lithium Disilicate User Instruction

[introduction]

Glass ceramics' main component is Lithium Disilicate and is produced through special process. It features simple, fast crystallization process and supreme esthetics result , therefore has become top material choice for CAD high efficiency, high strength restorations.

1.Chemical characteristics

Composition	Formula	Mass percentage
Silicon dioxide	SiO_2	55%～65%
Lithium oxide	Li_2O	15%～25%
Aluminium oxide	Al_2O_3	2%～12%

Composition	Formula	Mass percentage
Potassium oxide	k_2O	2%～12%
Other oxide	0%～10%	

2.Advantages

- Excellent esthetics & restorative effect.
- Supreme chemical stability and flexural strength.
- Easy milling, preserved tool life.
- Simple and fast crystallization process, save operation time.
- Unique chameleon property guarantees excellent restorative effect.

[Making process]

1.Preparation

Shoulder preparation

Not suitable for preparation in angle and sharp edge area. Shoulder should be prepared to rounded inner edge or slope.

It is required to have space of 1mm to make sure blocks achieve ideal milling result under CAD/CAM processing.

Inlay preparation：

1.Depth of Inlay preparation should be no less than 1mm; Separating edge of groove area should be no less than 1mm.

2.Onlay preparation: depth of onlay preparation should be no less than 1mm; Separating edge of groove area should be no less than 1mm.

2.Scanning

Use scanner with scanning accuracy of 20-30 um to obtain data module and transfer scanning data to CAD design software to design.

Hai-lasmile®

3.Design

Using CAD software. Sintering factor of glass ceramics is 0.2%. It is advised to design based on 1:1 ratio during design.

4.Type setting

① When using typesetting software to set type, size data of glass ceramics in software should be same as real glass ceramics; if there is no same size, selected size data in software should be a bit bigger than real size.

② In typesetting, size of connecting bar should be cone. Cross section of one end connecting restoration is 2.5-3.0mm^2. The other end is 4.0-5.0mm^2.

5.Milling

① Do not use burs with milling capacity of 10 restorations or above to mill glass ceramics.

② During milling, sufficient milling liquid should be provided and guaranteed to be sprayed fully on bur tip.

③ During milling, air pressure should be maintained at 6-8 bar, and neither liquid nor oil is contained in air to avoid contamination.

6.Sintering

This product shows purple before sintering. After sintering , it crystallizes and restoration shows desired color. Please comply strictly with sintering program to control sintering temperature and time.

Glass ceramics sintering program：

Start temp	Dry	Rate	Highest temp	Maintain time	Final temp
450°C	4min	40 °C/min	840°C	2 min	300°C

7.Staining & glazing

Use special Glaze Paste. After staining & glazing, please comply strictly with firing program to sinter.

Recommended glazing program：

Start temp	Dry	Rate	Working temp	Maintain time	Final temp
500°C	4min	50 °C/min	820°C	2 min	300°C