Using the above prepared adhesive, orthodontic brackets are placed on a patient's teeth in the following manner:

A prophylaxis is done on the enamel with a nonfluoride pumice paste.

The enamel is rinsed with water and dried with an air syringe.

The enamel is etched by swabbing it for 60 seconds with a cotton pellet which has been soaked in 35% phosphoric acid.

The enamel is rinsed clean with water and air dried for 30 seconds.

Equal amounts of the two pastes (Parts A and B) are mixed and then applied to the dry, etched enamel.

(Plastic brackets only) The bracket treatment is applied to the contact surface of the bracket with a brush or a cotton pellet and then the bracket is positioned onto the adhesive while the contact surface is moist with the treatment.

(Metal brackets only)—The bracket is positioned onto the adhesive.

The adhesive is allowed to harden. This takes approximately three minutes. During this period the bracket should not be touched or disturbed in any way.

A second mix of adhesive is prepared and used to cover the bracket flange.

Orthodontic brackets applied in the above manner after the adhesive has cured may be removed as follows:

The base of the bracket is grasped in the jaws of a pair of ligature cutters and then the bracket is snapped off the tooth by closing the jaws of the cutters. Any adhesive that remains on the tooth is scraped off with a dental scaler.

As previously indicated, the brackets may be relatively easily removed if the adhesive contains not more than 60 weight % of quartz filler or not more than 70% by weight of glass filler.

The adhesive of the present invention and the manner of using the same have many advantages for the orthodontist. The new adhesive system uses few components. It consists of two components, A and B, which are mixed in a one to one ratio to activate the adhesive. This one to one mix can be approximated by the eye and still insure a working time of within ten seconds of the stated ideal working time.

The only additional component is a pretreatment solution which is swabbed onto the contact surface of plastic attachments just prior to their bonding to metal. As previously indicated metal attachments do not require such a pretreatment. These few components lead to a short and simple application procedure which greatly reduces the chances of error in the use of material.

By using the two component systems, the one to one mix allows the orthodontist to prepare as much or as little adhesive as he needs with no perceived waste of material. Also the speed and use of the procedure greatly reduce the time which the orthodontist must spend with each patient. The thixotropic properties in combination with the high viscosity of the adhesive make it easy to pick up and transfer to the tooth surface the exact amount of material that is desired. Also, the adhesive immediately holds the orthodontic attachment in the desired position on the tooth regardless of the angle of inclination or the shape of the tooth surface with adhesive fully filling the space between the attachment and the tooth no matter how well or how poorly the surfaces may match in contour.

Furthermore, the adhesive will not flow or clog the wire channels of the attachments. The easy removal is also a substantial advantage as when the treatment is complete the orthodontic attachments may be easily removed and the remaining adhesive scaled from the tooth without the need of grinding. The semi-transparent to translucent nature of the adhesive allows the color of the tooth to show through thus allowing the coated areas to blend into the adjacent uncoated areas, while the rapid cure and high-bond strength permit placing of the orthodontic attachment together with the archwires all in one sitting resulting in a substantial saving of time both for the patient and for the orthodontist.

Having thus described our invention, we claim:

1. The method of adhering an attachment to a tooth surface comprising

etching said tooth surface in the area to which said attachment is to be secured,

placing said attachment on said etched tooth surface with a small amount of highly viscous thixotropic polyacrylic ester monomer composition between said attachment and said tooth surface, pressing said attachment against said tooth with said thixotropic monomer therebetween to wet the opposing surfaces of said tooth and attachment with said monomer and fill surface voids therebetween and curing said thixotropic monomer composition while said attachment is held on said tooth surface thereby.

2. The method of claim **1** in which said monomer composition has a viscosity of 85,000 to 4,385,000 cps.

3. The method of securing an attachment to a tooth surface comprising

etching the tooth surface,

mixing a thixotropic acrylic ester monomer composition containing an amine activator with a thixotropic acrylic ester monomer composition containing a peroxide catalyst to prepare an activated thixotropic acrylic ester monomer mix having a viscosity under nonagitated conditions within the range of 85,000 to 4,385,000 cps., placing said attachment on said etched tooth surface with said activated thixotropic mix between the opposed surfaces of said tooth and attachment, pressing said attachment against said tooth surface to assure wetting the tooth and attachment with said monomer composition, and leaving said attachment undisturbed on said tooth surface until the monomer has polymerized to firmly bond said attachment to said tooth surface.

4. The method of claim **3** wherein said tooth surface is etched by treating with a solution of phosphoric acid, water rinsed to remove said acid therefrom and then dried before applying said thixotropic mix.

5. The method of claim **3** wherein said thixotropic mix is prepared by mixing together in substantially equal proportion, a thixotropic composition having a viscosity under nonagitated condition of 85,000 to 4,385,000 cps., consisting essentially of polyacrylic ester monomer, silane treated fumed silica, and a small amount of an amine activator and a thixotropic composition having a viscosity under nonagitated condition of 85,000 to 4,385,000 cps consisting essentially of polyacrylic acid monomer, silane treated fumed silica, and peroxide catalyst, said fumed silica being present in