

Beauty and
strength in the
blink of an eye



initial[™]

LRF BLOCK

CLINICIAN'S GUIDE

Leucite reinforced feldspathic
ceramic CAD/CAM block

GC

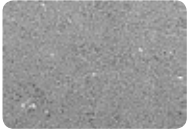
Table of Content

1	The material and its advantages	3
2	Indications and preparation design	4
	Indications	4
	Contraindications	4
	Preparation design	4
3	Shade selection	5
4	Finishing and polishing	6
	4.1 Mechanical polishing	6
	4.2 Glaze firing using GC Intial LRF Glaze Paste	8
5	Cementation	9
	5.1 Preparations	9
	5.2 Cementation	9
6	Clinical case	10
7	Order information	12

1. The material and its advantages

Combining the best of two worlds

Initial™ LRF BLOCK from GC is a leucite-reinforced feldspar CAD/CAM block for full-contour, all-ceramic restorations. For its development GC could rely on more than 15 years of experience with the Initial ceramics, which are well known among dental technicians.



SEM picture of Initial LRF
Source: GC R&D Austria, 2017

The leucite content reinforces the structure and makes it possible to use it in the posterior area as well, even without glazing. The choice of size and distribution of the leucite crystals impacts the reflection of incident light and makes it particularly aesthetic.

Product characteristics and advantages



Simple and fast processing

- After milling, the Initial LRF restoration has an extremely smooth, non-porous surface. To add gloss, it only requires a few polishing steps.

Suitable for many indications

- Highest fracture stability and flexural strength in its category, whether it is polished or glazed.



High aesthetics

- Fluorescence and opalescence are optimised to match the natural tooth for high-end aesthetic results. Two translucency levels are available, to optimize blending in of the restoration and masking of strongly discoloured abutments.

Firing is optional

- Initial LRF is sufficiently strong, even without firing. Gloss can be obtained in a few polishing steps; glazing and firing is optional when more characterisation is required.



Perfect marginal adaptation

- Thanks to the detailed finishing, the marginal contours fit seamlessly to the tooth. Less chipping occurs due to the optimized strength.

2. Indications and preparation design

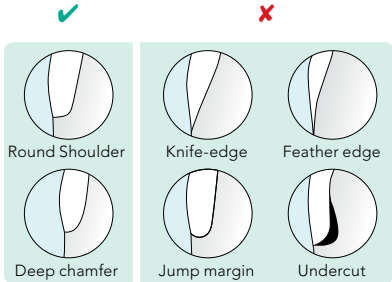
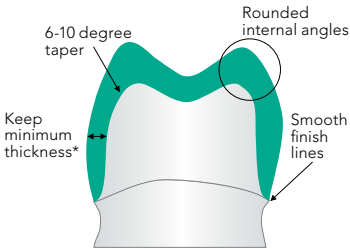
Indications

- ✓ Single anterior & posterior crowns - partial & full
- ✓ Inlays, onlays
- ✓ Veneers

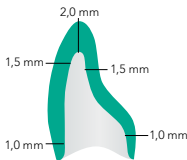
Contraindications

- ✗ Hyperfunction : excessive function, grinding, clenching
- ✗ Endocrowns on premolars
- ✗ Bridge constructions

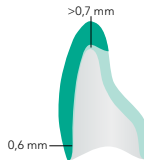
Preparation design



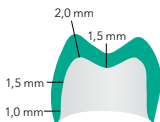
Anterior crown



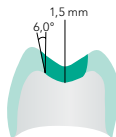
Veneer



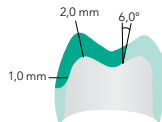
Posterior crown



Inlay



Onlay

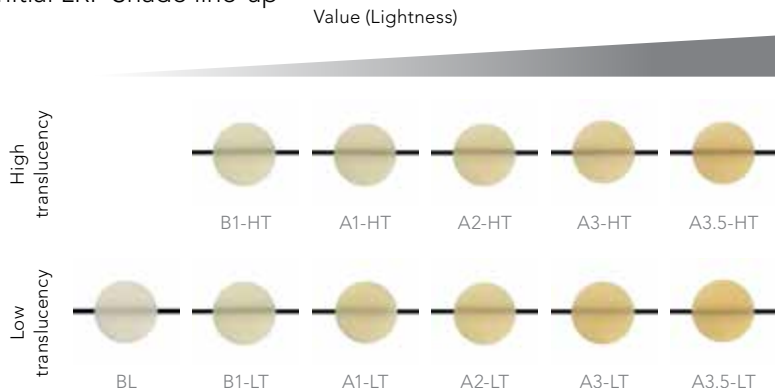


- An isthmus width of at least 1,5 mm should be observed in the fissure area
- Avoid having margins in direct occlusal contact with the opposing tooth

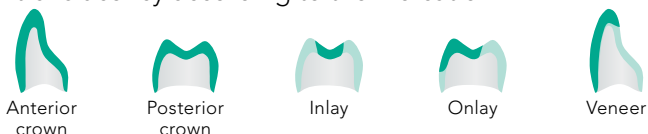
3. Shade selection

All shades of Initial LRF match with the VITA Classic shades for a perfect shade integration. Two levels of translucency are available, depending on the individual requirements for each case.

Initial LRF Shade line-up



Choice of translucency according to the indication



	Anterior crown	Posterior crown	Inlay	Onlay	Veneer
HT	👍👍	👍	👍👍👍	👍👍👍	👍👍👍
LT	👍👍👍	👍👍👍	👍👍	👍👍	👍

👍	Indicated
👍👍	Good indication
👍👍👍	Best indication

HT	LT
<ul style="list-style-type: none"> • Thinner preparations • Normal colour of the abutment • Optimal blending effect • In combination with a light-cure luting agent 	<ul style="list-style-type: none"> • Thicker restorations • Discoloured or metal abutments • Optimal masking effect • In combination with dual cure or self-cure luting agent

4. Finishing and polishing

Initial LRF has a very smooth microstructure, contributing to its aesthetic appearance. With the correct polishing process, a high gloss comparable to the gloss obtained with glazing and firing, can be achieved. Glazing and firing takes more time, but offers more characterisation possibilities.

4.1 Mechanical polishing

Option 1 Conventional ceramic polishers and GC DiaPolisher Paste



Removal of the sprue (a diamond bur can also be used), checking the occlusion and proximal contacts. Adjusting contacts if necessary.



Ceramic Polishing with a coarse rubber point.



Ceramic Polishing with a fine rubber point.



Application of GC DiaPolisher Paste.



High gloss polishing with GC DiaPolisher Paste and a bristle brush.



Final result.

Option 2 Diapol Twist Kit (EVE)



1
Removal of the sprue (a diamond bur can also be used), checking occlusion and proximal contacts. Adjusting contacts if necessary.



2
Smoothing the surface with EVE Diapol Twist coarse.



3
Pre-polishing with EVE Diapol Twist medium



4
High-gloss polishing with EVE Diapol Twist fine.



5
Final result.

Recommendation
for polishing speed:

 10.000-12.000 min⁻¹
max. 20.000 min⁻¹

4.2 Glaze firing using GC Initial LRF Glaze Paste

Initial LRF Glaze Paste (GC) has been especially developed to perfectly match Initial LRF and the compatibility between both products is tested and guaranteed. Other glazes and stains might have other properties and damage of the restoration may occur upon their use.



1 Remove the sprue, check occlusion and proximal contacts.



3 Always stir the Initial LRF Glaze Paste (GC) in the jar before use!



4 If needed, Initial LRF Glaze Paste can be diluted with Initial LRF Diluting Liquid (GC) on a separate plate.



6 Apply the Initial LRF Glaze Paste with a fine brush onto the restoration.

4.2.1 Characterisation

Initial Spectrum Stains (GC) can be added & mixed directly with the Initial LRF Glaze Paste. There is no need to adapt the firing parameters.



4.2.2 Firing Parameters

For placement in the furnace use a firing tray. Place the restoration direct on a platinum foil or on a platinum enrobed pin. A small amount of Initial

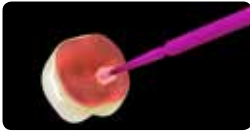
Firing Foam (GC) can be used in combination with a metal pin. (Do not use e.max CAD crystallisation Tray – Ivoclar).



Pre-heating temperature	Drying time	Raise of temperature	Vacuum	Final temperature	Holding time
450 °C	4 min	45 °C/min	Yes	840-860 °C	1 min

5. Cementation

5.1 Preparations



1. Apply hydrofluoric acid gel (5-9%) for 60 seconds to the inner surface of the restoration.



2. Rinse with water spray or an ultrasonic cleaner and dry.



3. Condition the etched surface with a silane coupling agent such as G-Multi PRIMER (GC) and allow it to dry.

- After etching with hydrofluoric acid, the surface can be cleaned with phosphoric acid (35-37%), preferably by scrubbing with a microbrush for 10-15 seconds.

5.2 Cementation

INDICATIONS					
		Dual-cure adhesive resin G-CEM LinkForce	Self-adhesive resin G-CEM LinkAce	Resin-Modified Glass Ionomers FujiCEM 2 SL or Fuji PLUS	Light-cure adhesive resin G-aenial Universal Flo
Veneers					 <2mm
Inlays/Onlays			Retentive preparations	(only inlays)	 <2mm
Crowns					

- In case the preparation is non-retentive, an adhesive resin cement (such as G-CEM LinkForce) is preferred.



Download our GC Luting Guide for step-by-step instructions for each cementation option.



6. Clinical case

Courtesy of Dr. Venelinov, Bulgaria



1
Situation before treatment.
Cariou defect and hypo-
mineralisation of tooth #17.



2
Tooth #17 after preparation.



3
CAD – preparation design
after scanning.



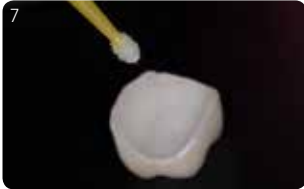
4
CAD – restoration design
after scanning.



5
Initial LRF restoration
characterised with Initial LRF
Glaze Paste.



6
Etching with hydrofluoric acid
for 60 seconds.



Application of a silane coupling agent (G-Multi PRIMER, GC).



Preparation of the prepared tooth: selective enamel etching for 10 seconds.



Preparation of the prepared tooth: adhesive application (G-Premio BOND, GC) followed by strong air-blow and light-curing.



G-CEM LinkForce (GC) dual cure adhesive resin cement.



Seating of the restoration with G-CEM LinkForce, followed by excess removal and final light-curing (20 seconds per surface).



Final result.

7. Order information



for CEREC®/inLab, per 5 pieces	
876501	GC Initial LRF A1-HT-12
876502	GC Initial LRF A1-HT-14
876503	GC Initial LRF A1-HT-14L
876504	GC Initial LRF A1-LT-12
876505	GC Initial LRF A1-LT-14
876506	GC Initial LRF A1-LT-14L
876507	GC Initial LRF A2-HT-12
876508	GC Initial LRF A2-HT-14
876509	GC Initial LRF A2-HT-14L
876510	GC Initial LRF A2-LT-12
876511	GC Initial LRF A2-LT-14
876512	GC Initial LRF A2-LT-14L
876513	GC Initial LRF A3-HT-12
876514	GC Initial LRF A3-HT-14
876515	GC Initial LRF A3-HT-14L
876516	GC Initial LRF A3-LT-12
876517	GC Initial LRF A3-LT-14
876518	GC Initial LRF A3-LT-14L
876519	GC Initial LRF A3.5-HT-12
876520	GC Initial LRF A3.5-HT-14
876521	GC Initial LRF A3.5-HT-14L
876522	GC Initial LRF A3.5-LT-12
876523	GC Initial LRF A3.5-LT-14

876524	GC Initial LRF A3.5-LT-14L
876525	GC Initial LRF B1-HT-12
876526	GC Initial LRF B1-HT-14
876527	GC Initial LRF B1-HT-14L
876528	GC Initial LRF B1-LT-12
876529	GC Initial LRF B1-LT-14
876530	GC Initial LRF B1-LT-14L
876531	GC Initial LRF BL-12
876532	GC Initial LRF BL-14
876533	GC Initial LRF BL-14L

876590	GC Initial LRF Glaze Paste and Diluting Liquid
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UNIVERSAL, per 5 pieces	
876551	GC Initial LRF A1-HT-12
876552	GC Initial LRF A1-HT-14
876553	GC Initial LRF A1-HT-14L
876554	GC Initial LRF A1-LT-12
876555	GC Initial LRF A1-LT-14
876556	GC Initial LRF A1-LT-14L
876557	GC Initial LRF A2-HT-12
876558	GC Initial LRF A2-HT-14
876559	GC Initial LRF A2-HT-14L

876560	GC Initial LRF A2-LT-12
876561	GC Initial LRF A2-LT-14
876562	GC Initial LRF A2-LT-14L
876563	GC Initial LRF A3-HT-12
876564	GC Initial LRF A3-HT-14
876565	GC Initial LRF A3-LT-14L
876566	GC Initial LRF A3-LT-12
876567	GC Initial LRF A3-LT-14
876568	GC Initial LRF A3-LT-14L
876569	GC Initial LRF A3.5-HT-12
876570	GC Initial LRF A3.5-HT-14
876571	GC Initial LRF A3.5-HT-14L
876572	GC Initial LRF A3.5-LT-12
876573	GC Initial LRF A3.5-LT-14
876574	GC Initial LRF A3.5-LT-14L
876575	GC Initial LRF B1-HT-12
876576	GC Initial LRF B1-HT-14
876577	GC Initial LRF B1-HT-14L
876578	GC Initial LRF B1-LT-12
876579	GC Initial LRF B1-LT-14
876580	GC Initial LRF B1-LT-14L
876581	GC Initial LRF BL-12
876582	GC Initial LRF BL-14
876583	GC Initial LRF BL-14L

GC Trademarks: DiaPolisher Paste, FujiCEM 2, Fuji PLUS, G-aenial Universal Flo, G-CEM LinkAce, G-CEM LinkForce, G-Multi PRIMER, G-Premio BOND, Initial Firing Foam, Initial LRF Glaze Paste & Diluting Liquid, Initial Spectrum Stains

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