

## Porcelain Restoration Selection Guide

Points of Comparison	IPS Empress Esthetic	IPS e.max	Captek	LAVA	PFM	BruxZir
<b>Goals</b>	Esthetics, Translucency, Metal-Free	Esthetics, Metal-Free, Strength	Sub-Gingival Response, Esthetics, Strength	Metal-Free, Strength, Esthetics	Strength, Cost Variety (high noble, noble, base)	Metal-Free, Strength
<b>Primary Applications</b>	Veneers, Crowns, Inlays & On lays	Veneers, crowns, inlays/onlays. Single	Single crowns & 3-unit bridges	Single crowns and 3-6 unit bridges up to a 42mm span	Single crowns through long span bridges	Crowns and Bridges
<b>Preparation Requirements</b>	Shoulder margin design 1.0 mm minimum at the margin, 1.5-2.0 mm reduction at incisal/occlusal, facial & lingual	Shoulder margin design 1.0 mm minimum at the margin, 1.5-2.0 mm reduction at incisal/occlusal, facial & lingual	Any margin design with minimum 0,8 mm gingival reduction, 1.5-2.0 mm reduction at incisal/occlusal & facial	Deep chamfer design with minimum .8mm gingival reduction, 1.5-2.0mm reduction at incisal/occlusal & facial+++	Any margin design with 1.0-1.5 mm reduction for color, 1.5-2.0 mm reduction at incisal/occlusal and facial+++	Shoulder preparation preferred, feather edge is okay Clearance similar to full cast gold preps. - 1.0 mm is ideal, 0.5 mm is acceptable.
<b>Cementation Guidelines</b>	Adhesive bonding with dual cure bonding agent++	Adhesive bonding or conventional cementation++	Conventional cementation	Conventional or translucent adhesive (cannot etch Zr)	Conventional cementation	Conventional cementation
<b>Flexural Strength</b>	90-150 MPa before and 700MPa after bonding	350-400 MPa prior to seating. Material is 2.5x's stronger than Empress Esthetic	1000 MPa	1100-1300 MPa	1200-1400 MPa	900-1300 MPa
<b>Enamel Wear</b> ×	Comparable to natural enamel	Comparable to natural enamel	Depends on type of veneering porcelain	Depends on the type of veneering porcelain	Depends on the type of veneering porcelain	Ongoing Research
<b>Restoration Composition</b>	Lucite reinforced glass	Lithium disilicate	88% gold (22k) composite metal with feldspathic porcelain	Zirconium oxide substructure with LAVA Ceram porcelain	Au, Pd, or Ni/Cr alloy substructure with feldspathic porcelain	Monolithic Zirconia
<b>Years of Clinical Success</b>	15 years	12 years	15 years	10 years	> 40 years	3 years

+ Provides a higher strength inlay/onlay, yet does not possess the more esthetic chameleon effect of Empress Esthetic.

++ Strictly adhere to adhesive manufacturer's instructions for proper bonding.

+++ The substructures for LAVA and Porcelain Fused to Metal (PFM) crowns must be a minimum of 0.3-0.5 mm thick for sufficient strength. In order to achieve the prescribed shade, the veneered surfaces of the restoration must be at least 1.3 mm thick.

×Most modern brands of fine grain porcelain show wear closely to that of enamel as claimed by individual manufacturers.