



The new two-step universal adhesive G2-Bond Universal – a step back or forward? –

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Universal adhesives are applicable in different etching modes and provide adhesion to various substrates. In addition, they are easy to use, thus becoming popular over the last decade. However, they also bear disadvantages, such as the need of an additional primer/activator for optimal adhesion to some substrates. Furthermore, universal adhesives have increased hydrophilicity caused by the presence of hydrophilic monomers such as HEMA (2-hydroxyethyl methacrylate) and the remnants of water and volatile solvent within the adhesive layer. This results in higher penetration of water through the adhesive layer and faster hydrolytic degradation, there have therefore been many attempts to counteract the hydrophilicity. One of them – the subsequent application of a hydrophobic coat – increased the adhesives' bond strength to dentin, durability and degree of conversion. In the case of the HEMA-free G-Premio Bond (GC), the hydrophobic coat also reduced phase separation within the adhesive layer. Therefore, GC launched a new two-step adhesive system, G2-Bond Universal, in which the primer resembles a HEMA-free universal adhesive and the bonding agent is designed to be as hydrophobic as possible. While the omission of HEMA and the hydrophobic coat are expected to improve the bonding performance, it is at the expense of an additional step. In this presentation, it will be discussed whether this is a step back or forward based on the available evidence on G2-Bond Universal.

<Biography>

Antonin Tichy is an Assistant Professor of Restorative Dentistry and Dental Materials at the Institute of Dental Medicine of the First Faculty of Medicine, Charles University. He also works as an Adjunct Lecturer in the Department of Cariology and Operative Dentistry of Tokyo Medical and Dental University, where he obtained his PhD degree. His research is primarily focused on adhesive systems and resin composites. Despite his young age, he has authored more than 30 original articles in peer-reviewed journals and presented at numerous national and international conferences.