

SPECIAL EDITION

**astron®**

The Original

# CLEARsplint® Disc

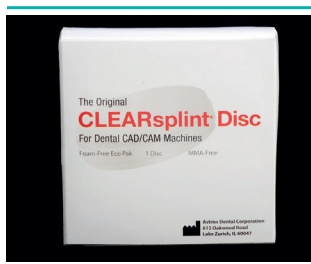


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TOPDENT – precision for dental laboratories  
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# Good things come to those who wait ...



Original pack



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... and then get even better – says Master Dental Technician Jürgen Lehnert after using CLEARsplint CAD/CAM Pro acrylic for many years. Now that the author has had the opportunity to work with the long-awaited new Original CLEARsplint Disc milling blank, he gives us his report.

Previously, I had used the CLEARsplint CAD/CAM Pro bulk acrylic because we mill our splints in a 5-axis milling machine. Up until now, it was necessary to nest the splint in a milled, old acrylic blank after modeling. Afterwards, the blank was manually remilled to adjust the spatial relationships of the newly modeled splint. This was a very time-consuming process, associated with a high work output solely dedicated to the preparation of the CLEARsplint blank. Apart from the lengthy preparation of the blank, you then had to pour it out bubble-free with the manually mixed CLEARsplint CAD/CAM Pro acrylic and allow it to stand for about an hour in the pressure pot. The next step was to check the blank and make sure there are no bubbles. If there were any problems, the procedure was started over – prepping, filling, waiting. It's a relief to know that this procedure no longer dictates our work.

### The new blank has arrived!

Now, the new industrially manufactured Original CLEARsplint Disc is ready and waiting in the drawer. It can be used directly without any preliminary steps. Because the blank is prefabricated in the milling area, it is completely bubble-free with nearly

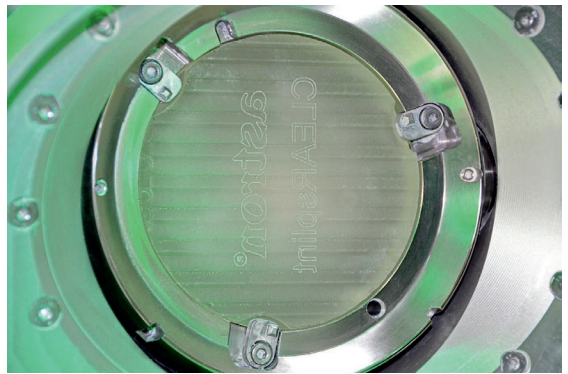
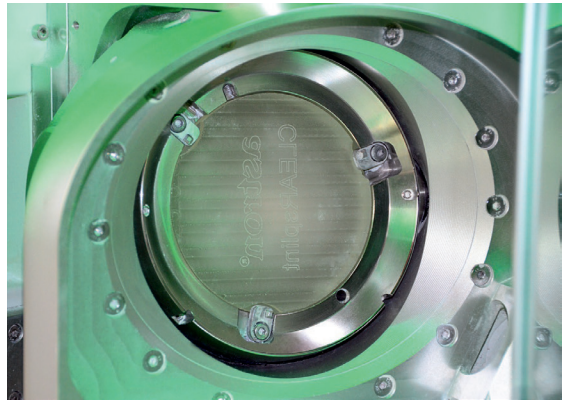
100% certainty. On top of that, the blank is cut precisely for the orbit – this is not always the case when you process blanks from third-party manufacturers. We worked on size 95 mm × 20 mm (height), but the blank is also available in size 98 mm × 20 mm (height).

Take out it of the package, place it in the articulator and you're off – that's what we wanted to put to the test. With this in mind, we fabricated two splints for one patient based on the same dataset. The primary aim was to test the processing and handling of the new splint blank so that we could determine possible differences compared to the manually fabricated blank.

To achieve this, we used the new Original CLEARsplint Disc for the one splint and the CLEARsplint CAD/CAM Pro bulk acrylic blank for the second.

### Fabrication process

After the conventional procedure of scanning the models and creating the splint on the PC, both splints were nested in the blanks; the same milling parameters were applied and the milling paths calculated. The milling machine was equipped with new bits and the splints were milled under wa-

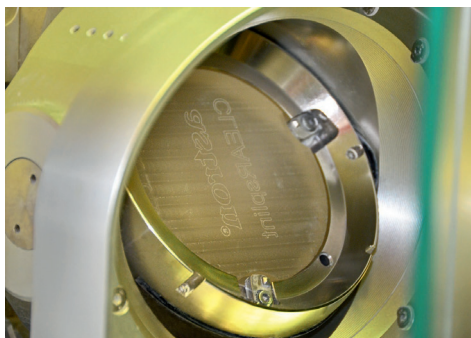


Blank

ter cooling. Dry milling is likewise possible, but we prefer to mill the CLEARsplint under water cooling because we believe that the surfaces obtain a smoother and finer sheen. After the milling step, the splints are manually cut out of the blanks. After grinding down the sharp retaining pins, the first try-in is done on the model. That's when you see a minor difference. The splint made of CLEARsplint CAD/CAM Pro sits a bit looser than the legacy splint made from the original CLEARsplint disc. The splint from the new blank "snaps" slightly more, like with the classical PMMA acrylic splints. Especially if you want to make a splint for a patient whose teeth have just a few undercuts, the industrially fabricated blank is hence the better option. Even if you nest two splints in one blank and then want to do the milling, it is easier to place both splints together in one blank. You also have the possibility to utilize the space the blank offers right up to the very edge because you are not limited by those acrylic transitions you encountered with legacy acrylics.

In our case, it was not necessary to adjust the two splints because they fit perfectly right off the bat. Next, we ground down the occlusal surfaces of the splints in the articulator and similarly optimized and individualized protrusion and lateral movements. When grinding and finishing the splint, you get the feeling that the industrially fabricated acrylic is somewhat easier to grind and more readily processed. However, this feeling is only minimal and perhaps subjective. While completing the final polishing, we moreover felt like it was slightly easier to produce a high gloss without creating "thermal streaking" on the surface as well. I believe that the pre-

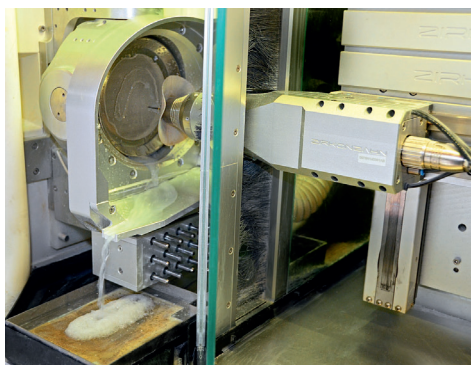
Blanks in the orbit



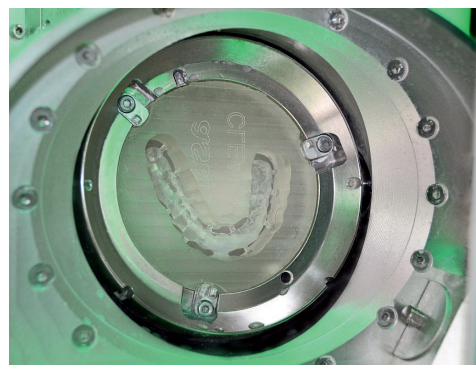
Reference run



Start of the milling process



Milling process



Final milled splint



Final splint in the blank





Cut-out splint in the rough



Finished splint – upper side



Finished splint – lower side



Top left: Original CLEARsplint Disc splint,  
bottom right: Splint manually fabricated from a blank  
with CLEARsplint CAD/CAM Pro

fabricated Original CLEARsplint Disc features a more homogeneous structure – one that cannot be achieved by a dental lab.

This property is probably responsible for the disc's better mechanical processing qualities and gives the splint even better material properties.

Finally, the try-in is carried out in our patient's mouth. This step markedly underscored the positively tighter fit of the new CLEARsplint. She had no problems with handling because she already had years of experience wea-

ring hard splints and one thermoelastic splint made from CLEARsplint CAD/CAM Pro.

### Conclusion

In conclusion, I found that a significant amount of time and effort was saved. No longer do you have to deal with that previously time-consuming prep work on the milling blank. In addition, the better fitting, the more advantageous material properties and the nearly 100% exclusion of bubbles clearly favor the new milling blank.

Original CLEARsplint Disc  
splint in transmitted light



Finished Original CLEARsplint  
Disc splint in situ



Even the 20 mm disc height allows the nested splint to be positioned in the blank at less of an inclination where the software calculates more simplified milling strategies that make things easier to mill. Nevertheless, I still hope that the manufacturers will soon produce 16 mm blanks so that you can mill splints with a lower

height faster and with less loss of material and milling wear. The new milling blank may retail slightly higher than if you fill the milling blank yourself, but the enormous amount of time you save more than equals out the difference in price. In the end, you really get a bite splint of incredible quality. ■

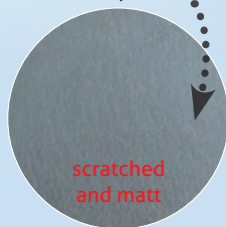


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**DuraClean<sup>2</sup>**

Due to the high abrasive effect of tooth pastes their permanent use may result in optical impairments (grey shadows) of your highly aesthetic transparent CLEARsplint<sup>®</sup> premium splint or interim restorations!

That's why we recommend cleaning with DuraClean<sup>2</sup> for effective and gentle cleaning!

Cleaning with a toothbrush and toothpaste



Cleaning with DuraClean<sup>2</sup>





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## The Original

# CLEARsplint® Disc

### MMA free

Discs manufactured of CLEARsplint® – no mixing and refilling anymore. Amine-free and MMA-free milling blank for very aesthetic, clear and thermoactive comfort splints.

In 3 versions:



#### Disc with shoulder, Ø 98 x 20 mm

For all big milling units e.g. Wissner, Röders, Datron, imes-icore, vhf, Roland as well as Sirona inLab MC X5

1 Disc	REF 26533
3 Discs	REF 26543
12 Discs	REF 26553



#### Disc without shoulder, Ø 98 x 20 mm

For all current milling units e.g. Röders, Wissner, Rübeling & Klar

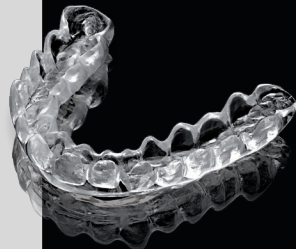
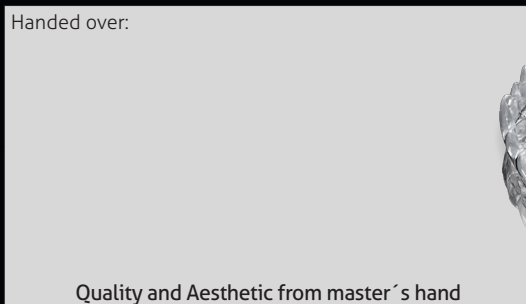
1 Disc	REF 26532
3 Discs	REF 26542
12 Discs	REF 26552



#### Disc for Zirkonzahn-Fräsmaschinen, Ø 95 x 20 mm

1 Disc	REF 26531
3 Discs	REF 26541
12 Discs	REF 26551

Handed over:



Quality and Aesthetic from master's hand