

The potential of fibre reinforcement

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Dr Claudio Pisacane graduated in Dentistry in 1990 at the 2nd University of Rome "Tor Vergata", whereafter he immediately focused his professional activity on endodontics and restorative dentistry. He is dedicated to these specialties as a speaker at various courses and congresses, nationally and internationally, and as an author of scientific publications and book chapters. He's an active member of various scientific societies. Among those, the Italian Society of Endodontics (S.I.E.), where he has been a member of the Acceptance Commission and Vice-President. Since years, he takes part in the editorial board of several scientific papers. Currently he works in his private practice in Rome.

The composite everX Flow has, among its peculiarities, a glass-fibre reinforcement inside that improves its performance as a replacement for dentine that is subjected to biomechanical stress. The indications of these characteristics have been demonstrated in many clinical scenarios.

In case of endodontically treated teeth, for example, the benefit from this fibre reinforcement can be evident from a considerable substance loss in Class II when restored with a direct filling, or a long-time restoration of the tooth with normal occlusion contact points and anatomy. Effective and reliable core build-up of severely compromised tooth crowns can also be achieved. Consequently, a new provisional element can be obtained for a certain period of time awaiting the definitive prosthetic crown, if needed. In this situation the coupling between everX and fibre posts, in large and/or irregular canals, seems to be a simple and easy way of building up an abutment.

Thus, with the potential addition of an adhesive post and careful layering of the composite, it can even replace a prosthetic temporary restoration for an adequate period of time (observation of the symptomatology in one-visit cases, lack of time to make a resin provisional crown, etc ...) as a sort of a "natural" crown. Its use is illustrated by means of some explanatory cases.

Clinical case 1

Endodontically treated molar with a large Class II cavity. The "basal" dentine of the endodontic cavity was restored with everX Flow (Bulk shade). A layer of Essentia Universal gave the necessary chromaticity and was subsequently covered with a layer of G-aenial Posterior (Shade A2) as enamel replacement. Everything was finalized with characterisations and meticulous finishing and glossing.



Fig. 1A: Initial case



Fig. 1B: Cavity ready for layering



Fig. 1C: After polishing



Fig. 1D: Occlusion control



Fig. 1E: One-month follow-up

Clinical case 2

Paediatric patient after endodontic therapy and before orthodontic treatment. The long-term provisional was worked out with complex occlusal anatomy. The dentine body was restored using two different layers: the core and cuspal base with everX Flow, followed by a layer with medium translucency. G-ænial Posterior was used as an enamel layer.



Fig. 2A: Cavity preparation

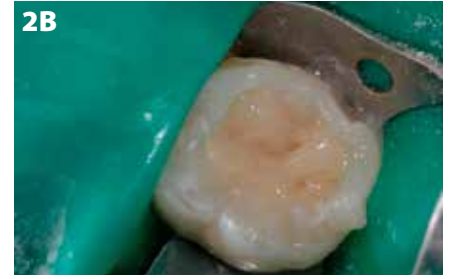


Fig. 2B : Dentine layering



Fig. 2C: Fine layering of the occlusal enamel



Fig. 2D: Finished case

Clinical case 3

Post-endodontic cavity of a premolar with loss of the distal marginal ridge and the disto-buccal cusp support. The endodontic cavity and the basal dentine were filled with two applications of everX Flow, then a layer of Essentia Universal to give the correct chromaticity, which could be enhanced by an enamel layer with a medium translucency composite resin. The case was then finalized with characterisations and careful glossing.



Fig. 3A: Initial case



Fig. 3B: Prepared cavity



Fig. 3C: everX Flow layer and matrix positioning



Fig. 3 D: Realisation under rubber dam



Fig. 3E: Final case



Fig. 3F: Side view on the occlusal anatomy

Clinical case 4

The temporisation of a decoronated premolar, days before the appointment for its prosthetic finalization, was accomplished by compensating the oval endodontic cavity with fibre-reinforced everX Flow (Dentin shade).

The restoration was then completed with a fibre post and dual-cured cement and direct composite to mimic a natural tooth crown temporarily.

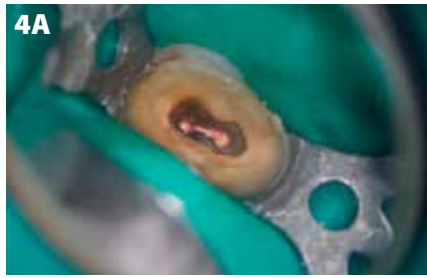


Fig. 4A: Prepared cavity

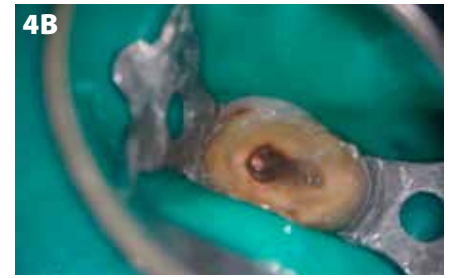


Fig. 4B: First layer with fibre-reinforced composite



Fig. 4C: Case completed with a post, awaiting prosthodontic finalization

