Soft Ground Technique

Soft Ground, traditionally, is used to replicate the quality of a soft pencil line, to receive a textural transfer from various materials, or to accept the impression of various types of plant matter or animal skins. A soft ground, even when dry, remains soft and sensitive to pressure. Our soft ground is a mixture of 1 part petroleum jelly to, approximately, 3 parts liquid hard ground and is applied with a medium soft rubber brayer that is used for *nothing else*. A brayer that has been used for inking or hard ground will contaminate the soft ground, so we bag the brayer after use and return it to the appropriate hook. Because a soft ground remains sensitive to the touch after it is dry, the plate must be handled with care. Since slight scratches, fingerprints, or bruises will etch we must use a bridge to keep from touching the surface of the plate, and when you store the plate before removing the ground you must not allow anything to touch the grounded surface. The longer you let soft ground sit after you have applied it, the less sensitive it becomes. For maximum receptivity to textures or drawings you should work on the plate immediately after the ground has dried, but allow some time for the ground to "set up" before placing the plate in the mordant.

APPLICATION:

1. Bevel the edges of the plate. Scuff the back of the plate with 200 or 400 grit wet/dry sandpaper (use wet), and spray paint the back of the plate with engine enamel paint or apply self-stick shelf paper to the back of the plate.
2. Polish the plate (unless you wish scratches and random plate tone.) De-grease* the plate so it will readily accept the ground. Let the plate dry thoroughly.
3. Tape newsprint to a hotplate, place your copper plate on the newsprint, and turn the thermostat to 350º or 375º, allow the hotplate (and your copper plate) to get very warm. Daub a small amount of soft ground onto the plate (use a mat-card to avoid scratching the plate), and allow the ground to melt. DO NOT burn the soft ground, if it starts to smoke turn the thermostat down, burning soft ground onto a plate will reduce its ability to transfer an image or texture cleanly.
4. While the ground and plate are warm, take the brayer reserved for soft ground and roll the ground evenly over the plate. If the brayer slides do not apply as much pressure. Once the ground has been applied evenly turn the thermostat off, un-tape the newsprint, and use the newsprint to help slide the plate off the hotplate. Set the plate down on a cool surface and continue to roll the surface of the plate until it looks MATTE. Let the plate cool completely before drawing on the plate or attempting to transfer a texture to the plate.
5. If the plate is shiny, repeat the process with a warm re-roll followed by a cool re-roll. You should not need, if your application was correct the first time, to add more soft ground to the plate.

IMAGE TRANSFER:

1. Hand Method: Break the ground by pressing textures into the ground using the pressure of your hand or a clean brayer.
2. Pencil/Pen Method: You should mark the outline of the plate onto tracing paper (or any other lightweight paper) **before** applying soft ground. Lay this marked tracing paper over the plate and tape it to the table. Use a bridge to avoid bruising the

ground. Draw an image onto the tracing paper (or trace over an existing image), varying the pressure to alter the light-ness or dark-ness of the line. After drawing remove the tape and lift the tracing paper from the plate.

3. Press Transfer Method: (WARNING, use only soft materials or fabrics. Do not use wire or anything else that can damage the blankets or the press. Absolutely no animals, fish, or any other living or dead creatures may be run through the press!) Place your grounded plate on the bed of the press. Arrange the textured material(s) on your grounded plate. Cover the plate and material with matboard that is larger than the plate. Cover the matboard with clean newsprint and lay the press blankets on top of the newsprint (being careful not to disturb the plate, material, matboard, and newsprint "sandwich.") Use much less pressure than you would for printing and roll the press bed through the press. Carefully peel away the blankets, newsprint, matboard, and material. Stop out any areas you do not wish to etch. Please do not use any ACC fabrics, including tarlatans, to transfer texture to the plate.

ETCH:

1. Back your plate (carefully attach shelf paper, use a rosin-based varnish, or have the back of your plate scuffed and painted with engine paint) but remember that fingerprints will etch. After backing the plate, you may need to stop the front out again. The plate will be etched with Ferric Chloride ($FeCl_3$) and will require more time than a line etch (but you will need to watch the plate carefully because soft ground will "give up" more quickly than hard ground.) Timing for a soft ground is generally no more than 45 minutes (total cumulative time) before the ground gives up. At around 45 minutes a soft ground etch can begin foul biting and the ground will begin to crater in the lines, so watch your plate carefully.
2. Etching times: (these times are cumulative)

5 minutes – light line	15 minutes – dark gray line
8 minutes – medium gray line	30 minutes – black line

CLEAN UP:

The solvent for soft ground is Mineral Spirits, as is the solvent for liquid hard ground or ball hard ground. A rosin-based (alcohol) stop-out varnish works best on soft ground; it doesn't break the ground. Once the soft ground has been cleaned off the plate, you will need to use alcohol to clean the stop-out varnish off the plate. Use the sawdust box for removing grounds and stop-outs, this will allow you to use much less solvent (only a small amount of solvent goes a very long way in the sawdust box), and will make clean up much easier and much less messy.

DEGREASING THE PLATE:

Before any kind of ground (including hard ground, liquid hard ground, soft ground, stop out, or rosin for aquatint) can be applied to your plate you must de-grease it. We use a pinch or two of whiting or French chalk and a little alcohol (drip the alcohol directly on the whiting and mix it to the consistency of cream gravy.) Using one or two fingers rub the whiting/alcohol mixture into the plates surface (cover the *whole* surface of the plate.) Making sure not to touch the plate with anything except the finger(s) you used to apply the whiting/alcohol paste, rinse the whiting off of the plate using plain water (do this in the sink.) Prop your plate up on one end and let it dry (a

little white powder residue will not hurt, but make sure you haven't left lumps of white powder residue.) You may, if you are in a hurry, force-dry your plate with a hair dryer. Once the plate has been degreased DO NOT TOUCH THE SURFACE WITH ANYTHING EXCEPT THE GROUND you intend to apply.

Liquid Hard Ground Technique

Prepare the plate the same way you would prepare your plate for Soft Ground (Bevel, polish, back the plate, and degrease it.) Liquid hard ground is a mordant-resistant covering that protects a copper plate and provides a surface that can be easily scratched through using an etching needle or any other very sharp needle. Our liquid hard ground is a mixture of 1 part powdered rosin, 2 parts beeswax, and 5 parts thinned asphaltum (thinned with Mineral Spirits) dissolved in Lacquer thinner. We make our liquid hard ground thicker than required and thin it out for use using Mineral Spirits. Liquid hard ground is applied using a soft bristle brush, or a foam brush, and it must be applied quickly and evenly, starting at the top of the plate (if the plate is propped against the grounding station.) Applying liquid hard ground to a plate that has been laid flat on the grounding station will require a slightly thinner coat (thin with Mineral Spirits.) You can "force" the ground to dry more quickly by using a hair dryer once the ground has set up, or the copper plate can be put on a hot plate set to 150 to 250 degrees.

NOTE: Always return the brush to the "brush solvent can" and close the liquid hard ground can with a lid (your grade will suffer if you are caught abusing the equipment or supplies, so please be careful and follow all the instructions.)

NOTE, this is only for advanced students due to the "sometimes" nature of this information: Plates that have been previously bitten can be re-grounded with liquid hard ground but the irregularities of the plate will not accept liquid hard ground as completely as they will accept soft ground. If your initial etch was deep, and you have sharp, clean lines that you wish to keep crisp, you will probably want to use soft ground for subsequent grounding of the plate. Soft ground on a deeply bitten plate tends not to fill the etched areas as thoroughly as liquid hard ground, so you will have to use your own judgement.