Shanto Dental Ceramics Ltd.

GENERAL RULES OF MATERIAL CHOICE AS IT APPLIES TO STUMP SHADES ©

e.Max / Empress: Requires 1.00 mm reduction and the stumps need to be vital looking plus within one grade of the desired shade (example: A3 stump is ok if A2 is desired, but not if the desired shade is A1).

PFZ: Requires a minimum of 1.5 mm reduction and the stumps need to be ***tooth coloured***. i.e. any base color that you can find on a regular shade guide, tones in yellow, orange or light brown.

PFM: Requires a minimum of 1.5 mm reduction and is the necessary material choice if you want to block out stump colors that are ***non-tooth coloured***. i.e. outside of regular shade guide parameters, dark brown, grey, green, blue, black, red, etc.

Special considerations regarding e.Max and other highly translucent restorative materials:

Any translucent material (e.Max included) is, as far as shade is concerned, nothing more than a filter. Because of this inevitable filter effect, there are two major concerns that we must work around and creatively anticipate:

1) E.Max restorations relies on the underlying tooth for both strength and color support. Even if we have been provided with stump shades from the dentist we cannot predict 100% what the restoration will look like when it goes in the mouth. For this reason, technicians prefer the stump shade as close as possible to the desired shade, and preferably never more than 1 shade removed from the desired shade. If the stump is more than one shade darker, the dentist should seriously think about NOT using e.Max, since it is quite likely that final shade issues will be a problem.
   For example: if the desired shade is 1M1, it will be ok if the stump is 2M1, 2M2, 2M3 or lighter, but not if the stump is 3M1 or darker.
2) On all translucent dental materials, there is always a slight color-shift that takes place after bonding. This color-shift is not predictable because the same bonding cement may very well shift differently in different people. The only thing that is predictable when it comes to color-shifting, is that we know, from scientific studies, that Dual Cure type bonding materials (e.g. “Panavia V5”), have higher color-shift than if you are using a full resin bonding protocol (e.g. “Variolink Veneer”).

Since technicians cannot put translucent crowns and veneers in the patients’ mouths, the dentist cannot expect technicians to be successful in compensating for underlying darkness on such cases. There is simply no way for technicians to test whether it works when the crown and/or veneers are sitting on a model.

Technicians do the best they can with the information they have, but the final testing and tweaking of color parity can only be done in the mouth by the dentist and must be done with the underlying bonding agent. Dentists can order bonding agents and try-in pastes in different translucencies to do such testing. For example, “Variolink Veneer” is available in seven different translucencies and colors, both try-in pastes and the actual bonding material. This will give the dentist the best chance of getting an accurate final color match. Finally, for the manufacturing of translucent crowns and veneers, it is always better to err a little on the bright side, because it is much easier to “tone it down” rather than brighten it up. Toning down, can be done with the bonding agent, or by returning the case to the lab for stain and glaze. Brightening up can only be done with the underlying bonding agent, but remember, only ONE shade brighter is generally what is possible.

Shanto Dental Ceramics Ltd.
255 East 1st Ave
Vancouver, BC, V5T 1A7