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Fiber-Reinforcements of Composite Restorations

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Fiber-reinforced materials have highly favorable mechanical properties, and their strength-to-weight ratios are superior to those of most alloys. When compared to metals they offer many other advantages as well, including non-corrosiveness, translucency, good bonding properties, and ease of repair.

Fiber-reinforced materials can be categorized to pre-impregnated, impregnation required, dental laboratory products, chairside products and prefabricated posts, so it is not surprising that fiber-reinforced composites have potential for use in many applications in dentistry.

Fiber-reinforced materials can be utilized in frameworks for crowns, anterior or posterior fixed prostheses, chairside tooth replacements, periodontal splints, customized posts, prefabricated posts, orthodontic retention, denture reinforcements and in implants dentistry.

To realize the full potential of using fiber-reinforced composite restorations, it is essential that the clinician and laboratory technician understand concepts of tooth preparation and framework design. Also practitioner may appreciate the background information and other details about the materials themselves so that identify the rationale for their use in various clinical situations, select well-suited materials, and carry out related procedures.

Understanding the material properties and take many attentions, fiber-reinforced materials will give more esthetic, more easy, more strong and more reliable restorations.