

## Increases esthetics

\*\*\* This is **false**; acid etching **does not** increase the esthetics of the enamel margin. Do not be confused by the fact that you acid etch the bevel, which itself functions for retention and esthetics.

One of the most effective ways of **improving** the marginal seal and mechanical bonding of composite resins to tooth structure is to condition or pretreat the enamel with acid prior to insertion of the resin. This procedure is referred to as "**acid-etch**" technique.

Purposes of acid etching:

1. Increases surface energy which promotes **wetting** and **adhesion**.
2. Chemically cleans the tooth structure which also promotes **wetting** and **adhesion**.
3. Creates micropores for **micromechanical** retention.

**Important:** Acid etching paves the way for resin "**microtags**" which produces a much improved bond of the resin to the tooth. The effective tag length as a result of etching on adult anterior teeth has been demonstrated to be approximately 7 to 25 **µm**.

This "**acid-etch technique**" conserves tooth structure, reduces microleakage, improves esthetics, and provides micro-mechanical retention.



1. The aim is to cause maximum enamel dissolution with minimum precipitation of calcium phosphate salts.
2. Studies indicate that acid-etched composite resin restorations have the **best initial seal** (*microleakage*), however, over time this weakens (*amalgam has the best seal over time*).