



DiaUltra

– THE SMARTEST ALTERNATIVE
FOR ULTRAFAST SAMPLE PREPARATION



- Higher Material Removal
- Faster Preparation Speed
- Better Surface Quality



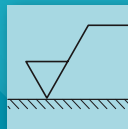
MATERIAL REMOVAL

– the highest removal rates ever seen



PREPARATION SPEED

– the shortest preparation times to date



SURFACE QUALITY

– the best surface quality possible

The new and unique **DiaUltra** 2-in-1 diamond suspensions provide you with the best possible results in the shortest possible times.



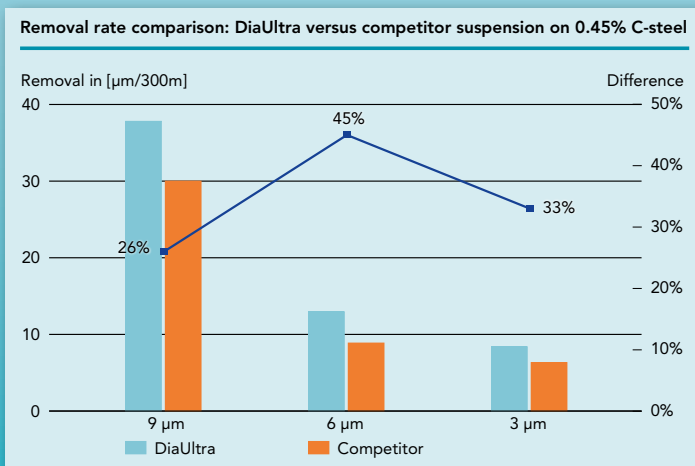
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Ultrahigh Removal

Higher Removal Rates With All Grain Sizes

Based on the highest quality synthetic diamonds, a unique lubrication system and carefully selected suspending agents, **DiaUltra** provides remarkably higher removal rates with all diamond grain sizes.



At least 25% higher removal rates compared to major competitors.

Higher Removal Rates on All Preparation Surfaces

On hard fine grinding discs as well as on all types of polishing cloths **DiaUltra** provides much higher removal rates than any 2-in-1 diamond suspension currently available.

Higher Removal Rates for All Materials

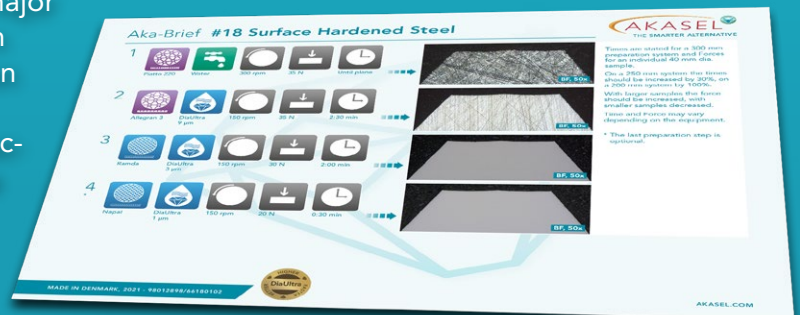
Due to the unique lubrication system, **DiaUltra** provides superior results for both hard and soft materials. Earlier, either an alcohol- or an oil-based lubricant would have been used depending on the material hardness.

Ultrafast Preparation Speed

The extremely high removal rates of **DiaUltra** result in greatly reduced preparation times:

Faster Preparation Methods

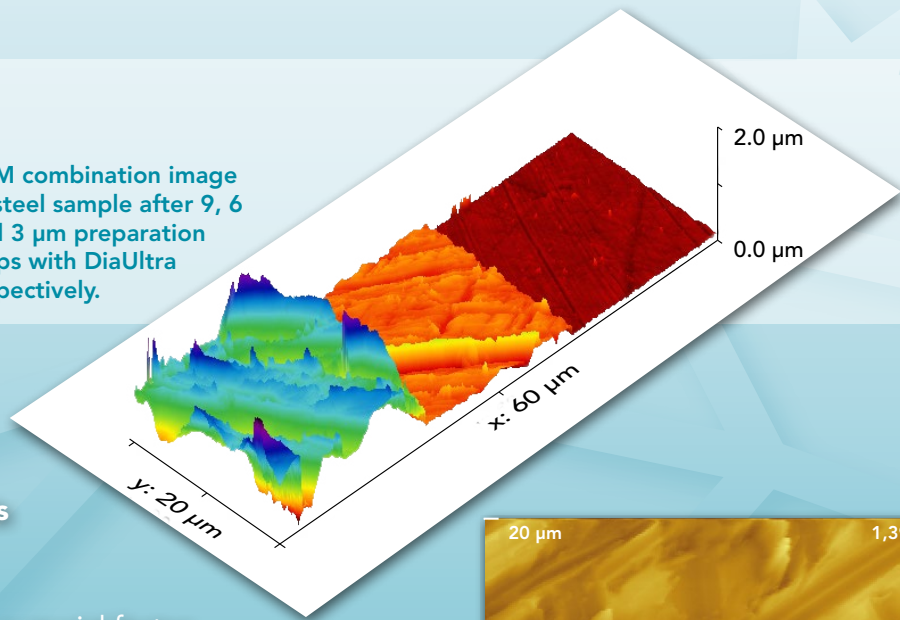
Our Aka-Brief preparation methods have always been optimised in regard to both preparation result and speed. With **DiaUltra** these methods could be improved even further. The time for the last three preparation steps of our method for surface hardened steel has been reduced from 8:00 minutes to only 5:00 minutes in total. Compared to major competitive preparation methods the preparation time is reduced to less than half. A similar reduction in preparation time applies to most of our preparation methods.



THE SMARTER
ALTERNATIVE



AFM combination image of steel sample after 9, 6 and 3 μm preparation steps with DiaUltra respectively.



Faster Preparation Methods = Important Time Savings in Production Control

In production control time is a crucial factor. The faster you receive the result, the sooner the production can either continue or be corrected if necessary. With **DiaUltra** you will get the shortest possible replytimes and thus the biggest possible savings.

40% Faster Preparation Methods = 40% of Consumable Savings

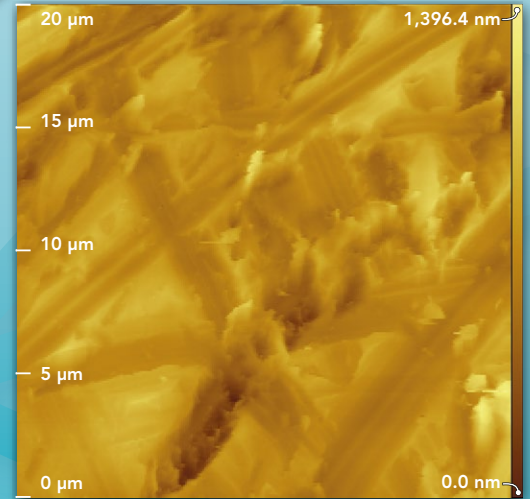
By reducing the preparation time with 40% when using **DiaUltra** you also reduce your consumable consumption of diamond suspension and polishing cloths with 40%. This reduces the actual cost per preparation remarkably.

Better Surface Finish

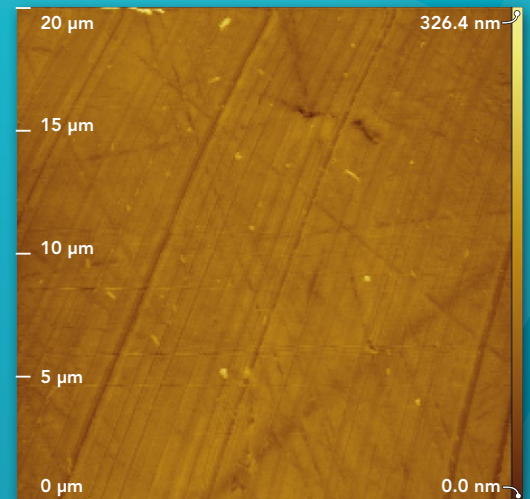
Together with the common removal rate measurements, we have also adopted the use of an AFM (atomic force microscope) to obtain quantitative measurements of the surface of our prepared test samples. This allows us to improve the development of our suspension formulations. Combining these two methods in our R&D, we have produced a unique diamond suspension, **DiaUltra**, that provides faster results and better surface finish.

These images show how fine a polished steel surface can be obtained. It will seem almost absolutely scratch-free when examined in an optical microscope already after a 3 μm polish.

Together with the very high material removal, this allows for the fastest preparation ever seen.



AFM image of steel sample after fine grinding with 9 μm DiaUltra. Scratch depth is approx. 1,000 nm/1 μm .



AFM image of steel sample after polishing with 3 μm DiaUltra. Scratch depth is approx. 300 nm/0.3 μm .

The resolution of an optical microscope is about 1 μm , very fine scratches like above will be almost invisible.



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We exclusively use high quality diamonds in very narrow grain size distributions and in high concentrations in all our products. We are proud about that and therefore we state diamond type, concentration and grain size distribution on the labels of our products for comparison purposes.

Our products also contain the same amount of diamonds in ct (weight) throughout a specific product line.

The following overview shows the grain sizes and packaging sizes DiaUltra is available in:

| DiaUltra | 500 ml | 5 l |
|----------|----------|----------|
| 0.25 µm | 43612513 | 43612517 |
| 1 µm | 43614013 | 43614017 |
| 3 µm | 43615013 | 43615017 |
| 6 µm | 43616013 | 43616017 |
| 9 µm | 43617013 | 43617017 |
| 15 µm | 43618013 | 43618017 |



100% monocrystalline diamonds
Median (50%) 2.84 µm
Tolerance 2.70 - 2.98 µm
Upper limit (99%) 4.1 µm
Concentration 20 ct/l
pH 8 - 8.5



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