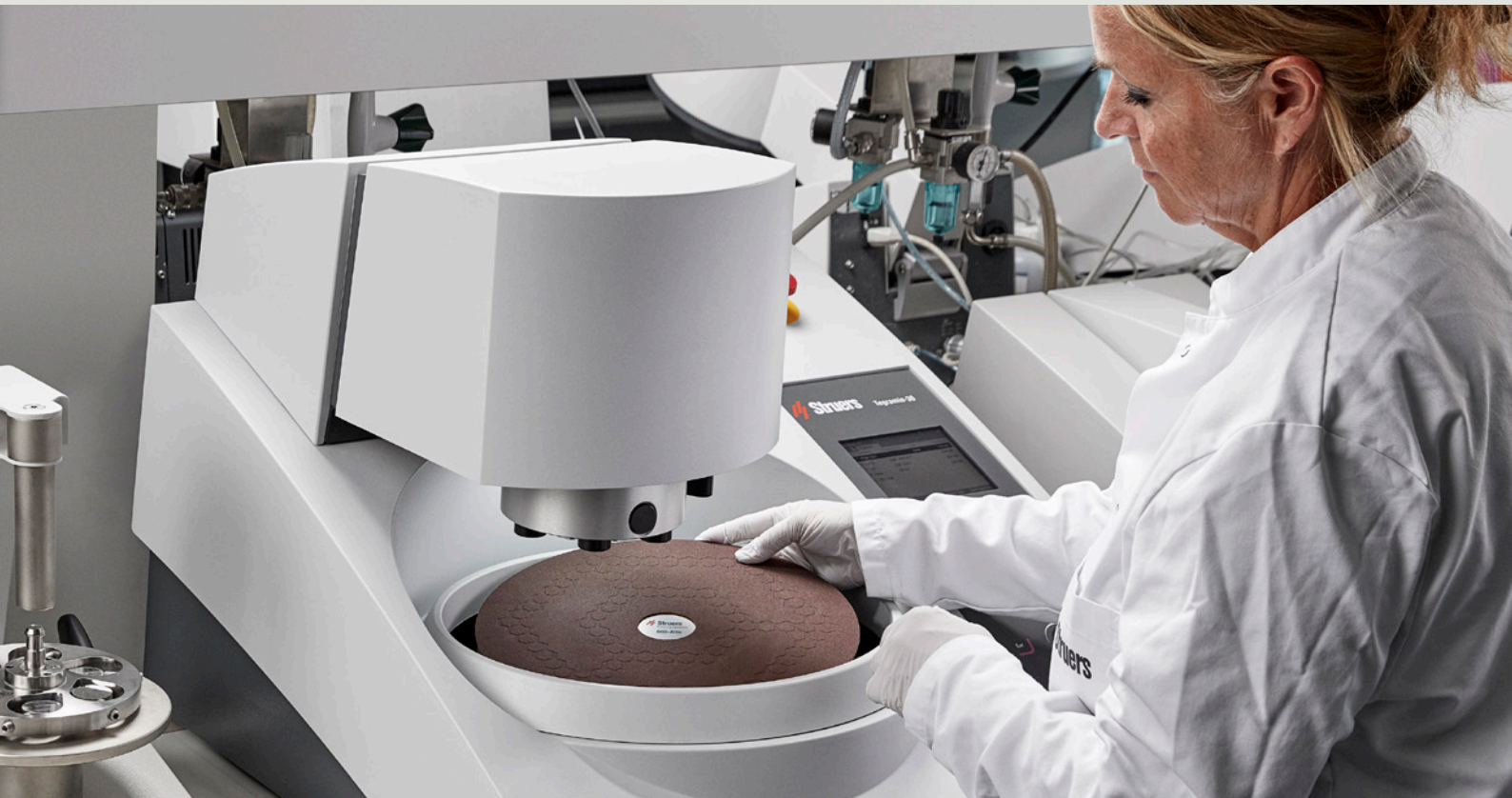




# DEEP DIVE INTO MD-ALTO

Tests, data and proofs





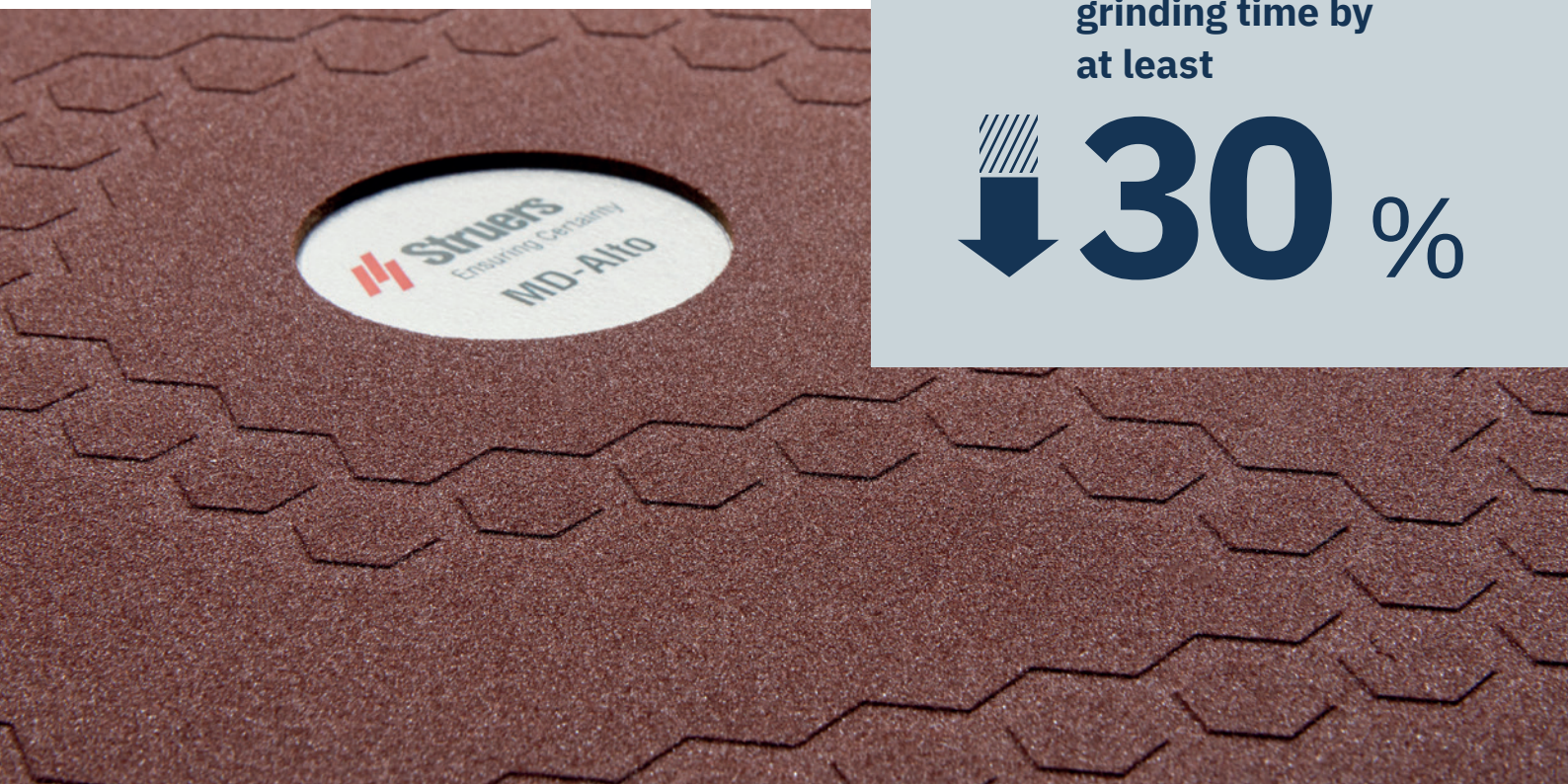
# AN ADVANCED ALTERNATIVE

If you work with ductile materials, MD-Alto offers an advanced alternative to traditional methods using Grinding Stones or SiC Foils or Papers. MD-Alto can optimize not only your plane grind step but your overall materialographic process in several ways:

- ✓ **Save time** compared to SiC Foil or Paper especially when grinding large specimens
- ✓ **Achieve high quality** and reproducible results
- ✓ **Deburr specimens** if you do not have a materialographic cutting setup
- ✓ **Save the space** of a high volume plane grinding station
- ✓ **Reduce your waste** and limit your environmental impact

Reduce your plane grinding time by at least

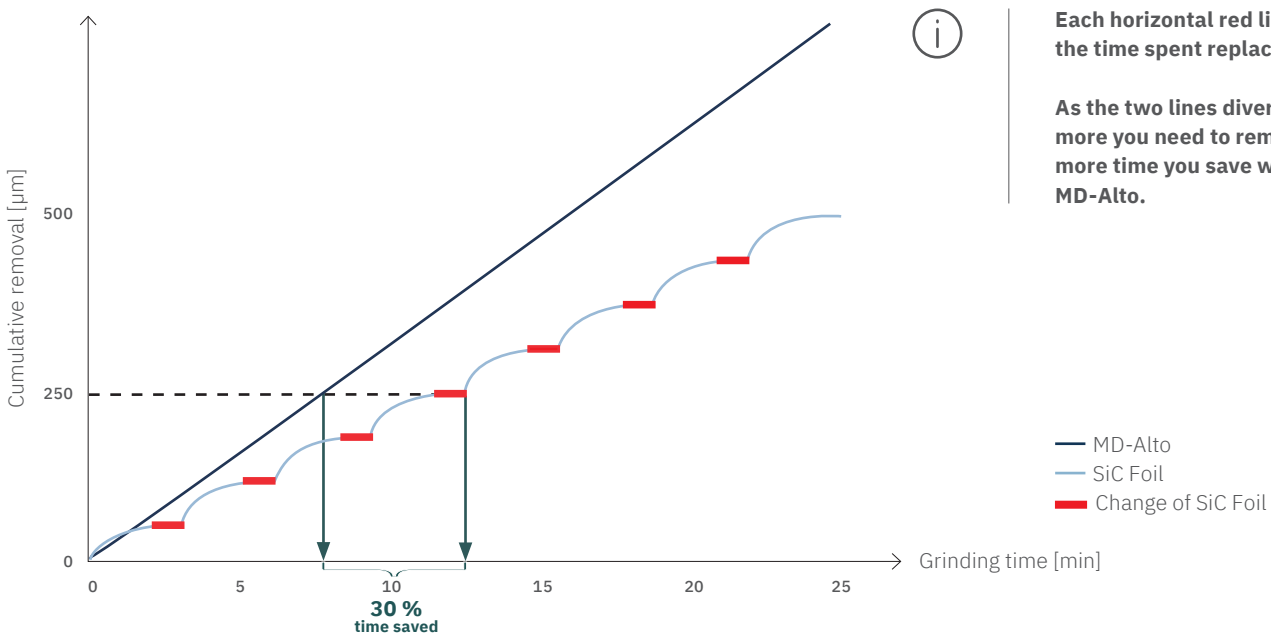
 **30** %



## Reduce your plane grinding time

With consistently high removal and a long lifetime, you do not need to change your grinding surface throughout the preparation as you do with SiC Foils or Papers.

### Preparation of Stainless Steel

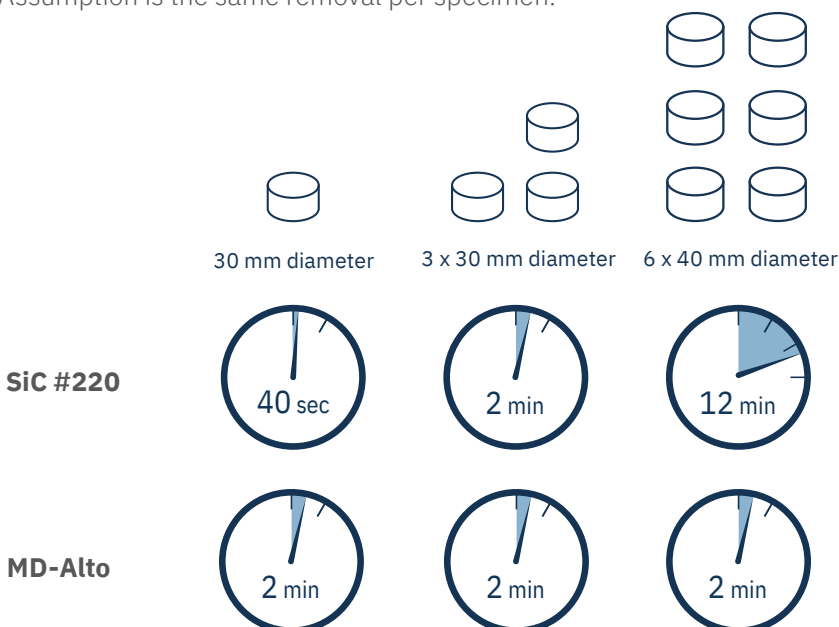


Each horizontal red line represent the time spent replacing SiC Foil.

As the two lines diverge e.g. the more you need to remove, the more time you save when using MD-Alto.

## Grind small or many large specimens

Assumption is the same removal per specimen.



MD-Alto provides consistently high removal rate, no matter the size or number of specimens.

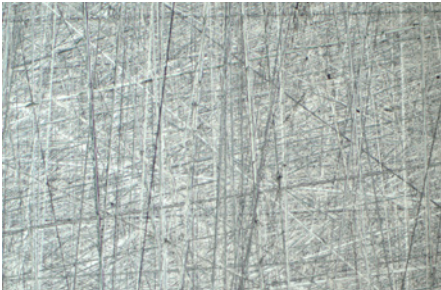
Grinding time

## Achieve high preparation quality

When focus on end result the below three equivalent stainless steel methods shows that the steps in fine grinding and polishing is not prolonged with MD-Alto. Achieve high preparation quality result.

### SiC #220

Plane Grinding 1 min [x100]



### MD-Largo

Fine Grinding 4 min [x100]



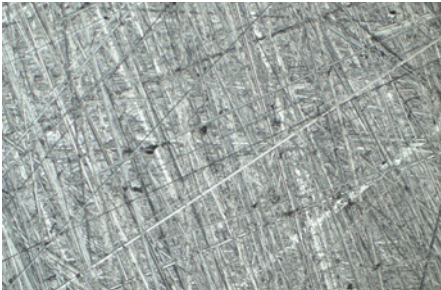
### MD-Dac

Polishing 3 min [x100]



### MD-Alto

Plane Grinding 30 sec [x100]



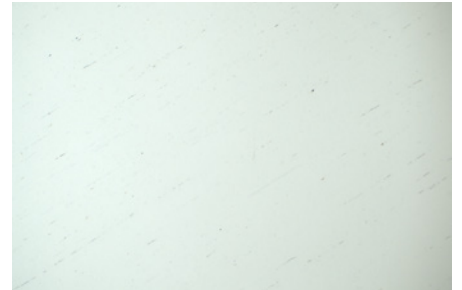
### MD-Largo

Fine Grinding 4 min [x100]



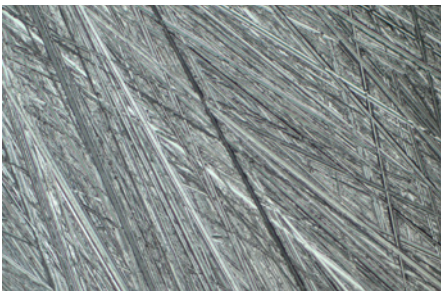
### MD-Dac

Polishing 3 min [x100]



### Grinding Stone 3A36

Plane Grinding 15 sec [x100]



### MD-Largo

Fine Grinding 4 min [x100]



### MD-Dac

Polishing 3 min [x100]

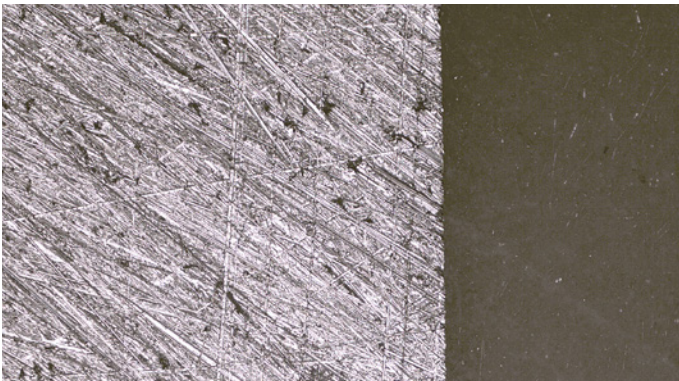


## Achieve planeness on ductile materials

The rigid MD surface offers no resilience, ensuring a plane specimen and avoiding edge rounding.

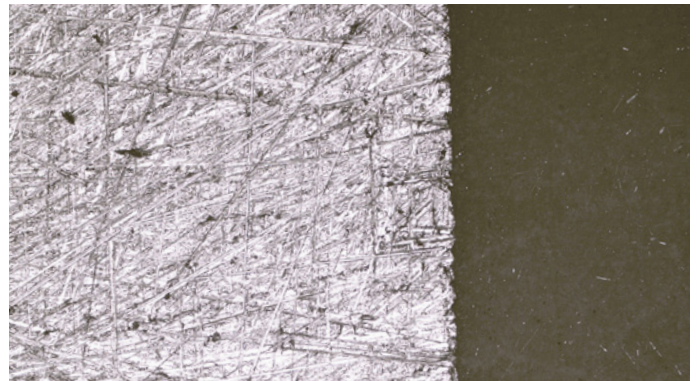
**SiC #220**

**Plane Grinding [x50BF]**



**MD-Alto**

**Plane Grinding [x50BF]**



After a plane grinding step, the scratch pattern is a little rougher using MD-Alto, but its edge retention provides a good contrast against the mounting resin.

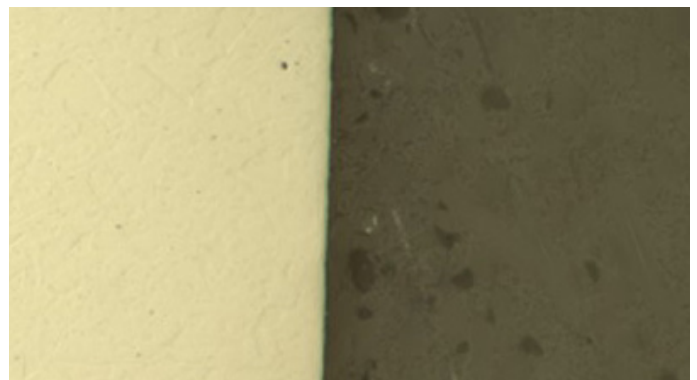
**SiC #220**

**Oxide Polishing [x200BF]**



**MD-Alto**

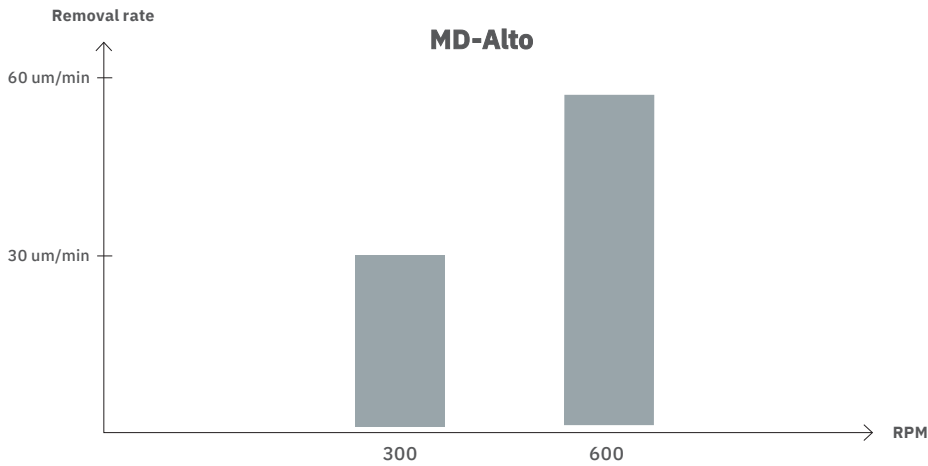
**Oxide Polishing [x200BF]**



Despite the scratches from the plane grinding step, you still achieve a nicely polished specimen with good edge retention for high quality, reproducible results.

## Double your removal when doubling RPM

With the robust MD-Alto you can increase your RPM to increase your material removal – while still achieving high quality results compared to standard speeds.



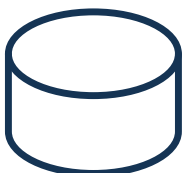
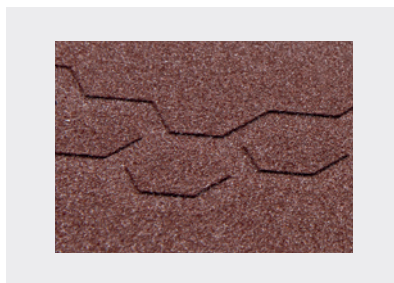
## Deburr uneven specimens

Unlike SiC Foils and Papers which are often destroyed in the process, the robust MD-Alto is very efficient at deburring specimens. This makes MD-Alto ideal if you do not have a materialographic cutting set-up.

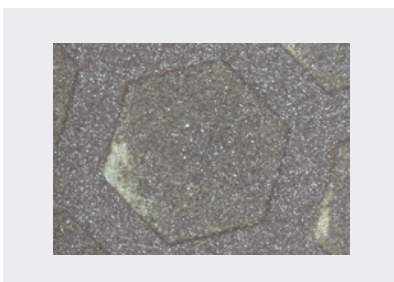
### Deburring



BEFORE



AFTER



MD-Alto shows little wear after the plane grinding step. It can deburr and plane grind uneven specimens very efficiently.

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## Optimize space in lab environment

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MD-Alto is well-suited for smaller labs which do not need a high-volume, automatic solution. Unlike grinding stones for high removal grinding, MD-Alto does not require dedicated equipment. You can use it on our compact table top grinding equipment, freeing up space in your lab.



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## Reduce your environmental impact

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The long lifetime of MD-Alto allows you to reduce your bin waste threefold compared with SiC Foils or Papers. 67% of the waste from MD-Alto is the steel backing, which is recyclable as metal waste, to further reduce your environmental impact.

# 50

**SiC Foils or Papers  
can be replaced by  
just one MD-Alto**





## Ensuring certainty

Materialographic preparation and testing demands consistent, reproducible results. These come not only from your laboratory process, operators and equipment, but from your supply chain and your partner. We call this ensuring certainty. And as the global market leader in materialographic solutions, Struers is committed to ensuring certainty by helping you meet every one of these needs.

High quality design and engineering of equipment and consumables are only part of the story. As a Struers customer you can also ensure certainty through our unique knowledge base, robust global supply chain, and expert service and applications support – where and when you need it.

[www.struers.com](http://www.struers.com)