

OPEN WIDE

The BigMouth sculpture is a larger-than-life learning activity for a Bloomington, Illinois children's museum

This won't hurt a bit. Herb Eaton is an artist in Bloomington, Illinois. Over the years he has used WEST SYSTEM® epoxy for many different tasks.

In 1994, he began designing and building exhibits for the local children's museum. Among the exhibits he designed and now produces for other museums is a 5 times life-size human mouth with anatomically accurate teeth, gums, and jaw movement. It is an interactive dental learning display called the BigMouth.

Eaton says, "I wanted the materials to have the feel of bone, gums, and teeth and be able to withstand constant use." Seven of the lower teeth are removable and each is cast with two different colors—one for the enamel and one for the dentin. Making teeth removable caused a real problem making the molds as the roots have intricate curves that must fit into the sockets and align with the other teeth. Eaton devised a number of 2, 3 and 4 part molds that allow the two colors to be poured separately. There are approximately 50 separate molds needed to produce the BigMouth.

The teeth have a special set of problems as they must have a consistent color, texture, and translucence. "After numerous experiments, I found a mixture of colloidal silica and a proprietary cocktail of other ingredients that simulates the color and luminosity of healthy tooth enamel. The dentin or root has 403 Microfibers in it, as some of the roots are long and thin and this mix seems to be less brittle."

Eaton recently made one of these BigMouths for SciWorks, a museum in Winston-Salem, North Carolina, that had many extra elements added to better illustrate dental disease and restorative procedures. Again, the versatility of WEST SYSTEM epoxy came in handy. He made gold crowns and bridgework using epoxy and carbon fibers, and combined epoxy with PVC, carbon fiber, and steel to make a removable root implant.

Casting solid teeth allowed Eaton to do the preparations just as a dentist does although with somewhat larger tools and a very understanding patient.

Contact Herb Eaton at 309-828-1575(phone/fax).

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