



TYROLIT GRINDING GUIDE

Complete solutions for floor grinding

Premium grinding tools since 1919
www.tyrolit.com

TYROLIT

The TYROLIT Group

TYROLIT is one of the world's leading manufacturers of grinding and dressing tools as well as a system provider for the construction industry.

Since 1919, our innovative tools have made an important contribution to the technological development in many industries. TYROLIT offers tailored grinding solutions for various applications, as well as a comprehensive assortment of standard tools for customers all over the world.

Headquartered in Schwaz (Austria), the family-owned business combines the strengths of being a part of the dynamic Swarovski Group with a century's worth of individual corporate and technological experience.



TYROLIT headquarters in Schwaz (Austria)

Facts & Figures



80.000
products



29
production sites



4.400+
employees worldwide



36
sales locations



500+
worldwide patents

Sales companies in Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Czechia, Denmark, Estonia, Finland, France, Germany, Hungary, India, Indonesia, Italy, the Netherlands, Norway, Poland, Portugal, Russia, South Africa, South Korea, Spain, Sweden, Switzerland, Thailand, the UAE, the UK and the USA. Distributors in 65 other countries.

Floor grinding solutions from TYROLIT

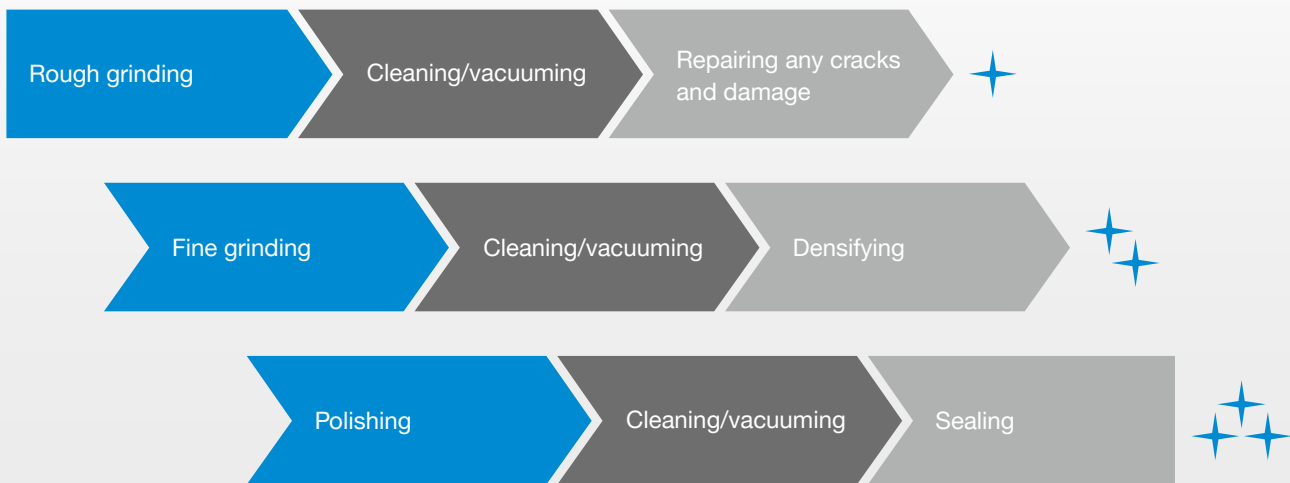
The TYROLIT range of floor grinding products includes system solutions for the perfect grinding and polishing of new floors, for refinishing including the removal of stubborn surface coatings (e.g. adhesive) as well as for the maintenance of concrete and stone floors.

The grinding tools are available in graduated grit sizes and can be combined easily and flexibly depending on the surface. The tools are available for both the TYROLIT machine range as well as for machines from other manufacturers.

Floor grinding in a nutshell

For a new floor, the first step is to grind the raw, dried out floor using metal-bond diamond tools of different grit sizes. Then resin or ceramic-bond tools are used for finer grinding and polishing. After each grinding step, the excess material/sludge/dust is removed.

Various chemicals are used at certain stages of the floor grinding process. Depending on the desired surface characteristics, more or fewer grinding and polishing steps with different tools are needed.



Surface finishes with the floor grinder

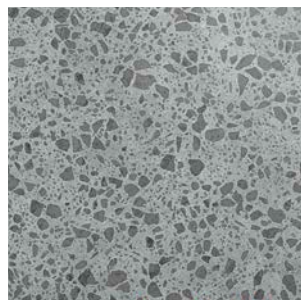
Depending on the number of grinding steps and on the different grit sizes, more or less aggregate in the concrete (crushed stone etc.) will be exposed. Besides the impact on the final look, this also affects the hardness and resistance of the floor. The more aggregate is exposed, the harder and more resistant the surface is. The final result depends on the number of grinding and polishing steps. From a visually rough floor surface left in a very natural state to a high-gloss surface in classic terrazzo look, everything is possible.



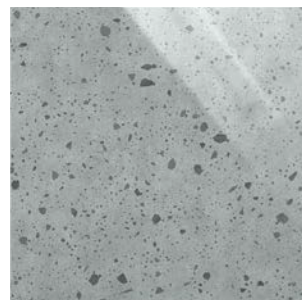
Floor finish	Starting point	End result			Rough grinding (metal-bond)			Pre-polishing (ceramic-resin bond)			Polishing (resin-bond)			
		Shine	Visible aggregate	Effort required	Grit size 30 - 50	Grit size 60 - 100	TYROLIT Pore Filler	Grit size 50	Grit size 100	TYROLIT Densifier 3	Grit size 100	Grit size 200 - 400	Grit size 800 - 3000	TYROLIT Sealer 50
Essential Finish	Even/smooth	●●○○○	●○○○○	●●○○○	-	-	-	x	x	x		x	-	x
Silk Matt Finish	Rough/uneven	●●○○○	●●●●○	●●●○○	x	x	x	-	x	x	x	-	-	x
Shine Finish	Even/smooth	●●●○○	●●●○○	●●●●●	-	x	x	-	x	x	x	x	x	x
High Gloss Finish	Rough/uneven	●●●●●	●●●●●	●●●●●	x	x	x	-	x	x	x	x	x	x



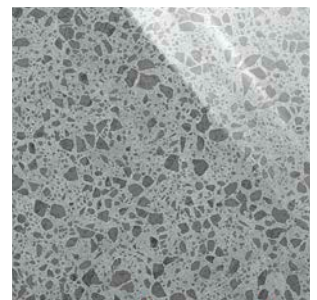
Essential Finish



Silk Matt Finish



Shine Finish



High Gloss Finish

Floor grinding with the power trowel

TYROLIT developed three different methods of machining with the power trowel, along with the corresponding tools and floor treatment agents.

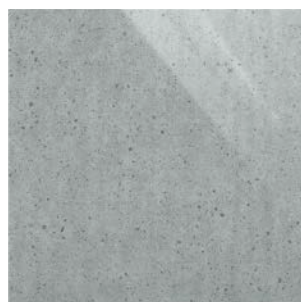
The end result produced by these methods varies from a matt look to slightly shiny to high gloss. All the grinding and polishing steps are carried out using the power trowel in a wet application.



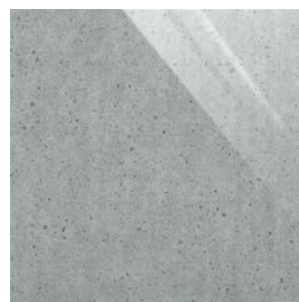
Floor finish	Starting point	End result			Pre-polishing (ceramic-resin bond)			Polishing (resin-bond)			
		Shine	Visible aggregate	Effort required	Grit size 50	Grit size 100	TYROLIT Densifier 3	Grit size 100	Grit size 200 - 400	Grit size 800 - 3000	TYROLIT Sealer 50
Matt Floor	Even/smooth	●●○○○○	●○○○○○	●●○○○○	x	-	x	x	-	-	x
Semi Gloss Floor	Even/smooth	●●●○○○	●●○○○○	●●○○○○	x	x	x	-	x	-	x
Gloss Floor	Even/smooth	●●●●●○	●●●○○○	●●●○○○	x	x	x	-	x	x	x



Matt Floor



Semi Gloss Floor



Gloss Floor

Surface finishes with the floor grinder

TYROLIT offers a large range of floor grinding tools and machines for all kind of applications. In addition, TYROLIT has developed systemic floor grinding solutions for different surface finishes. Below you find an overview of the 4 most common concrete floor finishes, including the grinding and polishing steps, as well as the corresponding tools and chemicals for the ideal floor finish.

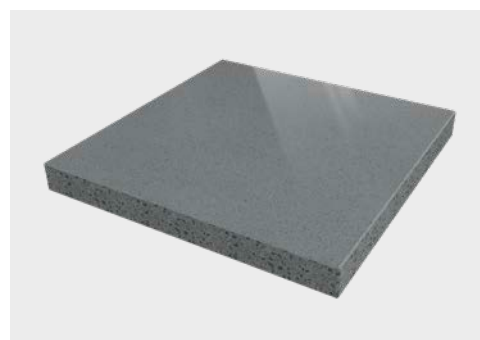
Depending on the characteristics of the floor, it may not be necessary to carry out all steps. TYROLIT recommends using flexible tool holders from the TYROLIT product range for resin-bond diamond tools.



ESSENTIAL FINISH

For a matt concrete look with little visible aggregate

- + Floor surface is already even and uniform
- + No rough grinding necessary
- + Densify with the TYROLIT Densifier 3 after the pre-polishing steps
- + TYROLIT FGPU-T Diamant Turbo Pads recommended for the final polishing steps
- + Final sealing with TYROLIT Sealer 50



Shine	● ● ○ ○ ○
Visible aggregate	● ○ ○ ○ ○
Effort required	● ① ○ ○ ○

Step		Grit size	Tool	Chemical
1	Pre-polishing	50	Ceramic-resin bond	
2		100	Ceramic-resin bond	
3				TYROLIT Densifier 3
4	Polishing	200	Resin-bond	
5		400	Resin-bond	
6				TYROLIT Sealer 50

SILK MATT FINISH

For a semi-matt surface with terrazzo look

- + Leveling and smoothing using metal-bond tools
- + TYROLIT Pore Filler 100 for repairing small cracks/damage before pre-polishing
- + Densify with the TYROLIT Densifier 3 after the pre-polishing step
- + Removal of scratches from the preceding grinding steps necessary
- + Final sealing with TYROLIT Sealer 50



Shine ●●○○○

Visible aggregate ●●●●○

Effort required ●●●○○

Step		Grit size	Tool	Chemical
1	Rough grinding	40	Metal-bond	
2		80	Metal-bond	
3				TYROLIT Pore Filler 100
4	Pre-polishing	100	Ceramic-resin bond	
5				TYROLIT Densifier 3
6	Polishing	100	Resin-bond	
7				TYROLIT Sealer 50



SHINE FINISH

For a high-gloss surface with a slight terrazzo look

- + Prerequisite is a smooth, even surface
- + TYROLIT Pore Filler 100 for repairing small cracks/damage before pre-polishing
- + Densify with the TYROLIT Densifier 3 after the pre-polishing step
- + Few grinding steps, but several polishing steps
- + Final sealing with TYROLIT Sealer 50



Shine	●●●●○
Visible aggregate	●●●○○
Effort required	●●●●○

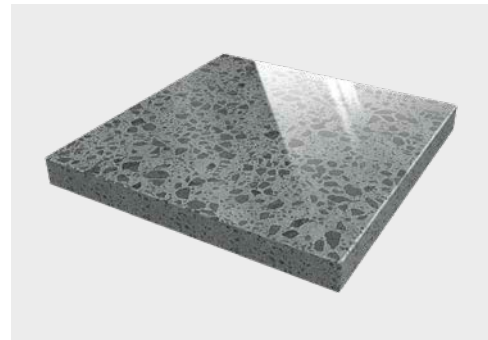
Step		Grit size	Tool	Chemical
1	Rough grinding	80	Metal-bond	
2				TYROLIT Pore Filler 100
3	Pre-polishing	120	Metal-bond OR ceramic-resin bond	
4				TYROLIT Densifier 3
5		100	Resin-bond	
6		200	Resin-bond	
7	Polishing	400	Resin-bond	
8		800	Resin-bond	
9		3000	Resin-bond	
10				TYROLIT Sealer 50



HIGH GLOSS FINISH

For a long-lasting, sealed floor with high-gloss terrazzo look

- + Surface is levelled and smoothed using metal-bond tools
- + Machining of a raw and partially uneven surface
- + TYROLIT Pore Filler 100 for repairing small cracks/damage before pre-polishing
- + Intensive grinding and polishing
- + Densify with the TYROLIT Densifier 3 after the pre-polishing step
- + Removal of scratches from the preceding grinding steps necessary
- + Final sealing with TYROLIT Sealer 50



Shine	● ● ● ● ●
Visible aggregate	● ● ● ● ●
Effort required	● ● ● ● ●

Step		Grit size	Tool	Chemical
1	Rough grinding	40	Metal-bond	
2		80	Metal-bond	
3				TYROLIT Pore Filler 100
4	Pre-polishing	120	Metal-bond OR ceramic-resin bond	
5				TYROLIT Densifier 3
6	Polishing	100	Resin-bond	
7		200	Resin-bond	
8		400	Resin-bond	
9		800	Resin-bond	
10		3000	Resin-bond	
11				TYROLIT Sealer 50

IMPORTANT:

The degree of hardness of metal-bond tools must be matched to the degree of hardness of the floor. TYROLIT offers all the metal-bond tools in various degrees of hardness. With resin-bond tools, it is up to the user whether they want to use ring tools, disk-shaped tools or polishing pads with turbo layer. Ring and disk tools must be used with flexible tool holders with Velcro fastening. The user can choose between wet and dry application.

Floor grinding with the power trowel

Wet application

If power trowels are used to smooth the fresh, cementitious floor, this will result in a already smooth and even surface. TYROLIT offers the right tools for grinding and polishing such floors using power trowels.

For this kind of surfaces, grinding steps with metal bond tools are usually not required. However, if it should be necessary to level and smooth the dried concrete surface, TYROLIT also offers **metal-bond tools for power trowels**.

For working on levelled surfaces resin-bond tools and diamond maintenance pads are used. The pre-polishing and polishing steps with these tools are applied on new concrete floors, but can also be applied when refurbishing old floors using power trowels.



MATT FLOOR

For a floor with a matt finish

- + Just one pre-polishing and one polishing step required
- + Densify with the TYROLIT Densifier 3 after the pre-polishing step
- + Final sealing with TYROLIT Sealer 50



Shine	●●○○○
Visible aggregate	●○○○○
Effort required	●●○○○

Step		Grit size	Tool	Chemical
1	Pre-polishing	50	Resin-bond ring tool	
2				TYROLIT Densifier 3
3	Polishing	100	Resin-bond ring tool	
4				TYROLIT Sealer 50

SEMI GLOSS FLOOR

For a floor with a slightly shiny surface

- + Two pre-polishing steps with different grit sizes
- + Densify with the TYROLIT Densifier 3 after the pre-polishing steps
- + Two polishing steps with different grit sizes
- + Final sealing with TYROLIT Sealer 50



Shine	●●●○○
Visible aggregate	●●○○○
Effort required	●●○○○

Step		Grit size	Tool	Chemical
1	Pre-polishing	50	Resin-bond ring tool	
2		100	Resin-bond ring tool	
3				TYROLIT Densifier 3
4	Polishing	200	Resin-bond ring tool	
4a		400	Resin-bond ring tool*	
5				TYROLIT Sealer 50

*Optional depending on circumstances

GLOSS FLOOR

For a floor with a high-gloss look

- + Various pre-polishing and polishing steps
- + Densify with the TYROLIT Densifier 3 after the pre-polishing steps
- + Sealing with the TYROLIT Sealer 50
- + Final polishing step with the TYROLIT Maintenance Pad for even more gloss



Shine	●●●●●
Visible aggregate	●●●○○
Effort required	●●●○○

Step		Grit size	Tool	Chemical
1	Pre-polishing	50	Resin-bond ring tool	
2		100	Resin-bond ring tool	
3				TYROLIT Densifier 3
4	Polishing	200	Resin-bond ring tool	
5		400	Resin-bond ring tool	
6		800	Resin-bond ring tool	
7				TYROLIT Sealer 50
8	Polishing	3000	TYROLIT Maintenance Pad	

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