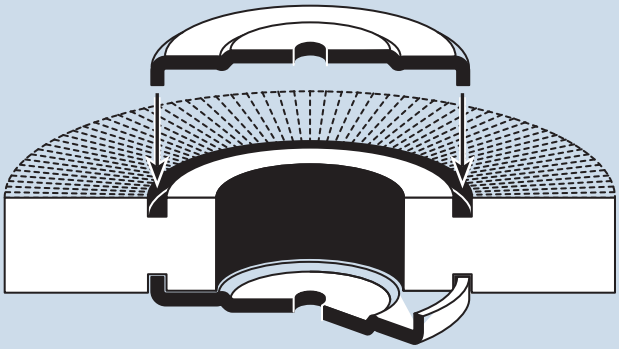
These abrasive mop wheels are mounted to the machine spindle with two SMD 612 mounting plates.

Correct mounting is important!

To ensure that the abrasive mop wheel runs smoothly, please check that the mounting plates are mounted evenly and fit tightly to the inner edge of the metal side mounting plate retaining grove.

The mounting plates are equipped with mounting bore holes. Making bore hole adjustments to fit the respective shaft diameter easy and quick – by simply drilling the appropriate bore hole diameter. Please refer to product text SMD 612 for more information on maximum bore hole diameters.

ATTENTION: Mop wheels are only to be mounted with SMD 612. The metal side mounting plate bore hole is not suitable for mounting!



Abrasive mop wheel SM 611 H

The abrasive mop wheel with a wooden core is preferred for work on floor-stand grinders with cone shaped mounting spindles. It can be mounted directly on the machine spindle without the use of a mounting plate. Abrasive mop wheel SM 611 H is equipped with a Ø 13 mm bore hole. Making bore hole adjustments to fit the respective shaft diameter easy and quick - by simply drilling the appropriate bore hole diameter.

Abrasive mop wheel SM 611 W

This abrasive mop wheel is equipped with a Ø 25.4 mm mounting bore hole and can be mounted to a machine without the use of a mounting plate.

**Abrasive flap drum SM 611,
Abrasive mop drum NCW / NFW 600**

These drums are equipped with mounting bore holes starting from 19 mm for all standard satin finishing machines with the corresponding machine spindles.

WSM 617

WSM 617 is a second generation abrasive mop wheel with integrated M14 and ⅝" internal threads. This wheel can be mounted and demounted to an angle grinder without the use of any additional tools.

The surface scratch pattern

The abrasive mop wheel's construction makes it perfect for achieving a smooth surface finish.

The abrasive mop wheel achieves a significantly smoother surface finish as compared to that of a belt grinder. When choosing a grit size please select a girt size that is 2-3 sizes rougher than that used with a belt grinder.

Abrasive mop wheel 40 grit

- long continuous line pattern
- minimum depression
- smooth finish

Abrasive belt 40 grit

- short distinctive line pattern
- rough surface
- high contrast finish

Factors influencing the grinding result

The surface finish is dependent upon a wide range of process parameters.

The table below illustrates the different influencing factors and their affect on the grinding result.

Influencing factor / Grinding result		Stock removal*	Surface finish	Service life
Cutting rate	high	increases	finer	shorter
	low	decreases	rougher	longer
Tool / grinding pressure	high	increases	rougher	shorter
	marginal	decreases	finer	longer
Grit size	rough	increases	rougher	shorter
	fine	decreases	rougher	longer
Grinding aids (oils, lubricants)	without	increases	rougher	shorter
	with	decreases	finer	longer

* Note: the essential parameters that affect the stock removal rate is the selection of a rougher (more stock removal) or finer (less stock removal) grit.

Packet assembling

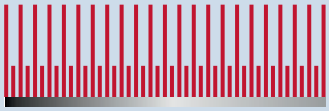
Another way to influence the grinding result is packet assembling. During packet assembling an intermediate layer is stamped between the cloth flaps. This creates space between the individual flaps, which influences the grinding behaviour of the wheel. The higher the ratio of grinding flaps to intermediate layers, the harder the abrasive mop wheel.

The standard abrasive mop wheel is manufactured without packet assembling.

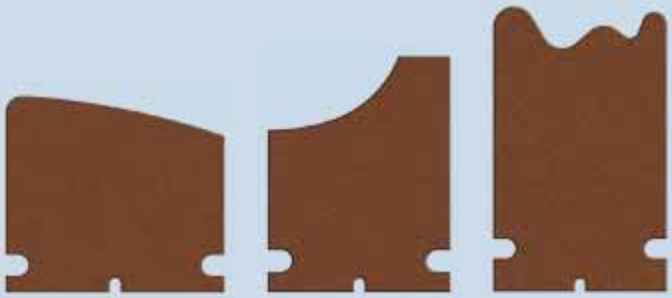
Exception: Starting at a diameter of ≥ 250 mm, a width of ≥ 50 mm, and a grit size 220 and finer, abrasive mop wheels are manufactured with a packet assembly ratio of 5:1.

5:1

3:1



1:1



Flap Profiling

Pre-profiled abrasive mop wheels are designed to adapt perfectly to the contours of your individual work piece and provide excellent results from the very beginning. Time-consuming pre-profiling of the Abrasive Mop is no longer needed.

If you require an individualized abrasive mop wheel, we would be pleased to assist you with this.

Selection of the correct mop diameter

To be able to work at the optimal cutting rate (38-42 m/s) the selection of the abrasive mop diameter for machines, that are not equipped with RPM setting functionality, is based on the set RPM.

Machines that are equipped with RPM setting functionality are to be set according to the abrasive mop wheel diameter settings.

Attention! Before turning the machine on please check that the pre-set RPM does not exceed the maximum abrasive mop RPM setting.

Please refer to the adjoining table for the correct abrasive mop diameter settings for the optimal RPM range.

If the abrasive mop wheel is used at the optimal RPM setting, the grinding flaps stand up straight as result of the centrifugal forces around the core and provide optimum abrasive mop wheel grinding properties. Only the edges of the grinding flaps are subjected to wear and tear. This results in the use of new and sharper grits. This ensures uniform stock removal and surface finish – from the first to the last work piece.

Suboptimal RPM settings (too low) result in the incorrect positioning of the grinding flap as a result of tool / grinding pressure. This results in wear and tear on the grit side of the grinding flaps, and the area the abrasive mop wheel grinds is too large, which in turn results in higher friction between the work piece and the grinding flaps. Consequently the work piece and abrasive mop wheel are subjected to a higher thermal load and a higher degree of wear and tear on the grinding flaps. Ultimately, this can result in the failure of the abrasive mop wheel and damaged grinding flaps.

Mop-Ø [mm]	Recommended RPM range [min-1] (38 - 42 m/s)
100	7,300 – 8,000
140	5,200 – 5,700
165	4,400 – 4,800
200	3,650 – 4,000
250	2,900 – 3,200
300	2,400 – 2,650
350	2,100 – 2,300
380	1,900 – 2,100
410	1,750 – 1,950
480	1,500 – 1,650
510	1,400 – 1,550

Maximum RPM:

KLINGSPOR SM 611 abrasive mop wheels are certified for widths of ≤ 100 mm and maximum revolutions per minute of 50 m/s.

Optimal cutting rate:

The abrasive mop wheel's optimum performance range is a cutting rate between 38-42 m/s.

The safe use of KLINGSPOR abrasives

KLINGSPOR abrasive mops are manufactured in accordance with the oSa and EN 13743 standards, this ensures the highest level of user safety.


Wear safety goggles or glasses to protect the eyes


Wear a dust mask


Use ear muffs


Wear safety gloves to protect hands


Observe safety instructions


Do not use for wet grinding