

However, they must be handled very carefully to avoid tearing the film.

(Note: if possible, do film casting on a rainy day. It is astonishing how much more easily the films float free of the slides when the atmosphere is saturated. This is true even in air-conditioned laboratories. On a dry day, the film seems to be glued to the slide. Placing the slides in a high humidity container will help loosen the film, but upon removal from the chamber you must float the film free very quickly, before it dries, which is very difficult to do.)

5. Arranging Grids on the Film (See Figure 7). Arrange the grids on the film with the aid of forceps. Do not crowd them, as the film should sag between grids to make contact with the mounting surface, insuring that later, when the grids are put to use, they may be lifted individually without disturbing adjacent grids. Touch each grid lightly with the closed tips of the forceps to ensure complete contact with the film. Put either the dull or shiny side in contact with the film, whichever suits you, but be consistent so that the film side can be readily identified if the grid is overturned while being handled. We use copper grids that have been plated with rhodium on one side, contrasting with the copper color of the unplated side. If such grids are to be used, then insure that exposure to acetic acid during cleaning is especially brief, or the rhodium will be dissolved.

6. Picking up the Film (See Figure 8). When grid placement is complete, prepare a piece of index card cut to a rectangle of slightly larger dimensions than those of the floating film. Use one edge of the card to trap a corresponding edge of the film, well clear of any grids, but overlapping the edge of the film enough to "grab" it squarely. Push the card down vertically, far enough so that the plastic is pressed against the card for the whole length of the film with the grids sandwiched between card and film. Then lift the card straight up until it clears the water surface. Hold the card squarely at arm's length and flatten the film against the card with an aerosol duster held close to the body, with the airstream directed at the card. If the force is too great, or the card is not held perpendicular to the airstream, then the grids may be blown away.

If an aerosol duster is not used, then it is especially important to insure that the grids are in good contact with the film by touching each with the forceps or other pointed object individually, directly after they have been placed on the floating plastic film. Blot any water droplets from the card, avoiding the grid surfaces, and place it in a Petri dish containing silica gel. Between grid-making sessions, the gel should be regenerated by storing the dishes containing the gel in the warming oven. However, the dishes should be removed to cool before using them to dry grids, and in no case should the Formvar