

2- Zinc oxide-eugenol cements (ZOE):

Powder: Zinc oxide with the addition of white rosin to reduce the brittleness of the set cement, and zinc acetate to improve the strength of the cement.

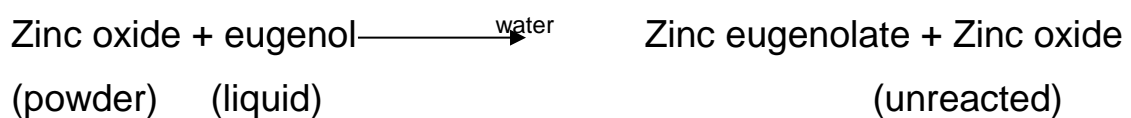
Liquid: eugenol with olive oil as a plasticizer.

Two compositional changes have been used to increase the strength of the cement for luting purposes:

- 1- Methyl methacrylate polymer is added to the powder.
- 2- Alumina (Al_2O_3) is added to the powder and ethoxy benzoic acid to the liquid.



Setting reaction:



1- The reaction is not exothermic a cooled mixing slab is not required and the presence of moisture is essential for setting to occur.

2- There is no need to incorporate the powder in small increments. The bulk of powder is incorporated in the initial step, and then a series of smaller amounts is added until the mix is complete.

3- The average setting time is around 8 minutes.



Properties:

1. Neutral in PH (7) can be safely used in moderately deep cavities without danger to pulp.
2. Has a sedative effect on the pulp so that we use it without any varnish or liner.
3. Radio-opaque.
4. Excellent seal against leakage, so used as temporary restoration.

Uses:

1. As temporary restorations.
2. The modified type used as a crown and bridge cementation and as a cement base.
3. As an endodontic sealer.

* Zinc oxide eugenol Cement is unaccepted as base material under composite restorations because it impaired the setting reaction (polymerization) of composite resin.

