Lithium disilicate meets zirconium oxide

The IPS e.max CAD-on technique

Front: IPS e.max CAD superstructure, IPS e.max ZirCAD framework and the completed IPS e.max CAD-on bridge restoration. Centre: IPS e.max CAD Crystall/Connect fusion glass-ceramic. Back: Ivomix vibrator unit.

The IPS e.max CAD-on technique allows dental laboratories to utilise lithium-disilicate glass-ceramics in the fabrication of high-strength, zirconium-based bridges.

What makes the new CAD/CAM-based processing technique IPS e.max CAD-on so special is that it involves a combination of lithium disilicate and zirconium oxide. The lithium-disilicate glass-ceramic IPS e.max CAD offers high strength and aesthetics. It has already been used successfully for the fabrication of single-tooth restorations such as monolithic crowns.

IPS e.max ZirCAD zirconium oxide is used to create high-strength frameworks, primarily for bridge restorations. By means of the IPS e.max CAD-on technique, three- to four-unit posterior bridges that consist of aesthetic, high-strength lithium-disilicate superstructures on a zirconium-oxide framework can be produced.

The production procedure

The CAD-on technique involves the fabrication of two components: a zirconium-oxide framework made of IPS e.max ZirCAD and a lithium-disilicate superstructure made of IPS e.max CAD. Both parts are designed using the new and intuitive inLab V3.80 software from Sirona and milled with the Sirona inLab MC-XL unit.

The IPS e.max ZirCAD framework is then subjected to a quick sintering process in the Programat S1. Subsequently, a homogeneous all-ceramic bond between the two individually milled parts is established by means of an innovative fusion glass-ceramic that has been developed especially for the purpose. The fusion process occurs simultaneously with the crystallisation of IPS e.max CAD.

Treatment goals are reached more quickly and efficiently

IPS e.max CAD-on takes the fabrication of tooth- or implant-borne posterior bridges to the next level with regard to efficiency and productivity. This new technique enables dental laboratories to create zirconium-based IPS e.max CAD restorations within a day and with little manual effort. The results leave nothing to be desired in terms of strength, economy and aesthetics.

The IPS e.max CAD-on technique can be used as an alternative to the layering or press-on technique. From this autumn, IPS e.max CAD blocks and accessories for the IPS e.max CAD-on technique will be available worldwide.

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