



## Fabrication manual for TAP®-T and TAP®-T Reverse

The device for treating snoring and sleep apnea

- // individually custom-made
- // continuously variable
- // lateral mobility
- // delicate and break-resistant
- // very comfortable to wear
- // long-standing clinical experience

## List of recommended material:

| Description                              | REF    |
|------------------------------------------|--------|
| TAP®-T Kit or                            | 9030.1 |
| TAP®-T Kit <b>pre-assembled</b> or       | 9030.2 |
| TAP®-T Reverse Kit or                    | 9050.1 |
| TAP®-T Reverse Kit <b>pre-assembled</b>  | 9050.2 |
| TAP®-T XL Lower Guiding Device           | 9029   |
| Split-Fixator                            | 5380   |
| GEORGE GAUGE™ Bite Registration          | 5471   |
| GEORGE GAUGE™ Bite Fork, large (10 pcs.) | 5462   |
| Bite Fix® Bite Registration              | 5474   |
| Bite Fix® Bite Fork (10 pcs.)            | 5475   |
| Bite Fix® One                            | 5503   |
| SIL-KITT red or                          | 3442   |
| SIL-KITT clear                           | 3443   |
| ISOFOLAN®                                | 3207   |
| DURASOFT® seal magenta or                | 3337   |
| DURASOFT® seal clear or                  | 3338   |
| DURASOFT® seal blue                      | 3339   |
| DURASOFT® pd (thickness: 2.5 mm)         | 3387   |
| DURASOFT® blue pd (thickness: 2.5 mm)    | 3348   |
| Diamond Separating Disc with mandrel     | 5288   |
| CA® Cyano Veneer Fast                    | 5302   |
| Blocking-out putty                       | 3220   |
| DURASPLINT® Kit                          | 3257   |
| Finishing Set                            | 3378   |
| DIMO® coarse                             | 3382   |
| CETRON® Cleansing powder                 | 3237   |
| CETRON® Care set                         | 3236   |

Please make sure the material as indicated above is available. The models should be inserted in a split fixator or articulator following the instructions for the GEORGE GAUGE™ Bite Registration, (i.e. 50 -60 % of the maximum individual protrusion). The TAP®-T protrusion adjustment device should be activated up to 1 mm.



The fabrication manual can be used for the fabrication of the TAP®-T device as well. With the TAP®-T Reverse upper protrusion adjustment device, however, the opening for activation by the hexagon socket wrench is located opposite the hook (palatal).

With this version, an activation directly in the patient's mouth is not possible. Moreover, when positioning the TAP®-T Reverse using the mounting device make sure to place the upper protrusion adjustment device behind the upper incisors. For further information on the fabrication of the TAP®-T Reverse please refer to page 13ff.

#### Hint:

Optimum adaptation and retention of the TAP®-T splints made of DURASOFT® pd 2.5 mm are very important for a successful treatment and can only be guaranteed using positive pressure of at least 5.0 bar. These outstanding forming forces are achieved with the BIOSTAR® machines.

1



Models are inserted in the Split-Fixator (REF 5380) or articulator using the GEORGE GAUGE™ Bite Registration (REF 5471) and the corresponding bite fork large (REF 5462).

**Hint:**

In case jaw midlines should not be congruent, make sure to align the subsequent insertion of the TAP®-T elements in accordance with the upper jaw midline.

2



In order to prevent teeth from breaking-off and to facilitate insertion and removal of the TAP®-T splint, blocking-out of strong undercuts using SIL-KITT red (REF 3442) is recommended.

3



Pressurise ISOFOLOAN® foil over the models following the instructions and reduce foil up to model bottom using SD foil scissors A (REF 3460) or B (REF 3461).

4



In order to avoid air inclusions during the subsequent pressure moulding procedure, we recommend cutting the ISOFOLOAN® interdentally or occlusally by scalpel.

**Hint:**

The foil will not be removed, but will stay on the model for further pressure moulding procedures.

5



Proceed with embedding the models in the pellets, covering them by the pellet cover (REF 3006) in order to prevent pellets from sticking to the DURASOFT® seal foil.

**Hint:**

Steps 6, 7 and 8 are optional. Using DURASOFT® seal foil is recommended to ensure easier care of splints and to minimize adhesion of dental calculus on the material.

6



Pressurise DURASOFT® seal clear (REF 3338), blue (REF 3339) or magenta (REF 3337) following the instructions.

7



In order to ensure optimum adaptation of DURASOFT® seal, make sure to press the foil against the pellets when lifting the locking ring.

8



Cut the DURASOFT® seal using the SD foil scissors up to the model bottom and perforate the area beneath the interdental papilla with a scalpel.

These cuts are meant for a better adaptation of the DURASOFT® pd material which will be pressurised in the next step.

**Hint:**

At this stage, please make sure not to insert any cuts in the DURASOFT® seal foil in the area of the splint extension.

9



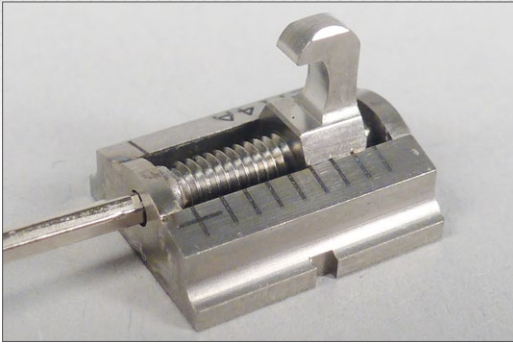
Proceed with pressuring DURASOFT® pd Folie (REF 3387) over the DURASOFT® seal foil following the instructions. Both foils will laminate, forming a perfect compound.

10



Then proceed with reducing coarsely the foil using a cutting bur (REF 3214).

11



Activation of the upper protrusion adjustment device is effected by a turn of the hexagon screw behind the front plate opening.

**Hint:**

We recommend a preliminary activation of 1 mm of the upper protrusion adjustment device.

In case during adjustment the hook gets stuck in the "free run"; it can be re-inserted by the thread by turning the hexagon socket wrench in the opposite direction and pressing it firmly against the screw housing.

12



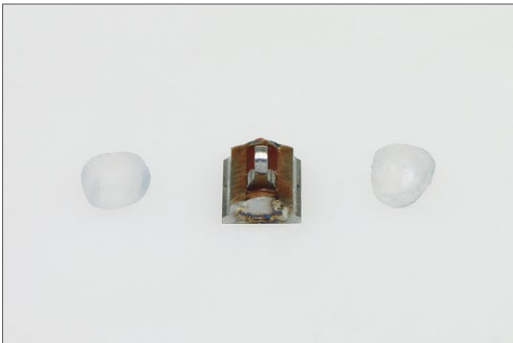
**Hint: Working steps 12-21 have already been prepared for you when using the pre-assembled kit versions (TAP®-T REF 9030.2; TAP®-T Reverse REF 9050.2).**

In order to prevent resin from getting into the thread or the opening of the front plate of the upper protrusion adjustment device, make sure to fill the gaps with sticky wax. Wax residues above the spindle can be removed and smoothed using a scalpel.

**Hint:**

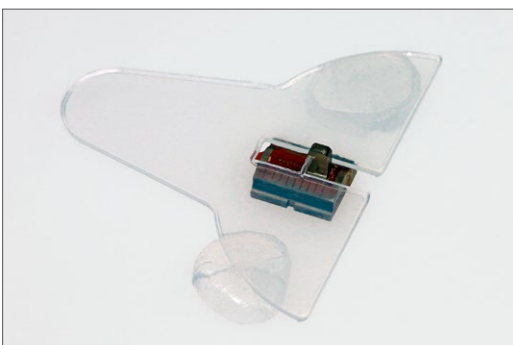
We recommend using SUPRADENT® sticky wax which contains no paraffin and will not cause any discolouration of the resin.

13



Place two beads of SIL-KITT on a level work surface on the left and right of the upper adjustment device.

14



Place the TAP®-T mounting device with the handle to the front and the small plastic bar flush on the SIL-KITT (in this view the plastic bar is in front of the hook) and align it parallel to the work surface.

Press lightly on the mounting device so that it is in contact with the upper adjustment device.

15



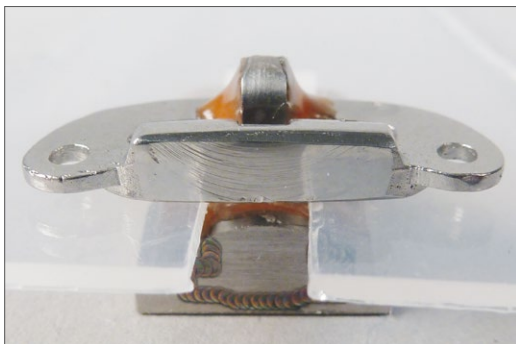
Place the lower guiding device centrally, with the reinforcement pointing upwards and align it parallel. Place the hook in contact with the front of the lower guiding device and not in the entrance/exit opening.

16



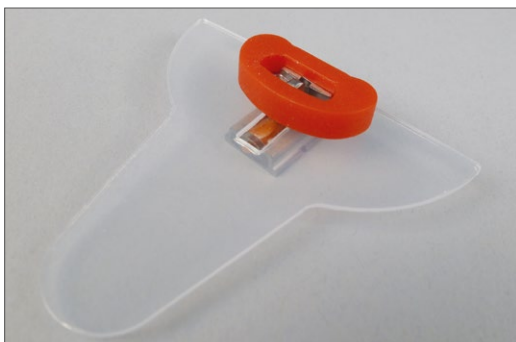
Apply a drop of sticky wax to the hook for stabilization. Then proceed with inserting the TAP®-T mounting device between the already fixed lower guiding device and the upper protrusion adjustment device.

17



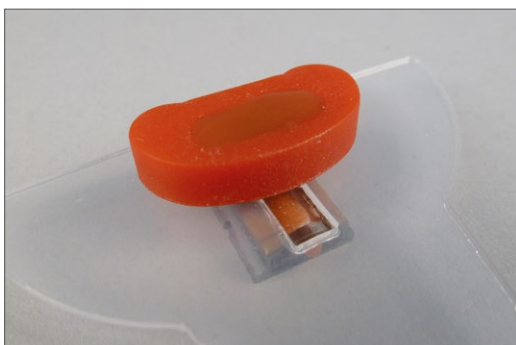
View from dorsal, the reinforcement of the lower guiding device being on the top.

18



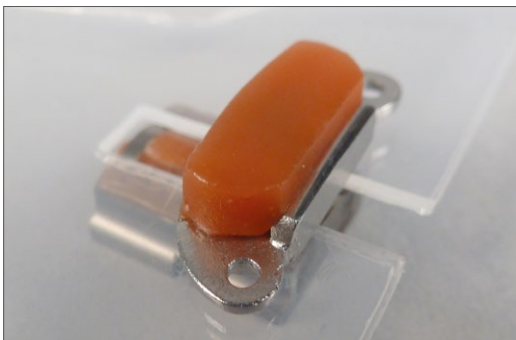
Make sure to place the TAP®-T matrix with the enlarged opening flush on the lower guiding device.  
Ensure to use the enclosed XL matrix with the TAP®-T XL Lower Guiding Device.

19



Fill the gap of the matrix with sticky wax up to the upper rim.

20

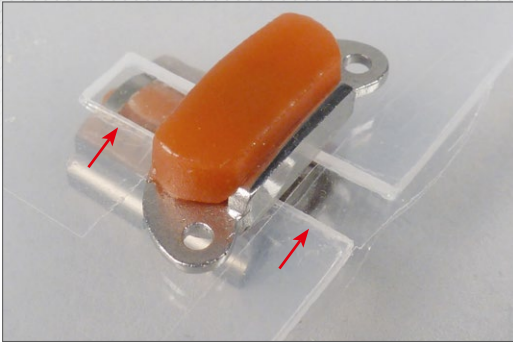


After the sticky wax has cooled down and cured, remove the TAP®-T matrix, making sure the sticky wax shows no bubbles.

**Hint:**

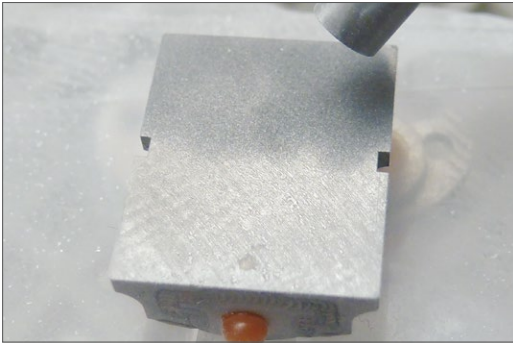
This wax block serves as space holder, guaranteeing free mobility of the hook in the lower splint (vertically and laterally).

21



Both openings on the mounting device should be covered with adhesive tape, preventing the upper and lower splints from laminating together while applying and polymerizing DURASPLINT® resin.

22



Then proceed with sandblasting the surfaces of the metal parts with aluminium oxide 50 µm.

**Hint:**

Attention: Be careful in the area of laser-welded seams, avoiding any damages due to intense sandblasting.

23



Apply a thin coat of metal primer to the surfaces of the metal parts (using for example Metal Primer Z by GC).

24



In order to gain additional space, the lower splint might be reduced – if necessary – in the area from 32 to 42 carefully up to slightly below the soft tissue.

**Hint:**

In order to provide sufficient stability of the lower splint, the splint should only be grinded from lingual on the contact points with the wax space holder.

*When fabricating the TAP®-T Reverse please follow the instructions as described in the annex.*

25



Apply monomer to the anterior region of the DURASPLINT® pd splint, providing a permanent compound between the splint and the DURASPLINT® resin.

26



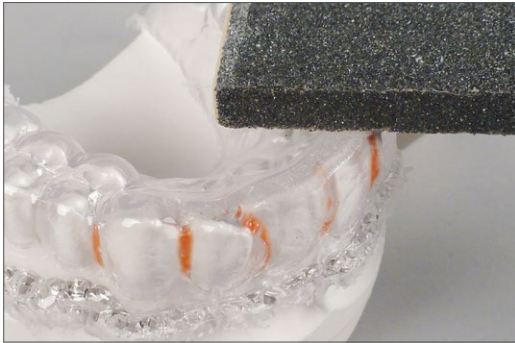
Form two small balls of blocking-out putty (REF 3220), applying it in the region of the upper premolars in order to insert and align the TAP®-T mounting device.

Doing so, it is essential the mounting device is in surface contact with the lower front and the wax space holder is in contact with the reduced lingual surface of the lower splint.

#### Hint:

In case of elongated teeth, the TAP®-T mounting device should be adjusted in a way to assure surface contact with the lower front.

27



Make sure to grind slightly the upper splint in the region of the central incisors using abrasive paper pins\*.

(\*available with: [www.fischer-pforzheim.de](http://www.fischer-pforzheim.de))

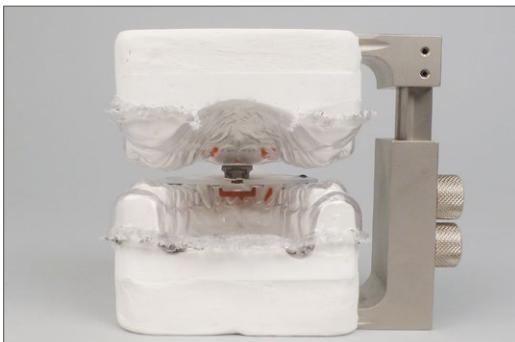
28



Then proceed with aligning the TAP®-T device (upper protrusion adjustment device, lower guiding device and TAP®-T mounting device) in accordance with the occlusal level and midline.

*When fabricating the TAP®-T Reverse, please follow the instructions as described in the annex.*

29



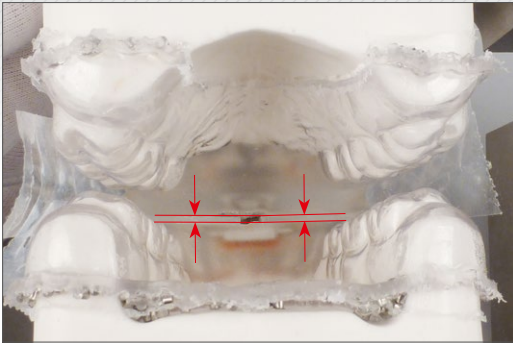
Control view for verifying occlusal level and vertical alignment from dorsal.

30



Place two adhesive tapes over the front (vestibular) prior to applying DURASPLINT®, one each above and below the TAP®-T mounting device. These tapes will close the gap between resin and vestibular region.

31



Apply DURASPLINT® premixed according to the mixing ratio from dorsal on both sides around the TAP®-T mounting device, making sure the resin covers completely the TAP®-T metal unit.

**Important Hint:**

In order to avoid any compound between the two halves, make sure not to exceed the height of the TAP®-T mounting device.

**Please proceed quickly with steps 32 to 34 after removing the models from the pressure pot.**

32



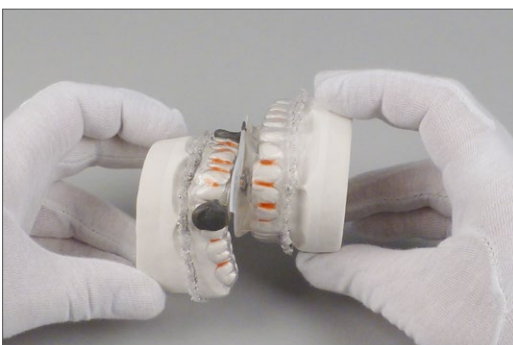
Loosening and removal of fixator screws.

33



Withdrawing the models from the guidance.

34



Rotate the models against each other at 90° to loosen them from each other.

**Hint:**

It is essential the sticky wax is still warm and formable, as otherwise the hook might be damaged due to the 90° rotation.

35



Lift-off the TAP®-T mounting device.

Then proceed with smoothing the transitions from applied resin to the DURASPLINT® pd splint using a plastic bur and remove any residues of blocking-out putty.

Then apply monomer to both splints, covering them completely with a thin layer of DURASPLINT® LC.

36



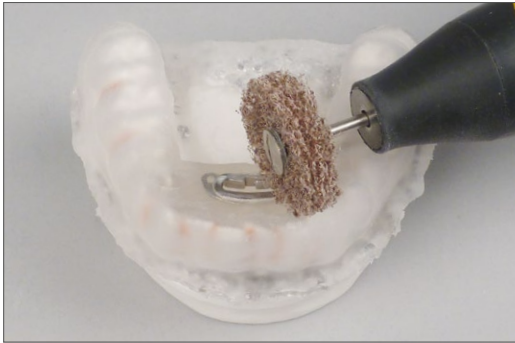
Upper and lower splint after reinforcement.

Prior to continuing with the next working step proceed with evaporation of the sticky wax at the metal parts.

**Hint:**

In case of using the pre-assembled version, ensure to remove the white protection foil from the upper protrusion adjustment device.

37

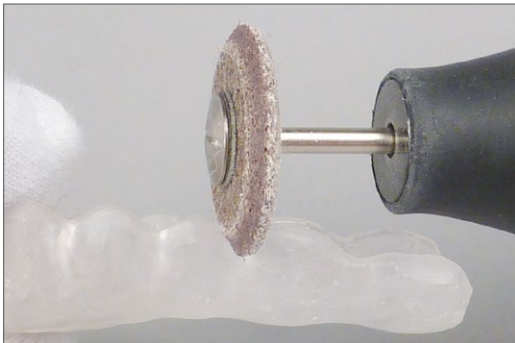


Now the surface of the lower guiding device should be carefully laid open using a DIMO® coarse (REF 3382).

Maximum rotation: 10.000 rpm

Make sure there is no resin left on the contact surface of the lower guiding device!

38



Now finish the rims of the splint in accordance with the dental arc form with a POLYFIX disc (REF 3371) which has been trimmed by a dressing stone.

**Hint:**

Make sure to begin finishing the soft material and then the hard material, thus preventing unravelling.

39



Then grind an oval opening underneath the lower guiding device, facilitating thus cleansing the gap beneath the lower guiding device.

After polishing, lateral and vertical tolerances have to be verified. Insufficient mobility might be caused by sticky wax residues underneath the lower guiding device. Please proceed with evaporating them carefully.

40



Finished upper TAP®-T splint.

41



Finished upper TAP®-T splint.

## Fabrication of the TAP<sup>®</sup>-T Reverse device

Please proceed with preparations as described under steps 1 to 21 in the main part on the fabrication of the TAP<sup>®</sup>-T device.

42



### Hint:

The activation bore for the hexagon socket screw is not positioned in the frontal region as with the TAP<sup>®</sup>-T device, but opposite the hook (palatal). This enables inserting this reduced protrusion adjustment device behind the upper incisors of the future DURASPLINT<sup>®</sup> pd splint.

43



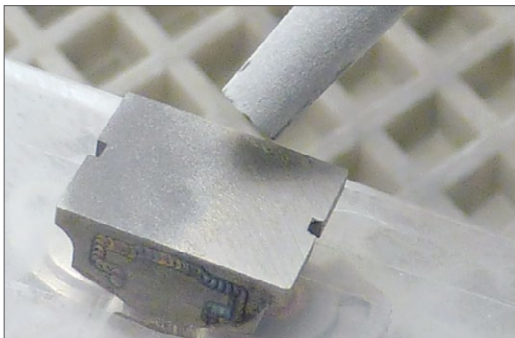
In order to insert the TAP<sup>®</sup>-T Reverse protrusion adjustment device as far as possible onto the palatal surfaces in the region from 11-21, you may carefully reduce the DURASOFT<sup>®</sup> pd splint up to the soft tissue, if necessary.

44



In order to ensure a solid and durable adhesion between DURASOFT<sup>®</sup> pd and DURASPLINT<sup>®</sup>, apply monomer to the splint surfaces (palatal, lingual), before applying DURASPLINT<sup>®</sup>.

45



Then carefully sandblast the TAP<sup>®</sup>-T protrusion adjustment device with aluminium oxide 50 µm.

46



Apply a thin coat of metal primer to the metal parts (using for example Metal Primer Z by GC).

47



Form two balls of blocking-out putty, applying it in the region of the upper premolars in order to insert and align the TAP®-T mounting device.

48



View of the upper jaw with aligned mounting device and fixed TAP®-T Reverse protrusion adjustment device and lower guiding device.

49

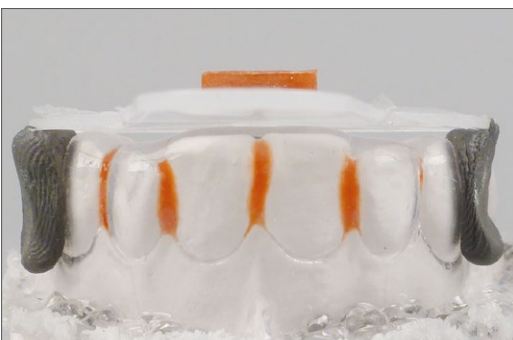


The TAP®-T Reverse unit is placed behind the upper incisors in accordance with the occlusal level and the midline (palatal).

**Hint:**

Make sure the mounting device has superficial contact with the upper and lower front.

50



You may slightly reduce the upper splint in the region from 11 to 21 using abrasive paper pins (as described under step 27 in the main part).

51



Frontal view with aligned mounting device.

All further working steps are described in the main part on the fabrication of the TAP®-T device beginning with step 30..

## TAP®-T compared to TAP®-T Reverse

52



Finished TAP®-T Reverse splint with slight vertical occlusion adjustment for patients with deep bite, - the palatal activation bore is not visible – and a finished upper TAP®-T splint with frontal activation bore.

### Hint:

For these splints STEADY-RESIN coloured monomers neon blue (REF 8360) and neon orange (REF 8361) have been used instead of DURASPLINT® Monomer.

53



Please instruct your patients to follow our hints for the correct care of DURASOFT®pd splints with our CETRON® care products, informing them, too, of potential contraindications!

### Hint:

Please make also sure not to use any herbal based products or products containing alcohol, (e.g. PYRALVEX®) in combination with DURASOFT®pd, as this might lead to discolouration or material damage.

### Hint:

Coloured TAP®-T splints can be realized, too, using DURASOFT® seal blue or DURASOFT® seal magenta instead of STEADY RESIN coloured monomers.



