

# Case study: mixing silicones for facial and other prosthetics

## Description

The manufacture of a medical prosthetic device for a patient's face or similar area is a highly skilled job; each one is unique, and needs to be handled with great sensitivity, as both functional and cosmetic considerations are involved. It may require careful mixing and colour matching of a silicone moulding compound, with no air entrapment, to ensure appearance and consistency of structure. Jim Dimond, Consultant Clinical Maxillofacial Prosthetist at University Hospital Coventry, explained how the [\*\*Thinky ARE-250 Mixer and Degassing Machine\*\*](#) helped move from a lengthy, manual process requiring a skilled technician, to a short, reliable and automatic mixing process.

Originally, mixing at the hospital was carried out by hand using a palette knife in two stages: mixing and then flattening on a flat glass plate to squeeze out the air. This was arduous, especially for larger quantities required for hands, breasts, facial and other components – issues equally applicable to other silicone applications such as theatrical masks, plaster casting, special effects, model engineering, animatronics, life casting and pattern making. The manual procedure was laborious and very time consuming, as it generally required use of fillers for changing consistency, and small quantities of intense colour pigment being mixed with clear silicones to suit the individual patient.

Seeking a more efficient method of mixing the compound and other components, Jim contacted our Product Specialist David Peat for a demonstration of the **Thinky ARE-250 Non-contact Planetary Mixer**. The Thinky process, by means of both rotation and revolution of the material, mixes and degasses at the same time. The constituents are simply measured into a container which goes straight into the machine, saving time whilst reducing material waste and clean-ups.

The Thinky solution was excellent for small quantities and also worked particularly well with their system of pre-preparing large batches of colour coded silicone – which was especially arduous and

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time consuming. The **Thinky ARE-250** was found to easily process even highly viscous material, and once programmed ensured a thoroughly mixed, bubble-free compound to the required consistency for every batch without further intervention.

Jim commented:

I have been doing this work for about 12 years and for the past 12 months have used the Thinky a great deal. It has allowed us to quickly produce homogenous silicone in large quantities that is free of air, transforming a time consuming, physical task into an automated effortless one.

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