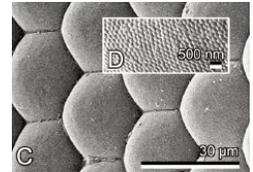


# President SEM Replication Kit

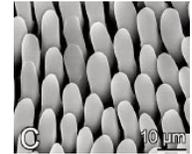


Kit contains Base & Catalyst (2 tubes of 53ml), 6 ea 30ml mixing cups and 6 wooden stirring sticks.

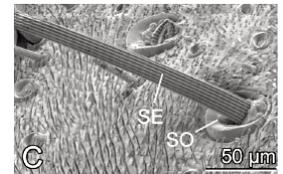
The President SEM Replication Kit is a two component silicone based molding material with excellent low viscosity forming properties for high definition of fine structures. Polymerization time is only 5-7 minutes and molds can be removed from samples directly after polymerization to obtain a negative mold. Applications can vary from replication of biological materials to achieve a stable surface or replication of processes like damage, wear or strain on large structures. The President replication kit can be easily used in the field and replaces the need to use fixative on suitable biological material. The silicone molds can be filled with Spurr to obtain a positive mold of the original surface and coated with Au or Au/Pd using a sputter coater. We advise to use Spurr since it has a low viscosity and provides excellent structure definition. President Replication Kit yields good results with relatively long 10-30µm microstructures with aspect ratios from 1-20, and is capable of resolving small structures down to 20nm.



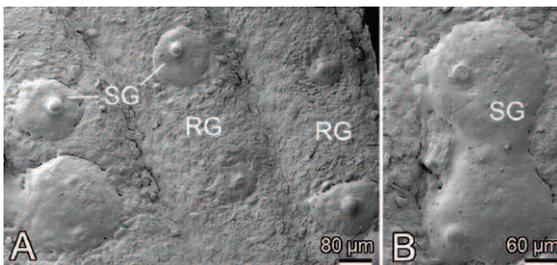
Positive mold of the Ommatidia surface of the sphindid moth *Amorpha populi*



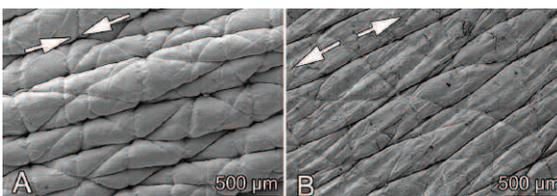
Positive mold of the microtrichia of the damselfly *Pyrrhosoma nymphula* moth *Amorpha populi*



Positive mold of the Head setae of the fly *Calliphora vicina*

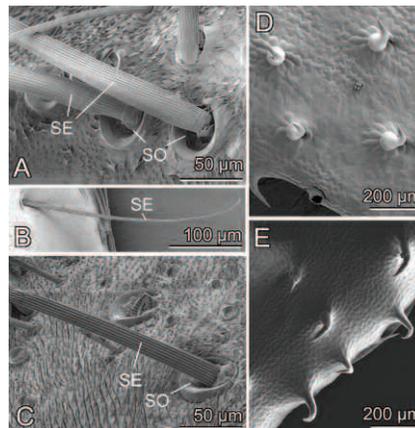


Molds of sweat on a human finger. Note islands of the fluid (SG) coming out of the pores of sweat glands. RG, ridges of the finger skin.

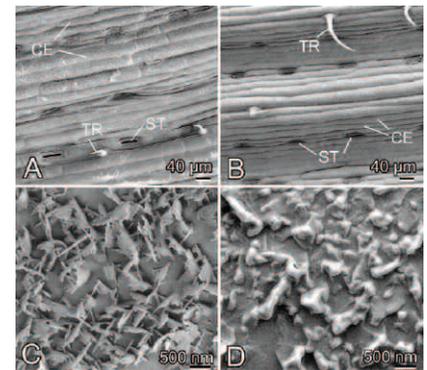


Use of the molding technique for visualisation of dynamic processes on the surfaces, which otherwise cannot be studied in the SEM. Pattern of the human wrist skin under compression (A) and under tension (B). Arrows show directions of compression and tension.

Ref: Visualization of native Surfaces by Two-Step Molding, Stanislav, N.Gorb, Microscopy Today 15/2 March 2007, Page 44-46



Results of molding of structures with a high aspect ratio (A-C) and with intersections (D-E). A-C. Head setae of the fly *Calliphora vicina* (Diptera, Calliphoridae). D-E. Leaf hooks of the plant *Galium aparine*. A, D. Originals. B, C, E. Molds. SE, setae; SO, socket.



Leaf surface of the plant *Triticum aestivum*. A, C. Originals. B, D. Molds prepared according to the lost wax molding technique. A, B. Low magnification micrographs demonstrating molding quality of such microstructures as cells, micropores, and trichomes. C, D. High magnification images showing molding quality of fragile nanostructures, such as crystalline waxes. BCE, cells; ST, stomata; TR, trichomes.

44870 President SEM Resolution Replication Kit, each

[www.tedpella.com/replicat\\_html/44870.htm](http://www.tedpella.com/replicat_html/44870.htm)

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