

# FiboTec

0 1 1 2 3 5 8 13 21 34



Fibonacci

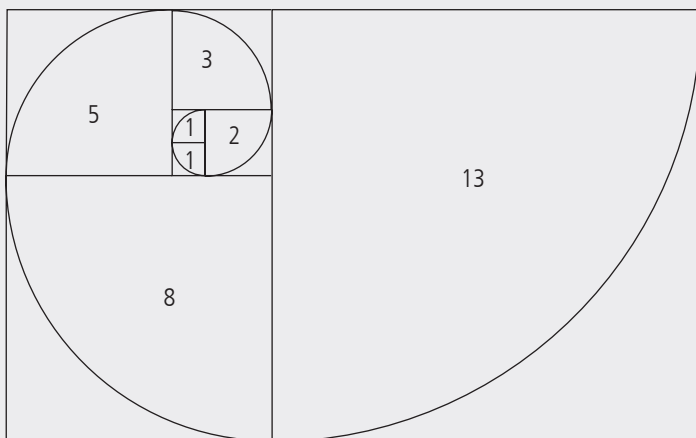
## FiboTec multi-hole

An idea borrowed from nature. The innovation by sia Abrasives.





## The Fibonacci Principle



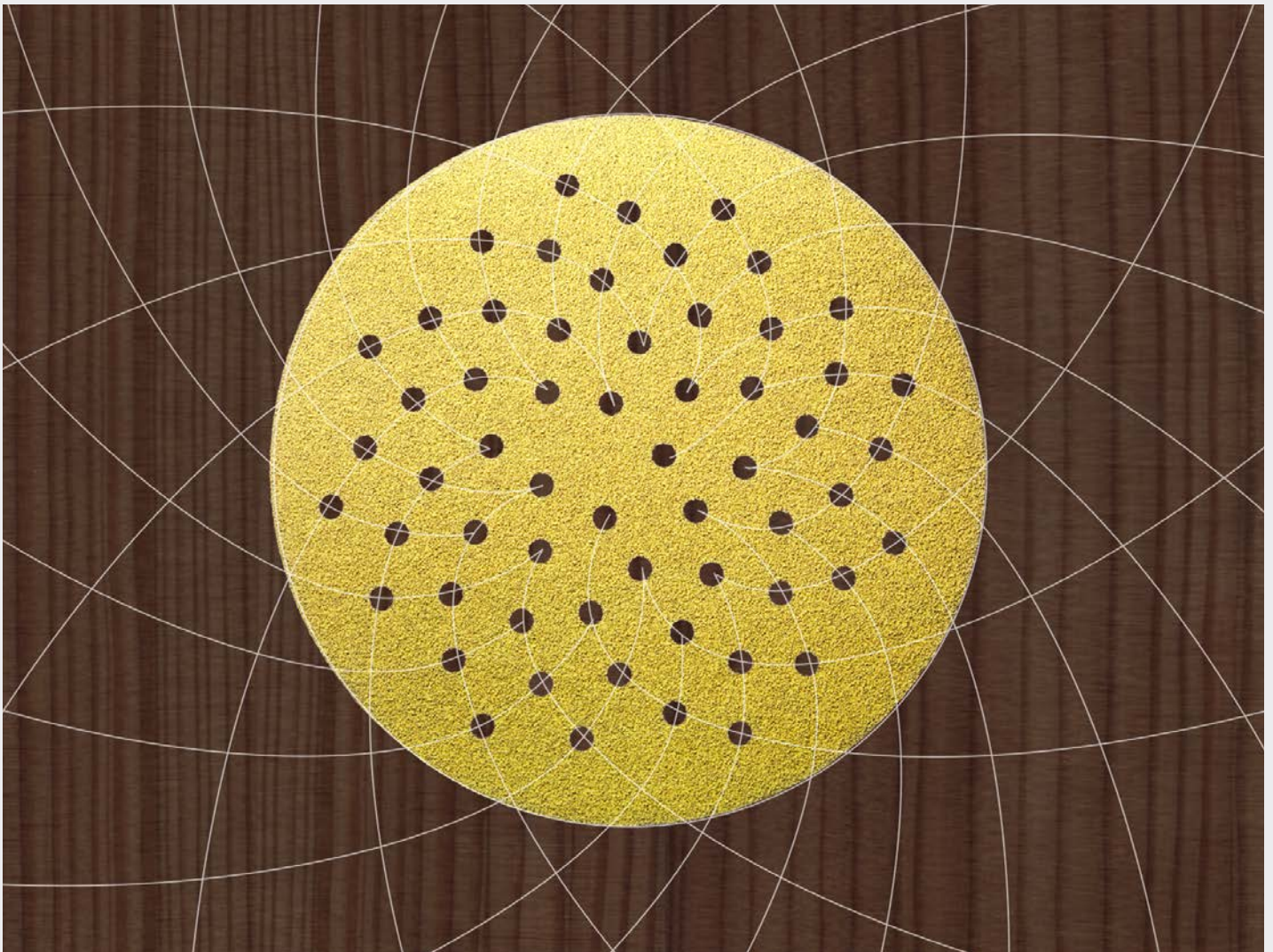
### The sunflower principle

Nature is a master of engineering. For all nature's diversity, there is one shape which crops up time and time again. A spiral structure based on a string of numbers known as the Fibonacci Sequence, where each successive number is equal to the sum of the two preceding numbers: 0, 1, 1, 2, 3, 5, 8, 13, 21, ... Spirals such as this occur throughout nature, from the tiniest things to the biggest – from snails and flowers to hurricanes and entire galaxies.

The arrangement of the seeds on a sunflower is anything but random. Quite the opposite, in fact: the seeds grow in opposing, intersecting spirals to create an offset effect. This allows the sunflower to accommodate the greatest possible number of seeds without any of these seeds blocking each other's sunlight.

**The result:** maximum light yield!





### Used for FiboTec

Taking inspiration from nature and the Fibonacci Sequence, sia Abrasives has developed a groundbreaking new hole pattern for its abrasives. The holes in the abrasive disc are arranged on opposing spirals, such as are found on a sunflower. In sanding applications this hole pattern provides superior dust extraction, significantly reduced clogging and longer life of abrasive materials.

Compared to standard hole patterns, FiboTec offers up to 35% faster removal rate with less dust residue on the workpiece and in the workspace.

**The result:** higher abrasive performance thanks to maximum dust extraction!



## The proof

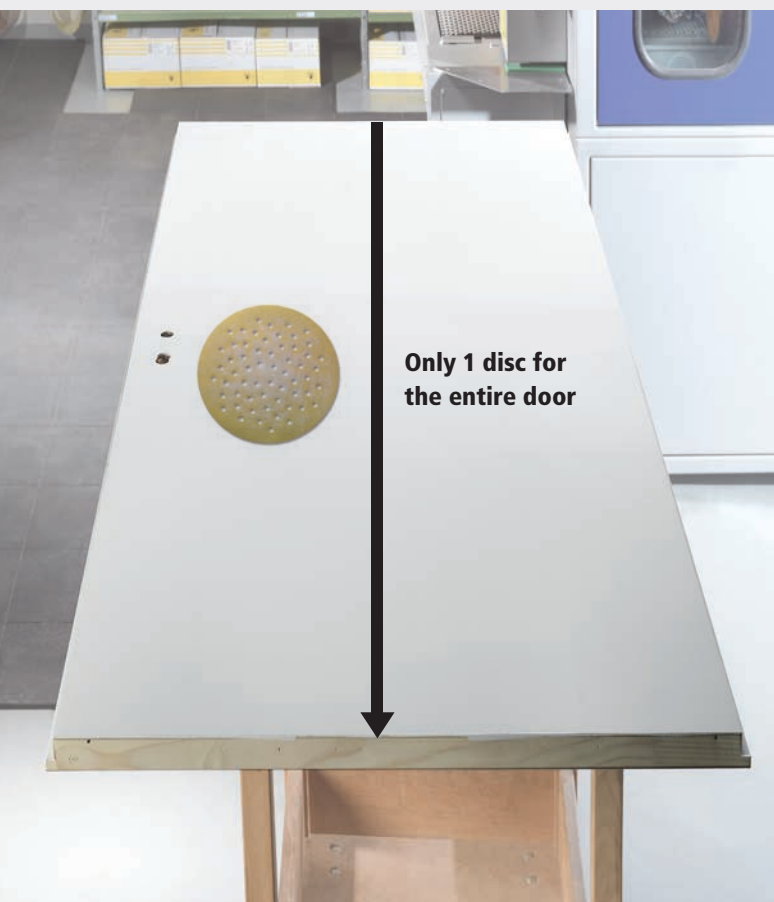


### Proven in nature. Tried and tested.

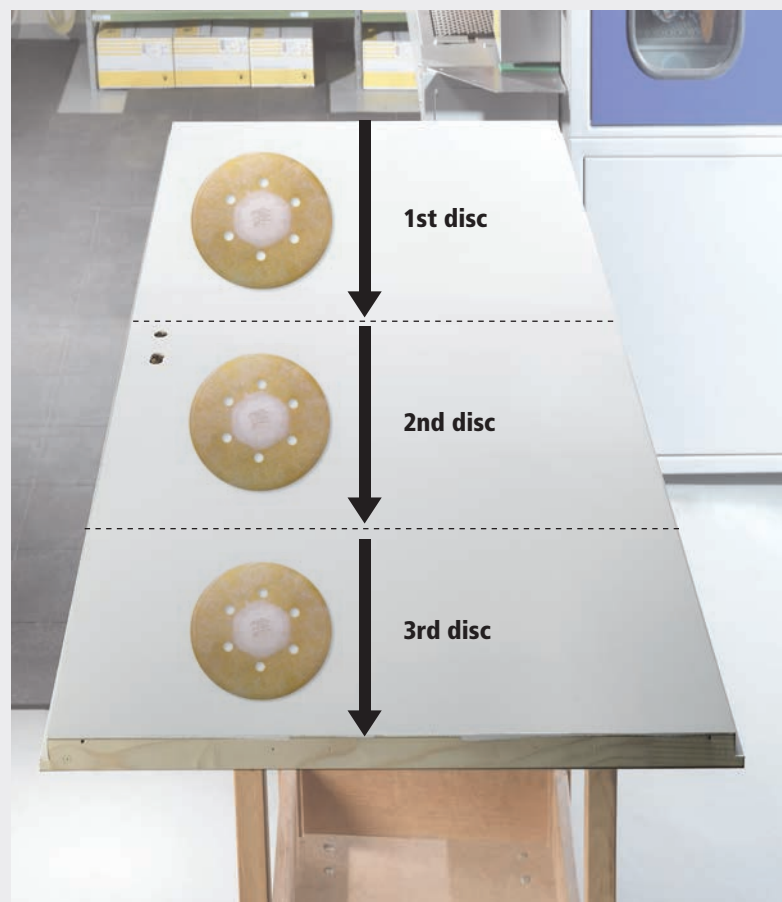
As with all our innovations, FiboTec underwent testing in practical conditions.

The result: FiboTec is much more efficient than standard hole patterns. A real innovation!

### FiboTec multi-hole



### Standard hole pattern



**With FiboTec you achieve up to 3 times higher abrasive performance than with standard hole patterns.**

This data was obtained under the following conditions:  
Abrasive: 1960 siarexx, Ø 150 mm, grit: 240. Material: acrylic-based water lacquer.  
Machines: eccentric, 150 mm, 3 mm stroke. Backing pad: 103-hole, soft.



### Best dust extraction rates

The offset between the holes on the opposing spirals ensures reliable dust extraction across almost the entire surface of the abrasive while the disc is rotating. This reduces dust exposure for people and the environment.



### Minimal clogging

FiboTec has a big advantage, especially when working with materials that easily clog. Thanks to its superior extraction capacity, the abrasive performs measurably better even under extreme conditions and, above all, for longer than abrasives with a standard hole pattern.

## Up to 35% faster material removal and 3 times longer lifetime due to:

- Better dust extraction
- Less clogging



### Simple handling

The FiboTec multi-hole system allows easy attachment of the abrasive disc to the backing pad, since the holes in the disc do not have to be matched up with the holes in the pad. Keeps working interruptions to a minimum.



### Easy grit size recognition

With FiboTec, the grit size is easy to identify – even after sanding. At a grit of 100 – 180, the grit size is cut into the disc by laser. That way, the grit size can be reliably determined even after use and even if the back of the abrasive disc is completely covered with dust.

## Collectively, these advantages make for:

- Higher productivity
- Higher process stability
- Better occupational health and safety



**1960 siarexx, FiboTec 41-hole disc**

Ø 125 mm, grit: 40 - 80, 220 - 600

Art. ID: 5016.4703

**1960 siarexx, FiboTec 41-hole disc**

Ø 125 mm, grit: 100 - 180

Art. ID: 5730.7754



**1960 siarexx, FiboTec 59-hole disc**

Ø 150 mm, grit: 40 - 80, 220 - 600

Art. ID: 2495.3926

**1960 siarexx, FiboTec 59-hole disc**

Ø 150 mm, grit: 100 - 180

Art. ID: 9350.2421



**1748 sialac, FiboTec 41-hole disc**

Ø 125 mm, grit: 220 - 400

Art. ID: 0436.1990



**1748 sialac, FiboTec 59-hole disc**

Ø 150 mm, grit: 150 - 400

Art. ID: 7861.2406



**1950 siaspeed, FiboTec 41-hole disc**

Ø 125 mm, grit: 40, 60, 80

Art. ID: 4800.6167

**1950 siaspeed, FiboTec 86-hole disc**

Ø 125 mm, grit: 100 - 600

Art. ID: 0973.4197



**1950 siaspeed, FiboTec 59-hole disc**

Ø 150 mm, grit: 40, 60, 80

Art. ID: 2279.5390

**1950 siaspeed, FiboTec 119-hole disc**

Ø 150 mm, grit: 100 - 600

Art. ID: 8420.1301



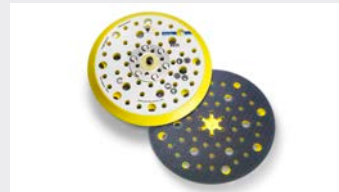
**Multi-hole backing pad  
54-hole, yellow, 5/16"**

Ø 125 mm, soft

Art. ID: 0020.6728.01

Ø 125 mm, hard

Art. ID: 0020.6729.01



**Multi-hole backing pad  
54-hole, yellow, 5/16"**

Ø 150 mm, soft

Art. ID: 0020.6734.01

Ø 150 mm, hard

Art. ID: 0020.6735.01



**Multi-hole backing pad  
103-hole, 5/16" + M8**

Ø 150 mm, extra-soft

Art. ID: 0020.5742.01

Ø 150 mm, soft

Art. ID: 0020.5740.01

Ø 150 mm, hard

Art. ID: 0020.5741.01



**103-hole intermediate pad**

Ø 150 mm

Art. ID: 0020.5886.01



Less dust



Less clogging



Faster removal rate



**sia Abrasives Industries AG**

8501 Frauenfeld  
Switzerland

Art. ID: 0020.7173.01  
06.207.en.0213  
© by sia Abrasives Industries AG – All rights reserved

**[www.sia-abrasives.com](http://www.sia-abrasives.com)**

