

DiamondCrown™. BIOCOMPATIBLE SOLUTION, ENHANCED ESTHETICS.

Integrated Implant Superstructure

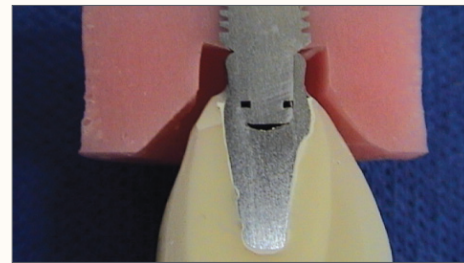
- Allows for immediate loading of integrated implant permanent crowns
- Shock-absorbing, tough ductile nature dissipates masticatory energy, allowing for accelerated osseointegration
- Ideal for occlusal rehabilitation (TMJ, bruxers, habitual clenchers)
- Nearly 3 times the strength of porcelain fused to metal shear bond when bonded with a titanium abutment post
- **10 years clinically proven on over 15 million cases**



Base line on master model



7 years post-op, DiamondCrown conventional Ti-Implant DiamondCrown superstructure



3 years In-Vivo correlation. Implant integrated DiamondCrown IDC accelerated cyclic fatigue studies despite in cross section, shows intact interfacial integrity.

Crown & Bridge, Inlays/Onlays, Laminate Veneers (Metal Free)

The average human masticatory force:

- Anterior teeth: 9MPa
- Bruxer (posterior tooth): 41MPa
- Posterior teeth: 31MPa
- **DiamondCrown implant integrated superstructure: 500MPa**



5 years post-op: 3 unit DiamondCrown posterior bridge, alloyless, fiberless and flawless biomechanics. A balance of microelasticity and macrorigidity.



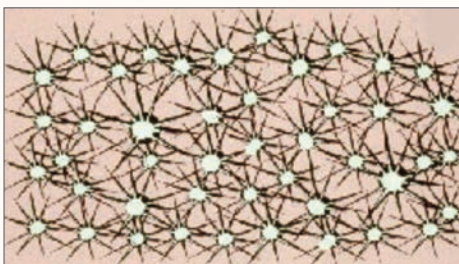
Occlusal surface intrinsic stain characterized. Simulated developmental anatomy. Enamel-like wear resistance.



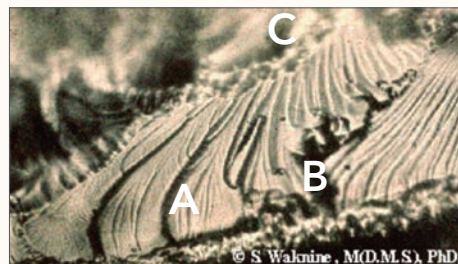
3 unit posterior bridgework: alloyless and fiberless.

SUPERIOR STRENGTH, PURITY & BRILLIANCE

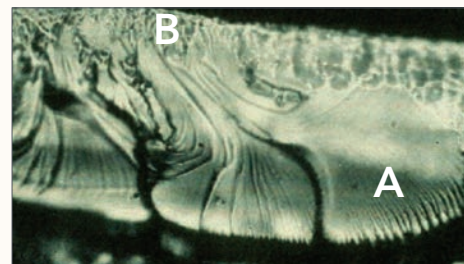
Nanoceram Polycrystalline PEX Matrix



Microcrystalline structure: durable & ductile. PEX = macrorigid & microelastic



A: Lamellar crystalline zone; microelastic, shock absorbent
 B: Amorphous zone (glassy polymer); macrorigid for architectural stability
 C: Nucleation zone

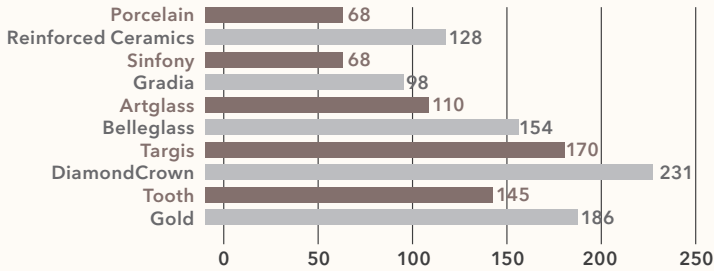


A: High density lamellar growth
 B: Nucleation zone

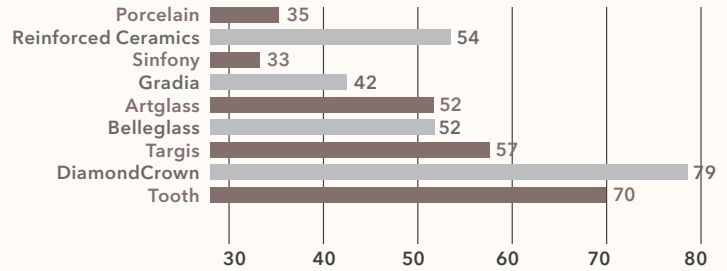
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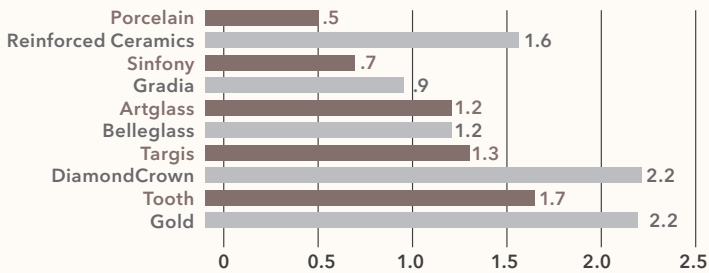
BIAXIAL FLEXURAL STRENGTH (MPA)



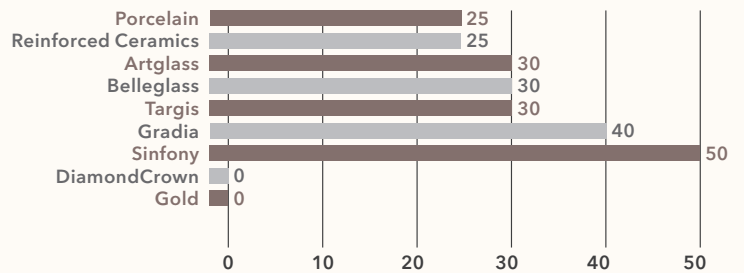
DIAMETRAL TENSILE STRENGTH (MPA)



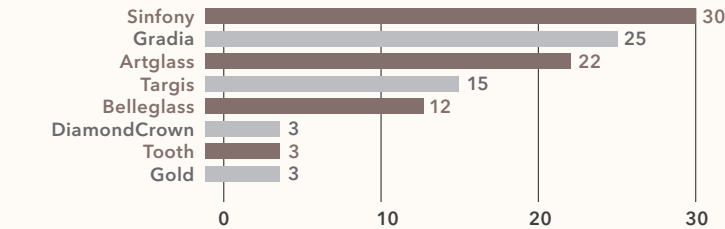
FRACTURE TOUGHNESS MPA M^{-1/2} (SHOCK ABSORPTION)



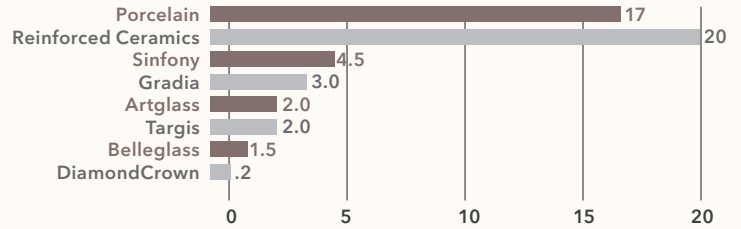
CYTOTOXICITY (% REACTIVITY)



WEAR RATE (MICRONS/YEAR)



SHRINKAGE (% LINEAR)



Advantages of Using DiamondCrown for Indirect Applications

- Polycrystalline PEX matrix, masticatory cyclic fatigue resistant, high fracture toughness
- NanoCeram reinforcing phase, oligomer particulate interface, shock absorbing, ultimate wear resistance
- Breakthrough metal-coupling chemistry produces, stable bond to Nickel, Chrome, Gold, Zirconium, Titanium & non-precious alloys
- Unique polymer makes DiamondCrown easy to augment intraorally due to bond strength of 27MPa
- DiamondCrown's shock absorbing, tough, ductile nature dissipates chewing energy allowing for excellent osseointegration
- DiamondCrown PEX Matrix dissipates masticatory energy, a dampening-like effect which allows for the immediate loading of implant crowns
- Unique particulate morphology, ultimate reinforcement and handling characteristics
- Thixotropy (shape memory, anti-slumping properties) easy to model, carve, shape and anatomically contour
- High purity catalyst, superb color stability and accurate shade match
- Super-hydrophobic character, absence of solubility and negligible sorption, providing for ultimate longevity
- Very low shrinkage (0.2 linear comparable to 17% for regular porcelain) guarantees excellent marginal fit



DiamondCrown: 3 single anterior crowns on model



7 years post-op. Superb esthetic vitality and tissue compatibility. Note: Lack of plaque adhesion and excellent gingival tissue response.