

[Return to Materials Evaluations](#)

## 47-20 Fuji Duet Reinforced Multipurpose Glass Ionomer Cement (Project 95-24) (11/95)

**update** For updated information on this product, [click here](#).

Fuji Duet, a self-cured (i.e., self-setting) luting agent marketed by the GC America Company, consists of a powder and a liquid that are hand mixed for 20 seconds immediately before use. According to the manufacturer, the powder is an aluminosilicate glass while the liquid is an aqueous solution of polyacrylic acid, 2-hydroxyethyl methacrylate (2-HEMA), and tartaric acid. As noted, Fuji Duet differs from traditional glass-ionomer luting agents (e.g., Ketac-Cem, Fuji Ionomer Type I, AquaCem) in that it is compositionally a hybrid material consisting of resin and glass ionomer. Fuji Duet is recommended for the luting of all types of crowns, inlays, onlays, veneers, bridges, and orthodontic bands and brackets. According to



product instructions, it can also be used for amalgam bonding. Prior to using the product, the tooth structure is treated for 20 seconds with Fuji Duet Conditioner, an aqueous solution of 10% citric acid and 2% ferric chloride. GC claims that this cleans the tooth surface to promote a better bond and seals the tubules to prevent post-treatment sensitivity. Following cementation, exposed margins are coated with a light-activated bonding resin to prevent damage from moisture contamination and desiccation.

### **Manufacturer:**

GC America  
3737 West 127th Street  
Chicago, IL 60658  
(800) 323-7063  
(708) 597-0900  
(708) 371-5103 FAX

### **Suggested Retail Price:**

\$86.50 Fuji Duet 1:1:1 Kit (product code 431011)  
-1 bottle of powder (15 g)  
-1 bottle of liquid (7 mL)  
-1 bottle Fuji Duet Conditioner (6.5 mL)  
-1 plastic dispenser scoop  
-1 mixing pad

### **Government Price:**

\$56.25 Fuji Duet 1:1:1 Kit (item number and contents as listed above)

### **ADVANTAGES:**

- + Acceptable film thickness.
- + Product is sufficiently radiopaque to ensure easy detection on radiographs.
- + Setting rate is appropriate; clinicians can clean up excess cement relatively soon after the restoration is seated.
- + Testing by an independent laboratory found that Duet formed a strong bond to enamel, dentin, set amalgam, and silanated porcelain.
- + Packaged with a Material Safety Data Sheet (MSDS).
- + Powder/liquid ratio is graphically displayed on the top of the bottle cap.
- + Evaluators reported no instances of patient discomfort after use.

**DISADVANTAGES:**

- Duet has a relatively short working time; clinicians must mix and apply it expeditiously to ensure they have adequate time to seat the restoration.
- Although product literature claims Duet has several clinical uses, instructions only describe its use as a luting and amalgam bonding product.
- Exposed cement must be coated with a sealant (i.e., Fuji Varnish, VLA bonding resin) following placement; other comparable products do not require sealing.
- Clinical evaluators felt Duet was slightly thicker than comparable hybrid resin/glass-ionomer products.
- Clinical placement procedures call for tooth conditioning prior to luting; this is an extra, time-consuming step.

**SUMMARY AND CONCLUSIONS:**

Laboratory testing found Duet to be adequately radiopaque. It forms an acceptably-thin film thickness but its working time was relatively short. Clinicians should be aware that they must mix and place the cement without delay to ensure that they have enough time to seat the restoration. Duet's setting time is short enough to enable clinicians to clean up excess cement and dismiss the patient expeditiously. The manufacturer's instructions are concise and clear, however they are incomplete. This is because although product promotional brochures suggest that Duet can be used for core build-up and as a base, the instructions only describe using Duet for luting and amalgam bonding. Duet must be coated with a sealant following placement. While this recommendation may yield beneficial results by protecting the cement from damage due to moisture contamination and desiccation, it is an extra clinical step not recommended by the manufacturers of other resin/glass ionomer-luting cements. At \$1.08 per use, Fuji Duet costs more than 3M's Vitremer (\$0.46 per application) but less than Caulk's Advance (\$1.58 per application). Fuji Duet is rated Acceptable for use by the federal dental services.

**Update on Fuji Duet**

Several important changes have been made to this hybrid resin/glass-ionomer cement since it was originally evaluated by DIS as Fuji Duet in 1995. Chief among the changes has been a name change: Fuji Duet is now known as Fuji Plus. The manufacturer has also changed the product indications and instructions. Indications now are for the product to be used for final cementation of metal, porcelain-fused-to-metal, and resin crowns, inlays, onlays, and bridges. Another change involves Fuji Plus's original instructions which called for the use of a preluting conditioner. This is now an optional step. The purpose of the conditioner is to promote a better bond to enamel. The original recommendation for sealing exposed cement margins with a lightactivated bonding resin is also now an optional step. Finally, there have been retail and government price changes: the 1:1 package (1 bottle of powder, 1 bottle of liquid, 1 bottle of conditioner) costs \$109.45 (retail) and \$37.17 (government). Since the original evaluation, GC America has made Fuji Plus available in capsule form as well as an Extended Working Time version. For complete information about Fuji Plus as currently sold, please visit GC America's Fuji Plus web page at <http://www.gcamerica.com/fujup.asp>

To summarize, here are the basic changes:

- Name is now Fuji Plus
- Indications are for permanent cementation of metal, porcelain-fused-to-metal, and resin crowns, inlays, onlays, and bridges
- Use of preluting conditioner is optional
- Use of cement sealer is optional
- Retail and government price changes

Other questions about Fuji Plus can be directed to GC America at (800) 323-7063.