

# Case Study - Technique on development of Special Light Curing Trays



Gurdip Shergill, Dental Technician and laboratory owner of G S Shergill Dental Laboratories, based in Coventry, discusses how his company fabricate Special Light Curing Trays for dental practices throughout the country.

## Background

Having road tested various suppliers' products over the years; there is one that really stands out from the crowd. The company in question are responsible for producing a number of lab based products for dentists and technicians. They understand both sides of the business and realise that there is a close working relationship between the two sectors. Personally, I have worked with them for about six years now and, in real terms, find that their products are perfect for our requirements. In the following article, I am going to be discussing the best way of constructing Special Light Curing Trays for use within the dental surgery.

## Conforming to guidelines

In accordance with the MDD (Medical Devices Directive) regulations, all dental laboratories must enter the details of a case once the construction of the manufacturer's Light Cure Special Tray impressions are received from the practice. This is an important part of the process as it ensures we adhere to the latest health and safety issues surrounding the work involved in the testing, assessing and certifying of our products when they finally leave our premises for distribution. Impressions can also be damaged in transit, as many technicians will know; which is why it's important to book in each case based on its delivery to our premises – thus safe guarding our own interests.

## Preparation

It is always best practice to follow the manufacturer's instructions for optimum performance, obviously allowing for artistic licence along the way. In this instance, the materials must reach room temperature prior to usage. It is important to ensure that the model is then poured and trimmed before it is placed with its appropriate lab sheet. Prior to construction of the special tray, the dry model should be put into cold water to prevent the subsequent wax spacer from adhering to the actual model itself.

## The process – pre curing

Once the preparation of the model is complete, the wax spacer can be manipulated on the soft and hard tissues of the mouth.

**Please note:** *If the tray is for the fitting of a partial denture, undercuts must be blocked to prevent teeth from fracturing once the tray has been cured.*

With regard to the special manufacturer's product that we are using, the light cure tray can now be manipulated onto the tissues of the mouth to form the structure of the special tray.

In my opinion, I find these particular trays far superior to others, as they come packed in good universal sizes and can be easily stretched and flexed for larger mouths. This level of performance helps our team when we receive larger impressions from practices.

Now that the structure has been formed, any excess can be trimmed off and used





to construct the handle. Again, this is one feature of the manufacturer's products that I find particularly desirable.

1. *Because there is little or no wastage.*
2. *Because it provides better value for the technician.*

In addition to the above benefits, the handles do not only adhere extremely well to the tray, but they are also sturdy enough to make

the handle and to stop it from sloping down once it has been set into place on the model. At this point, and only if required, I would perforate the tray for mechanical means of retention of the impression material - which in turn saves drilling time in the final phases of the process. Furthermore, this dramatically reduces the chance of fractures in the finished tray.

## The curing process

When the tray has been formed, it needs to be placed in the light curing box and allowed to cure for five minutes. The best method of curing takes place when you first cure the tray on the model for 3 to 5 minutes. Having completed this process, remove the tray from the model. It is especially useful removing the model at this point, as the wax spacer will still be soft. Continue by inverting the same to expose the underside to the light for a further three minutes. Multiple cases can be constructed in one visit thanks to the size of the container, meaning even greater time savings and increased productivity. The tray can now be trimmed ensuring that there are no sharp edges.

One of the great things about this product is its high resistance to heat. I find this very favourable when having to meet tight deadlines. In this regard, I can boil the wax off the model straight after the tray has been trimmed. The finished item is now ready to be sent back to the dentist.

## Summary

I have been using this manufacturer's trays for several years and have found that they are not too sticky or too thin compared to other materials on the market. They are also available in two colours (although there is a difference between the dark and light green products).

Additionally, I have always found the service level from this company to be of a very high standard. They have continued to deliver first class products to time sensitive deadlines and their team have always been polite and helpful. In terms of the product range, they also have good value offers ensuring sustained value for money. The special trays are not only simple to construct but they have also allowed for mass construction which is of great help in the everyday working environment of a lab. There are many benefits associated with the special light curing trays, but one of the greatest has to be the transparency of the material, allowing the technician to perform very exact modelling on to the surface of the tray.

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