KIT COMPONENTS

TEETHMATE F-1 Resin, 2 x 2.5 ml

Light cured pit and fissure sealant containing adhesion monomer (MDP) and a fluoride releasing polymer. Available in 3 different shades:



K-ETCHANT GEL, 6 ml

Thixotrophic etching agent containing 40 % phosphoric acid

ACCESSORIES

Brush tip handle, 50 disposable brush tips, 2 x 25 applicator nozzles, plate

RELATED PRODUCTS

CARIES DETECTOR

Caries Detector is a clinical aid in the diagnosis of infected carious dentine.

Caries Detector penetrates the broken cross links in the collagen fibres, which have been destroyed by bacteria, staining this area in a red colour. Caries Detector is also a conservative aid, for it will not penetrate the inner layer - which is partly decalcified and will remineralize if left intact. Thus the doubt over where the carious dentine begins and ends, is no longer so difficult to establish when Caries Detector is used routinely in Conservative Dentistry.

FEATURES AND BENEFITS

- Fast and easy to use
- Does not stain remineralizable carious-affected dentin
- Helps clinicians to preserve healthy tissue







INDEPENDENT RESEARCH INSTITUTE





DESCRIPTION

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Manufactured by KURARAY CO., LTD. 1-12-39 , Umeda, Kita-ku, Osaka 530-8611, JAPAN Kuraray European Union Representative KURARAY EUROPE GmbH, Schiess Strasse 68, D-40549 Düsseldorf, eMail: dental@kuraray.de



CONVENIENT FLOW CONTROL



TEETHMATE F-1 is a fluoride-releasing,

light-curing, strongly adhering pit and

fissure sealant in a newly developed

application system for easy "flow-control".

The stable co-polymer releasing fluoride

is a unique invention by Kuraray.

TEETHMATE F-1











STRONG ADHESION

TEETHMATE F-1 is an unfilled, low viscosity resin that penetrates deeply into pits and fissures, thus minimizing its exposure to opposing dentition. The well balanced TEETHMATE F-1 formula contains MDP, an adhesion monomer which is used for PANAVIA F resin cements and CLEARFIL. SE BOND bonding systems. The unique MDP monomer provides real chemical adhesive strength and greater retention of TEETHMATE F-1 to etched enamel.

LONG LASTING FLUORIDE RELEASE

TEETHMATE F-1 contains a newly developed. patented fluoride-releasing co-polymer. It releases minute quantities of fluoride over time and therefore provides greater benefits than conventional resin pit and fissure sealants. In addition the polymer is chemically stabilized so that after fluoride-release, the positive physical properties of TEETHMATE F-1 are not affected.

EASY HANDLING

The shape and flexibility of the incorporated applicator nozzles provide convenient access, handling and flow-control. The special shaped applicator barrel offers easy control of remaining resin by a transparent window.



TEETHMATE F-1

The new fluoride-releasing pit and fissure sealant from Kuaray, performs a long-lasting fluoride

release which was proved in several in-vitro studies (Mizuno et al., 1991; Garcia-Godoy et al., 1997). Shinii et al. (1998) even observed an in-vivo fluoride uptake of the enamel after one year and still fluoride left in the molecule of TEETHMATE F-1. This is possible, because TEETHMATE F-1 features a specific co-polymer system which does not change its main polymer structure while releasing fluoride constantly.

Besides it performs not only a microretentive but a chemical adhesion to the enamel structure by Kuraray's patented monomer MDP and thus enables strong adhesion and long durability of the fissure sealing.

There are many discussions in the academic field, if an unfilled or filled fissure sealant is the "state of the art". The main reason for choosing a filled sealant is because of its higher resistance against wear. However, Kuraray's concept is not to have a big surface area like a small filling but to have a good sealing and adhesion to the etched enamel with minimal exposure to the occlusal area. As the literature shows, significantly thinner amounts of application can be achieved with unfilled sealants (Stach et al., 1992) and the sealing is significantly more sufficient (Irinoda et al., 2000). Another advantage of the unfilled is the surface stability against topical fluorides in dentifrices, while filled and glasionomer-based sealants show rougher surfaces following treatment with sodium fluoride or acidulated phosphate fluoride (Kula et al., 1992). Regarding the retention unfilled sealants show the same or better results in vitro and also in vivo after two respectively three years (Rock et al., 1990; Charbeneau et al., 1997).

FEATURES UND BENEFITS

- High bond strength to enamel
- Real chemical adhesion due to MDP
- Long lasting fluoride release with molecular stability
- unfilled resin philosophy
- easy handling

etching the fissure

- convenient flow control

"traditional" fissure sealing (this case: TEETHMATE F-1 opaque)







application of TEETHMATE F1





application of TEETHMATE F1

CLINICAL INDICATIONS

- direct fissure sealing
- prophylactic preparation / enameloplasty
- extended fissure sealing

enameloplasty, prophylactic preparation (this case: TEETHMATE F-1 transparent)



discoloured fissure, caries? after cleaning following preparation



final result

A result of careful thinking

After Kuraray's invention of Phenyl-P in 1976, which was the first adhesive monomer in dental history the molecular structure was improved in 1983 to a molecule with stronger adhesion to tooth structures and also an affinity to metal. The result was MDP (10-Methacryloyloxydecyldihydrogenphosphate).

MDP convinced by its special monomer structure:



polymerisation

hydrophobic alkyl group

phosphate

- (1) a hydrophilic phosphate group to perform acidic decalcification and bind to calcium ions or amino group of tooth structure
- (2) a hydrophobic alkyl group to keep the balance of hydrophobicity and hydrophilicity and
- (3) a double-bond ending for polymerisation

The phosphate monoester demonstrated the highest effectiveness on dentin, enamel and on alloy. Thus, TEETHMATE F-1 including MDP was introduced as a high-performance pit and fissure sealing to enamel. The impressive success of PANAVIA led Kuraray to including the MDP also in other bonding systems to achieve high-bond strengths based on a chemical binding to tooth substrate.