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**Replicating Kit Instructions**  
**Catalog Number 12000**

1. Cut off appropriate length of tape.
2. Brush a drop or two of solution onto surface to be replicated. The concentration of the replicating solution has been determined from our experimental data over a long period of time. If for some reason thinning is desired, add acetone. This should not be used on painted or lacquered surface.
3. Press a 1" piece of tape firmly on solution-coated area being careful to apply tape so as to squeeze out air bubbles.
4. Allow tape to dry thoroughly before stripping. Usually 1 to 5 minutes is sufficient. On rough surfaces where considerable solution has to be used, drying may take 15 to 30 minutes.
5. Strip replica from surface. This replica will generally show dirt from the surface. It is best to discard this replica and repeat steps 1 through 5 unless the purpose is to study original material on the surface.
6. Fasten edges of tape replica, replica side up, to a glass microscope slide using scotch tape (3M preferred). Place in vacuum evaporator and shadow with chrome, platinum-palladium or platinum-carbon. For light microscopy, we recommend shadowing with aluminum.

**Further Preparation for Electron Microscopy**

7. Replicate the shadowed plastic replicas with carbon
  - a. Trim off all scotch tape with scalpel.
  - b. Trim off any undesired replica areas.
  - c. Dissolve away any original tape replica using acetone as follows:
    - i. Place three 9cm diameter filter paper circles (e.g. Whatman No. 1) in the bottom of a 9cm I.D. petri dish.
    - ii. Place trimmed replica, carbon side up, on filter paper or on grids resting on filter paper. Using pipette, moisten, do not wet, filter papers in petri dish with 60-70% acetone in water.
    - iii. Increase concentration of acetone in water as dissolving proceeds. This process may take several hours. Do not let acetone hit top of carbon fill.
8. Replication of small objects, e.g. fine wires, 1/16" diameter discs, may be done as follows: A strip of replicating tape is fastened to a glass microscope slide with scotch tape. A drop of replicating solution is placed on the replicating tape and the object quickly pressed into the solution. After drying, the object is removed.
9. Vertical and upside down surfaces can be replicated by applying the replicating solution to the replicating tape and pressing the tape firmly against the surface.