

# BioXfill<sup>1</sup>

## NANO-FILLERS LIGHT CURE COMPOSITE SYSTEM

**The new photo light curing** composite BioXFill is the first system in the International dental market designed for applications on new generation materials such as carbon fiber, glass fiber and all thermoplastic or thermosetting polymeric materials loaded with a carbon fiber / glass filler (BioXfill can also be even used for the application on metal structures ).

The BioXfill line was designed to obtain a composite with unique features, dedicated to new materials, the newly developed UrethaneDimethacrylate matrix was developed with the specific purpose of obtaining a high performance material.

**BioXfill** is distinguished to other composites by its greater plasticity, the excellent workability, the abrasion resistance and a structural stiffness compatible with the new FRC materials on the market today.

New technologies that today employ inorganic fibers such as carbon and glass, require a dedicated composite system capable of making technologically advanced and aesthetically perfect finished structures.



**BioXfill** meets all requirements that modern composite systems must have, the new Micro Hybrid matrix makes this product extremely powerful.

High abrasion resistance - Easy to polish - Water absorption extremely contained 15ug / mm - Resistance to bending higher to 120mpa Compressive strength 300MPa -Aesthetic unchanged over time - Discharge of forces - Natural restoration - Easy and cost-effective processing

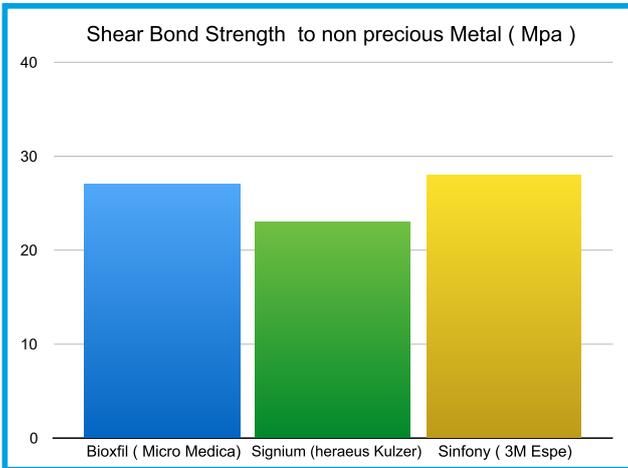
**Mechanical Properties:**

**Shear bond Strength to non precious metal**

The BioXfill composite show high shear bond strength to non precious metal

**Flexural Strength**

The flexural strength is determined from the 3 point bending experiment. Mechanical stability is important for clinical success of crown and bridge composite. The flexural strength is a very good prediction of clinical performance in the mouth.



**Mechanical Properties:**

**Compressive Strength**

The compressive strength is determined from a cylinder with a diameter of 4mm and height 6mm.

The measurement of compressive strength is a good prediction of clinical performance of a restoration, especially in load carrying class I and II situations. Like with all in-vitro tests it represents an aspect of the real clinical situation. Therefore the summary of all mechanical testing experiments have to be viewed as a prediction of the clinical situation.

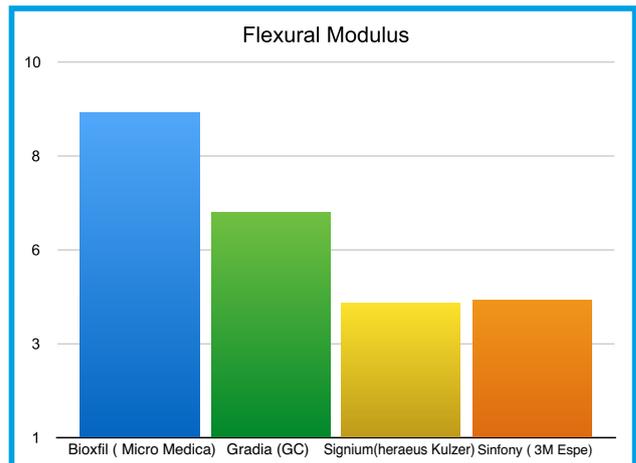
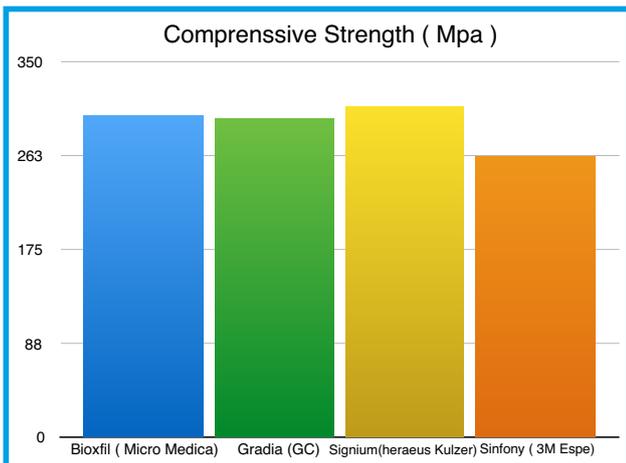
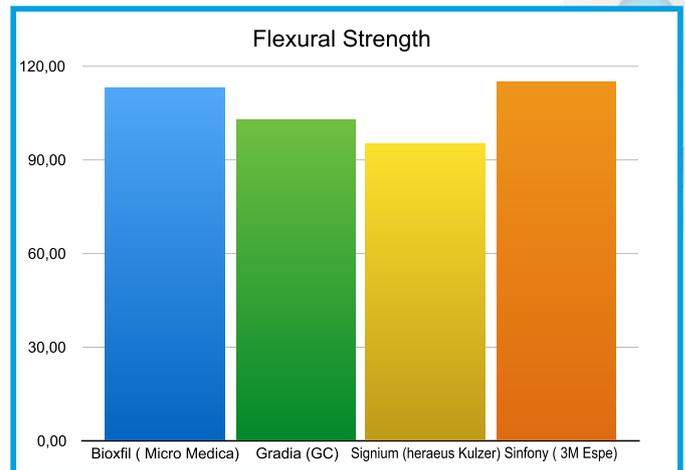
**Flexural Modulus:**

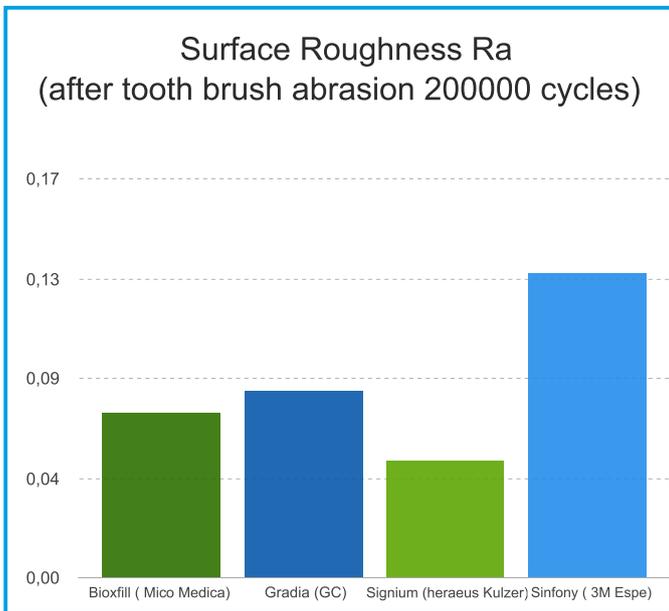
The flexural modulus is determined from the 3 point bending experiment.

The flexural modulus represent the flexibility or stiffnes of the material.

Higher value means a stiffer material.

Stiffness is important to assure that the restoration withstands masticating force.





To make the use of this new composite simple and intuitive was developed a new system with the use of a few masses that combined between them allow the technician to obtain structures with an aesthetic similar to that of natural teeth.

Faithful to the Vita shade guide, this feature makes Biofill easy to use and the end results always reflects the chosen color.



## Mechanical Properties:

### Surface Roughness (Ra polish gloss)

Surface roughness Ra measures the roughness of the composite after polishing. A lower value implies a higher gloss, surface roughness is important for the esthetic of the restoration. Low surface gloss result in restorations that are very resistant to discoloration and deposit of plaque.

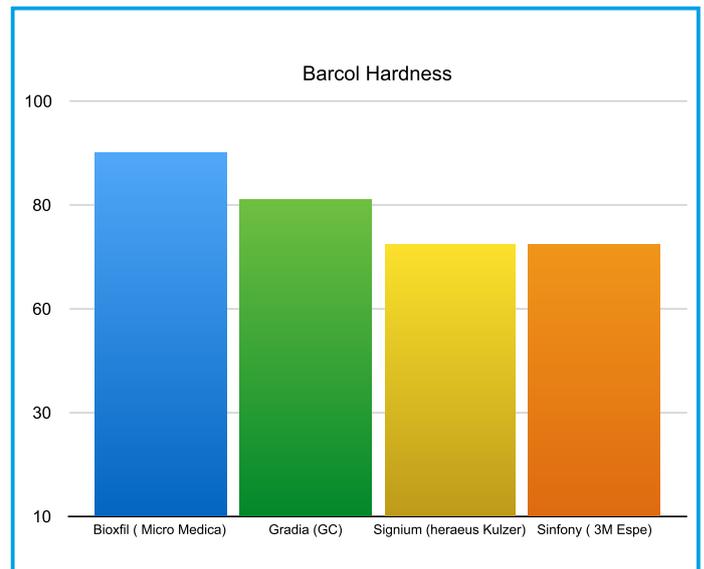
### Barcol Hardness

The test specimen is placed under the indenter of the Barcol hardness tester. A uniform pressure is applied to the specimen until dial indication reaches a maximum.

The depth of penetration is converted into absolute barcol numbers, the experiment measures the resistance of the surface of the specimen against a standardised testing needle.

Clinically it can be viewed as resistance to allow initial cracks in the filling.

Higher value means stronger surface.



### Universal opaque:

**only 3 opaque** Light - Medium and Dark to use with all of the Vita shade guide, they have an excellent covering power.

A small amount of opaque is sufficient to mask any type of structure.

### Universal cervical masses:

**only 3 cervical masses** Flow are available, in Light - Medium and Dark, with a 94% opacity it is essential to obtain perfectly covered cervical edges.



### **Dentine,**

for each color is available a dedicated dentin, the texture of the Dentin is amazing, soft, easy to adapt and shape are the perfect tool to get perfect teeth.

### **Enamels,**

only 3 masses in Light - Medium and Dark to match with different colors depending on the chroma, the naturalness of these enamels is one of the strengths of BioXfill system.

**Transparent,** 2 transparent masses, neutral and opalescent.

### **Super flow colors:**

- brown - dark brown - white
- yellow - blue - transparent
- orange -complete the system.

### **Gengiva,**

**Pink masse** for the construction of false gingiva in the prosthesis on Implant.

### **Modelling Liquid:**

Is also available a special modelling liquid, this liquid facility the manual layering to the composite on the under structure.



### **Special Kit:**

some different special kit complete the BioXfill composite Line.

