Instructions for ‘IN-Tendo”, Precise Indirect Bonding Procedure:

IN-tendo is a registered trade mark for a manual system of Lingual and Labial indirect bonding which precisely places the orthodontic brackets for the best individualized finishing positions of the teeth. To get the best positions diagnostic set-up models are required and from these models we can the values needed for Tip, Torque and Height. If we do not do diagnostic set-ups we will follow your own values given, or ‘standard value’ charts, such as for the B.E.S.T. system in Lingual or for the bracket system provided in labial. The services obviously vary in complexity and cost.

The positions have been calculated by me and experience technicians using two instruments, the T.A.D and the B.P.D. (Or now TTS and BPI). These instruments help us get the right Tip, Torque, Height and Thickness for each bracket in regards to the morphology of the teeth. The slot positions are for the ideal finished positions in most cases and wires working in those slots will affect the outcome (including calculating the ‘Torque Trap’).
Measuring and Calculating precisely Tip and Torque...
We are always thinking of and discussing with you for the best bracket positions according to how you like to work and your preferences...Below ORG brackets.
Brackets come in different makes & styles and we are happy to bond 99% of them if you send with your work. Sometimes certain cases are restricted as to what brackets can be used, so please check sizes compared with available bonding space, as the lingual crown surface is often shorter. If no brackets are received for lingual work, we will use our lab brackets (ORG). We do however have 2 choices of bracket kit:-- 1. Standard ORG which have 018 anteriors and 022 posteriors...these are good for extraction cases where sliding mechanics will be used and also for ‘passive’ bonding of posteriors in non-extraction cases where the teeth are in a good buccal position and occlusion and do not need disturbing. 2. All 018 slot kit where buccal torque control is an important factor.

Above are “d.sire Experience-L” a Self- Laigating bracket from GC Orthodontics.

Broader PM slots, similar to Innovation-L brackets.
Wires have to be controlled properly along with any auxiliaries used as part of the treatment plan otherwise the end result may vary. Some brackets have overcorrections programmed into their position which also have to be taken into account, this is called the “Working Prescription”. So when considering wire choice, we have to think about the possible difference in leveling in initial stages with round wires until torque is expressed through the later rectangular or square wires. Also the type of wire alloys used for each step. For example, stiffer wires such as SS being recommended for retraction in extraction cases. An example of a Bonding Chart, including wire template and wires is below. Note the wires are all longer than needed so you can cut them to the length you require. **Please use forceps to hold the parts being cut if done intra-orally, to avoid swallowing!** Also they are labeled and have a bend at the terminal ends of Upper Left side and Lower right side. This is to help you remember when inserting the sometimes asymmetrical wires. See below:-
We use mainly wires from G & H company, but some from Ormco.

The brackets are prepared with a composite pad which will vary in thickness and shape for each tooth. This pad is made from “Transbond XT” (3M product) which is one of the best bonding materials for Orthodontics. They are micro-blasted for a good bonding surface and delivered to you in a “Memosil” clear silicone tray or trays depending on the case and your requirements. This is a top quality Heraeus Kulzer product, perfect for either light curing techniques or chemical curing. It can be stored without problem after cleaning for the duration of the case without shrinkage or deformation in case for re-bonding. As Peter for more details about his recommended re-bonding protocols. Sometimes individual trays will be provided for second phase bonding in crowding cases.
These trays can be sectioned easily using a scalpel blade, as each tooth also has a hard key for location and support inside the silicone. We recommend the Swan Morten No 11, and care should be taken where brackets are in close proximity.

All bracket pads have been micro blasted with 50 micron alumina for cleansing and extra retention. They have all been cleaned with a small amount of pure Acetone before packaging, so therefore are ready to bond. The pink in the photo is just denture wax which blocks out the hooks from resin contamination. This can be rinsed away after bonding.
On the following page are a few images of the equipment and steps suggested for the clinical work of bonding the brackets.

Note: only a very small amount of bonding material is needed for placement in the patient’s mouth. The pink denture wax in the tray under each bracket can be removed with instruments easily or washing and should help reduce flash under the hooks. The tray should be removed starting at the lingual and peeling up and out to the labial for the Lingual technique and the opposite for the labial, so always peel up from the side of the brackets.

You will also need special pliers for the Lingual work which enable the various techniques available. There are many suppliers of these and we suggest you contact your orthodontic suppliers. We like Adenta and Xion for their quality, especially for good NiTi pliers.
4. Intra-oral sandblasting, patient protection and 3-4 seconds (It is highly recommended, especially in teeth with restorations). Sandblasting per tooth away from the gingival to avoid bleeding.

5. Make sure the area is completely dry. You can use the Dry-Field-System or long cotton rolls.

6. Preparation of the lingual surfaces (37% phosphoric acid, aspirate, rinse, dry) and visual control. Make sure that you have gained a white chalky appearance.
For Lower arch bonding, center the tongue cage with two salivary cottons. Apply the light cure primer on the lingual tooth surfaces. The choice on bonding system is up to the Dr. and “Maximum Cure Sealant A & B” from Reliance or ‘Sondhi’ from 3M are good chemical bond alternatives to light cure. We recommend if you light cure to ask your local 3M dealer about the options with Transbond XT as they make a thinner bonding material for the mouth. Videos are also on Youtube:
Where crowding exists and severe rotations, sometimes certain brackets will be supplied in individual trays for bonding later. Buttons or other auxiliaries may need using to de-rotate these teeth before brackets can be placed. If so then make sure the buttons are placed low on the buccal side so the tray can be trimmed to fit and any composite or bonding material is fully removed otherwise the individual tray might not seat correctly later. Other teeth might be bonded with the brackets at the beginning but impossible to engage the wires. For these teeth use elastics attached to the wire and brackets or other partial ligation techniques.

Please refer to the wealth of literature on our websites www.intendo-ortho.com or www.torque-angulationlab.com

Or visit www.lingualnews.com and try to attend one of their courses with Dr. Rafi Romano or one of our courses. We run joint clinical and lab courses from time to time and Peter runs regular ‘In-Lab’ courses for learning lab techniques and a whole wealth of other info about Lingual Orthodontics.

For the Labial IDB techniques there is also a wealth of information on the internet, with most techniques having the same foundation:-

From 3M>
http://www.google.com/url?sa=t&rct=j&q=labial%20indirect%20bonding&source=web&cd=21&cad=rja&ved=0CD8QFjAAOBQ&url=http%3A%2F%2Fmultimedia.3m.com%2Ffmws%2Fmediawebserver%3FmwsId%3DSSSSSuSeVTSzxtUOY_UPYt1eVUqevTSevTSevSSSSSS-%26fn%3D021-101.pdf&ei=UL-7UvW5IPGTiQf_roDoCw&usg=AFQjCNFaiDuDYT0ekVhmOYG3hq6srX3x2g&sig2=UCy0VEpJYoKrcVzJ1ZDyw

From another lab system
When we provide wires and a template, then the wires are always longer than required for cutting after placement. Some Dr’s like to bend the wires back after the tubes, some don’t so we leave it long enough to do what you want. The Wires are not always symmetrical owing to individualization of the case, archform and ‘optimized positioning’ for optimized wires. These are made usually flat, but sometime have height bends. You might need to add some curve of Spee as needed, and this should be in your hands depending on the case. The bracket positions have been optimized for maximum comfort and biomechanics, whilst at the same time reducing the number of bends in the wires... a balance between the two!
Below is what you can expect to get with your case as well as the transfer trays.
Some Dr’s request duplicate wires for insurance in case of fracture, so keep this in mind as an option.

For further info contact: petersheff@hotmail.com or go to our Facebook pages:-

https://www.facebook.com/intendoorthodontics
https://www.facebook.com/torqueangulation.lab

I also strongly recommend following my good friend Dr. Henrique Valdetaro and his teachings: - https://www.facebook.com/neolingual/