



Core3dcentres® Retainers/Splints

Orthodontic Appliance

Core3dcentres® have teamed up with RapidShape to bring you custom made retainers and splints for the use in orthodontic treatment.

The custom made retainers and splints can be used to “retain” or hold the position of teeth after braces have been removed or to close a gap between teeth or to move just one or two teeth in a specific direction. Retainers/splints can also be used to alleviate problems other than shifting teeth such as Tongue Thrust or Temporomandibular Disorder (TMD).

The new material now allows you to get custom made retainers or splints from Core3dcentres or to produce them in-house using the new RapidShape 3D printer.

Indications:

- Hold teeth position after braces
- Close gaps between teeth
- Move teeth
- Correct problems - tongue thrust and TMD

Advantages:

- Custom made to fit the individual
- Reduce the need for repeated orthodontic treatment
- Can move teeth without the need for a brace



Core3dcentres[®] Retainers/Splints

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For the laboratory

What to send:

To receive a Retainer or Splint, you will be required to send a digitally designed file from an open or affiliated scanner software. Core3dcentres[®] can give you advice on the best scanners currently available and guide your first steps into the digital workflow. Traditional impressions can also be accepted with an upper and lower model with bite registration.

What you need to do to complete:

Remove any support structures and finish jobs if necessary, using conventional dental methods and instruments. Differences in colour nuance may occur due to production in batches of the raw material and product or inadequate shacking of the original packaging before use.

Instructions for Cleaning:

Core3dcentres 3D printing material should be cleaned with non chemical products. If disinfecting before intended use is required, an ethanol solution can be used.

Producing in-house

Processing Retainers/Splints (Ortho Rigid material) using a RapidShape 3D printer:

We advise to use nitrille gloves when using Retainers/Splints (ortho rigid material) until post-curing. Before using ortho rigid to produce Retainers or Splints, make sure to shake the product in the original packaging for approximately 5 minutes. Colour deviations may occur when shaken insufficiently.

Make sure that you work as clean as possible, dirty reservoirs or machines can cause deformation and therefore failure of the printed objects! Pour the liquid material in the reservoir of the 3D printing machine. Start the machine. Follow the instructions for use for the printer.

These are delivered together with the RapidShape D30 printer. When the machine has finished its programme remove the building platform from the machine, this can be done by unscrewing the large black screw on top of the building platform. Place the platform on some paper or cloth with the builded jobs facing upwards. The printed jobs can now be removed from the platform using a putty knife. Rinse the printed jobs twice in an alcohol solution (96%) to get rid of any excess material, making use of an ultrasonic bath. Rinse the first time for three minutes, second time for two minutes. The second rinse must be carried out with a clean alcohol solution (96%). Rinsing in alcohol solution should not take longer than 5 minutes as this will cause defects in the printed part. After cleaning, dry the parts and place the printed jobs in a UV- light curing box for final polymerization. Time of curing depends strongly on type of lamps/ lightbox used. The final properties depend on the post curing process.

Specific Curing time Retainers/Splints (Ortho Rigid)

Material	Time min.	Wavelength	Total output UV-A light	UV lightbox output W*sec=J
Ortho Rigid	10 minutes	Blue UV-A 315-400 nm	72 Watt	43,2 kJ

The specifications of the materials are determined on the basis of test plates, produced on the D30 printer RapidShape. With the corresponding settings which are registered in the software. The unit used at NextDent has 4 x 18W/71 lamps (Dulux L Blue) and 4 x 18W/78 lamps (Dulux blue UVA). The calculated output is based on the UV light UVA lamp Blue. Please notice that the light sources and the printing machine need a routine maintenance following the manufacturer instructions.

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