Building up ceramic margins

The shoulder ceramic range includes 7 HM (high fusing margin) and LM (low fusing margin) shoulder ceramics. HM/LM 1 – 6 are coordinated with the respective shades as shown in the shade chart.

HM/LM 7 is also referred to as bleach. It is a whitish opaque shoulder ceramic with increased fluorescence. It is used for masking dark areas (discoloured tooth structure) modifying the brightness and transparency of HM or LM material.

HM margin ceramics (high fusing) are used in the classic manner and fired at a temperature of 870°C. LM margin ceramics (low fusing) are not used until the veneering is complete, i.e. after glaze firing. Due to their low firing temperature of only 790°C LM margin materials can also be used for correction e.g. the contours, pontics or contact areas.

Preparation and framework design

Metal free crown margins require a shoulder or, at least, deep chamfer preparations.

Fig. 51 The crown margin is reduced by approx. 1 mm to create space for the ceramic shoulder. The margin of the metal framework should be reduced by approx. 1–1.5 mm, conditioned as usual with the HeraCeram Adhesive and masked with the Liner.

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Special.

Fig. 52 The crown margin is reduced by approx. 1 mm to create space for the ceramic shoulder.

Fig. 53 The separating agent to the margin area.

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First build up with HM margin ceramic

Fig. 54 The shoulder material is mixed with SM Liquid to produce a kneedable dough before being applied to the cervical region of the crown.

Fig. 55 Any excess liquid is then absorbed to condense the ceramic slightly. Drying the margin ceramic carefully with a hair dryer increases its firmness making it safer to handle. Once the ceramic surface has been contoured and smoothed, the crown can be released from the model again and fired. The firing cycle is shown in section F.

Fig. 56 After firing, the marginal fit is checked after the changes caused by sintering compensation. The model is coated with separating agent again and the HM margin material is mixed as for the first build up. To ensure that margin material adapts properly to the fired ceramic shoulder, the ceramic shoulder should be trimmed slightly to roughen it.

Fig. 57 Once the HM margin ceramic has been applied, it is replaced on the model by tapping it gently. The excess is removed. Once dried, the restoration is released from the model again and fired. Afterwards, you build up your restoration in the usual way.

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Fig. 58 The ceramic margin fits perfectly after correction.

Fig. 59 The ceramic is then built up as usual.

Fig. 60 ceramic crown with inadequate marginal fit.

Fig. 61 Correcting the marginal fit with LM margin ceramic …

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LM Margin ceramic (low fusing)

LM margin materials can be used for adding a ceramic margin after building up the restoration, i.e. after the g laze firing. They are processed the same as HM margin materials except that the firing temperature is 790°C.

LM margin ceramics are not only for building up and correcting margins, but can also be used for all other corrections, e.g. contouring or building up contact areas.

Fig. 62 correction in the pontic and cervical regions.