Artisan
F·I·N·I·S·H·E·S
EVERY PROJECT IS A WORK OF ART.

Countertops

Supplies

White and/or gray Milestone cement
#70 grit sand
#1 fine gray sand
Milestone acrylic liquid
Universal tints
Wire plaster's lath
4 foot fiberglass mesh tape
(if covering tile or formica)
5/8 inch screws or larger if material permit
¾ inch hot dipped galvanized roofing nails
Cementics Sealer urethane
Enviropoxy (if doing stain resistant finishes)
511 impregnating sealer
¾ inch blue tape
1 ½ inch blue tape
Two 5 gallon buckets
Quart containers (five or six)
Mixing sticks
Drop cloths
Maroon scotch brite pads
#80 grit sandpaper
#150 or #180 grit sandpaper
Sanding pad
Rags
Painters tray and liners
Paint brushes
Rectangular pad and handle
Respirator
Knee pads
Gloves (canvas or leather for lath cutting)
Latex gloves
Rubber cleaning gloves
Safety glasses

Tools

12 inch steel trowel
Putty knives, sized as needed
Corner tools
Hock
Bucket scoop
Margin trowel
½ inch drill for mixing
Small drill for screws in metal lath
(or hammer for nails)
Dry wall paddle
Squirrel cage mixing paddle
(for smooth finishes)
Wire cutters
Bondo squeegee
Straight edge

Building a countertop using 3.4 weight metal lath

A. APPLYING WIRE LATH:

Summary:

Protect surrounding area
Apply Skimstone Bonder to wood substrate:

(Note: On the DVD we use the acrylic liquid to prime the plywood but in an effort to improve our processes whenever we can, we believe that the bonding primer will even further enhance the bond of the plaster to the plywood substrate.)
Let dry
Screw, nail or staple wire lath into place

Directions:
Substrate: You should use a minimum of ¾ inch CDX exterior plywood for the counter top substrate.
With the metal lath, your build up of Milestone layering will be about 3/8 inches thick. You should consider this measurement, when calculating the overall surface height, width, and overhangs.
If you have larger areas, it can be beneficial to do more than one layer of plywood with the seams and joints misaligned between layers. If more then one layer isn't possible you can support plywood joints with blocks from the backside.
Applying Bonder: Skimstone Bonder is applied to the plywood substrate to create a stronger bond of the plaster to the wood. Allow to dry completely (approximately 4 hours).
Attaching wire lath: Cut enough wire lath to cover the entire countertop including the edges and overhangs. I do not normally wrap the metal lath under the self-edge at all. I am careful that no wire hangs below the bottom edge of the countertop. It is always best to have any joint between sheets of the metal lath 12 inches or more away from and misaligned with joints in the substrate. Seams should not be at the corner joint with the backsplash.
Install the lath securely in all directions using screws or nails. Fasten a minimum of 12" on center in field in all directions and 5 inches around the edges. You can allow some movement of the lath but it should lay flat and not be away from the substrate when you are finished. For screws, use metal lath screws, Durock brand cement board screws, or equivalent. For nails, use hot dipped galvanized roofing nails. Make sure all nails/screws are secured in tight. Any left sticking up above the lath creates difficulty during plastering.

B. #1 GREY SAND STRUCTURAL BASE APPLICATION:
Summary:
Apply #1 Fine grey sand-cement structural base coat
Let take up
Scrape with steel trowel to get rid of high marks.
Clean
Apply a second coat #1 Fine grey sand-cement structural base coat (use sifted sand)
Sand with #80 grit sandpaper on sanding pad
Remove tape
Let dry over night
Re-tape
Sand again with #80 grit sandpaper on sanding pad, clean and remove dust

Directions:
The *#1 Fine Grey sand structural base coat* is the first part of your base coat applications. It is used to fill the depth of the metal lath. It can be used for other task whenever larger buildups of material are needed.
Note: This grade of sand often has larger particles and if you want to use it beyond the filling in of the metal lath you may want to sift it. We use a large kitchen sieve with about 14 holes per inch

Mix:
One & a half to two parts of #1 fine grey sand (by volume)
One part of Milestone cement (by volume)
Use enough Milestone acrylic liquid to create a smooth mortar. The mix needs to be wet enough to saturate the surface of the substrate for a good bond. A little wetter is better then too dry, but it should not be so wet that it sags or flows out of the metal lath on vertical surfaces.

Application and coverage: You will need approximately 4oz of Milestone acrylic liquid per square foot for both of the #1 fine sand applications. Have some liquid available for re-thinning your mix as you work. You wont be able to mix much more then 1 ½ gallons of the acrylic at a time in a five gallon bucket because of the volume created when the sand and cement is added. Pour the liquid into the bucket first and then add the dry ingredients. This helps prevents unmixed powder and sand on the bottom of the bucket. For larger batches, you can use a low speed electrical drill and a mixing paddle.
You will want to coat all surfaces and edges flat to the top of metal lath. We use a 12-inch steel trowel and putty knifes as needed. Use enough force to ensure that the metal lath is fully penetrated and the plaster is forced into a bond with the plywood.

First Application of Sand /Cement Mix: Allow the structural base coat to "set up" until it is firm to the touch. This should take from thirty minutes to one hour normally. How long will depend on the thickness of the plaster, airflow, and the temperatures you are working in. Once it has set you can sand with #50 to #80 grit sandpaper on a sanding pad or you can scrape down trowel marks and high spots with the edge of your steel trowel or a long straight edge. Clean any loose sand off the surface.

Second Application of Sand /Cement Mix: A second application of the #1 fine sand, (you must sift the sand for this application), and cement mix should now be added to cover the mesh, straighten the edges, and flatten out all surfaces. The mix needs to be wet enough to saturate the surface of the substrate for a good bond. A little wetter is better then too dry. You will want to coat all surfaces and edges flat to cover the metal lath. We use a 12-inch steel trowel and putty knifes as needed.
As before, allow this application to "set up" until it is very firm to the touch. Again, this could take from one hour to several hours. Once it has set you can sand with #50 to #80 grit sandpaper on a 9 inch sanding pad or you can scrape down trowel marks and high spots with the edge of your steel trowel or a long straight edge. At this point, the plaster should be dry enough so that when you sand it does not get the sand paper wet. If the sand paper does get wet you will want to wait a little longer before starting. High spots can be impossible to sand once the plaster is completely dry.
BE SURE TO PULL ANY TAPE PROTECTING SURROUNDING AREAS WHILE THE PLASTER IS STILL WET. If it totally dries, you will have to dig it out inch by inch.
Dry time: The time to completely dry is usually overnight. Clean and re-tape to protect surrounding areas before starting the next application.

C. #70 SAND SMOOTHING BASE APPLICATION:
Summary:
Sand with #80 grit sandpaper
Clean & remove dust
Apply mesh at sink opening if you have an under counter mount sink
Apply #70 sand smoothing base coat using straight edges to level surface and straighten edges
Let take up

Sand with #80 grit sandpaper with sanding pad to smooth.
Remove tape
Let dry
Clean
Re-tape

Directions:
The *#70 sand smoothing base coat:* This is your second base coat. It is used to level and smooth the surface and to build up edges. If you have an under counter mount sink you will want to reinforce the opening with the fiberglass mesh tape. I hold the mesh tape centered to the vertical surface of the sink opening and force the mix through the mesh using a plastic Bondo squeegee. Then carefully dart the mesh as needed and while holding the mesh to the vertical surface as you force the mix through the mesh, at the same time stretching the mesh to help it lay flat. I usually do the entire vertical surface first then the top side and then the under side of the sink opening last. This can take a little finesse and patience.
Now, using a straight edge as a guide (levels, wood battens, or other) smooth on the mortar with a steel trowel until satisfied that all surfaces are straight, plumb, level, flat or curved as you desire. You will need a female template matching the finish sink opening and made out of a minimum of 1/8 inch Masonite or plywood. It will need to be able to fit centered over the sink opening. Fasten the template over the finish opening aligned as needed. You can put a few screws in it to help hole it while you plaster.
Note: the rough opening for the under counter mount sink should be 3/8 of an inch larger the the finish opening.
Mix:
One part #70 grit sand
One part Mileston cement
Use enough Milestone acrylic liquid to create a smooth mortar. The mix needs to be wet enough to saturate the surface of the substrate for a good bond. A little wetter is better then too dry but it should not be so wet that it sags on the vertical surface. For larger fills it will need to be a little dryer.
Application and coverage: You will need about 1 & 1/2 oz of Milestone acrylic liquid per square foot. The amount will vary depending on the texture of your previous coat. Apply with a steel trowel, corner tools, and putty knives as needed.
Wet sanding: Allow the base to "set up" until firm to the touch, approximately one hour. Thinner areas may be ready before larger build-ups. You will know it is ready to sand when you see some drying occur. Setting time will depend on the thickness of the plaster, airflow, and temperatures you are working in. Sand with #80 grit sandpaper using a 9-inch sanding pad to smooth, flatten and straighten all surfaces. Pull tape.
Drying time: Several hours to overnight, until wet spots are no longer visible. Re-tape after the base coat is dry.
Dry time: The time to completely dry is usually overnight. Clean and re-tape to protect surrounding areas before starting the next application.
Note: You should now be ready to begin your finish coat application. However you may repeat any of the steps in this application as many times as you need to straighten and flatten the surfaces.

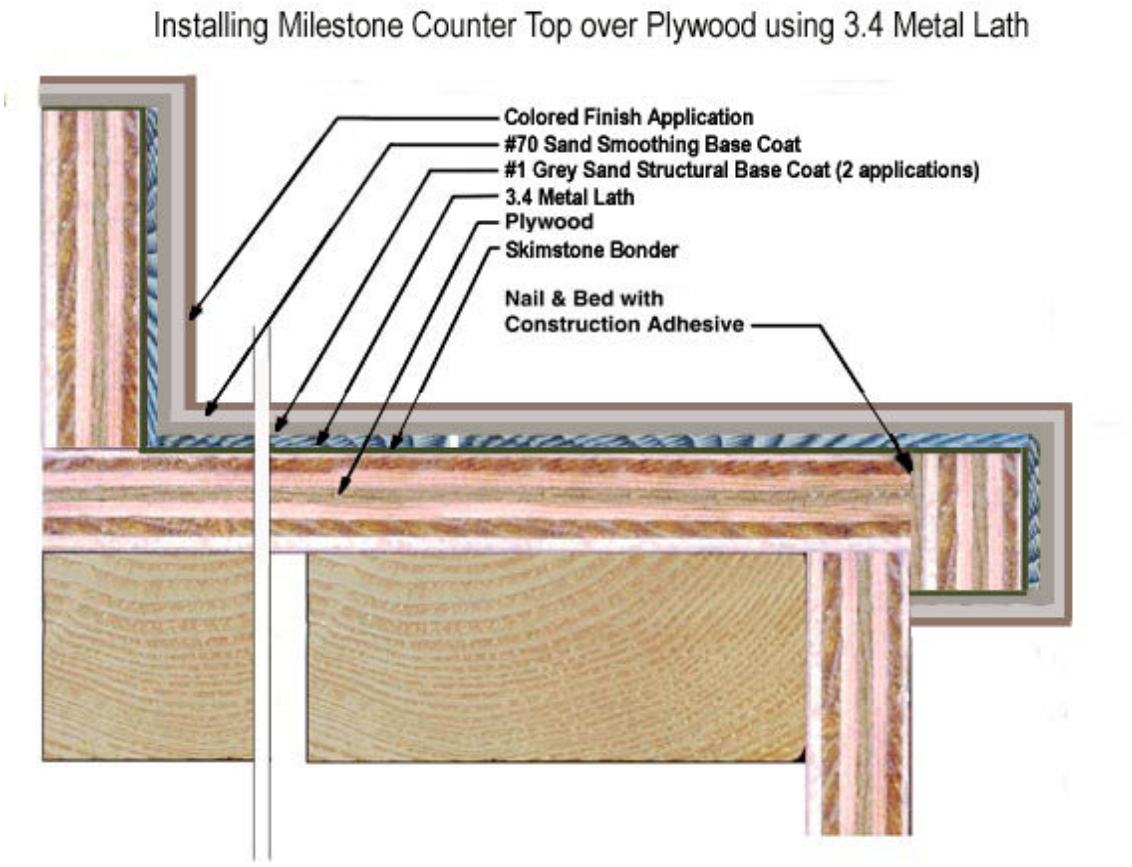
D. #70 SAND FINISH BASE OR FIRST FINISH APPLICATION:
Summary:
Apply #70 sand finish coat
Remove tape
Let dry

Re-tape
Sand with #80 grit sand paper on sanding pad
Pull tape
Let dry
Re-tape

Directions:
The *#70 sand finish application* is a primer coat for your finish and is generally the same color as the final finish, to prevent scratches or chips from contrasting in color. If applied careful this can even be the final finish. In some application where the final finish over this is applied very this color may be even more important.
Mix and coverage per square foot:
1 ounce colored acrylic liquid per square foot
1 and one half oz. Milestone powder by volume
1 and one half oz. #70 grit sand by volume
Color: To achieve a specific color for your finish, pre-color the desired amount of acrylic liquid with universal tints either by eye or with a formula from our studio or a paint store. Using a specific formula ensures that your color will be more easily reproducible in the future.
Application: Mix your Universal tint formula into the Milestone acrylic liquid. Have some liquid available for re-thinning your mix as you work. You should only mix as much as you can use in a few hours. Use only about 1 ½ gallons of the acrylic at a time in a five gallon bucket because of the volume created when the sand and cement is added. Pour the liquid into the bucket first and then add the dry ingredients. This helps prevents unmixed powder and sand on the bottom of the bucket. For larger batches, you can use a low speed electrical drill and a mixing paddle. Add equal amounts of each sand and powder until you get a smooth flowing mortar. Remember that the dry ingredients are an estimate and that you may need to add more or less than the amount shown, to get the viscosity you want. Do not use all of the acrylic liquid at once, as you will need some left over to re-thin the mix as you work.
Spread the mix very thin with a 12 inch steel trowel, as thinly as the sand grit will allow. Press firmly on your trowel, at about a 30-degree angle from your board. You can very the pressure and angle to flatten and smooth the surface.
Sanding: When the surface begins to dry, you can sand ridges or high spots to smooth the surface if needed. If this were going to be the final finish you would not want to sand it until it was completely dry.
Once you are done, you should pull tape.
Dry time: Allow surface to dry until dark spots are no longer visible, an hour to several hours. Re-tape. You are now ready to apply your final finish.

E. FINAL FINISH: The finish you choose for your counter top is up to you. For your general understanding of the process, we have included the summary (but not detailed directions) of how the finish process works. Directions on how to apply three types of finishes and a variety of sealers are taught in our *Finishes Workshop*.
Summary:
Apply Finish coat (finishes will vary)
Remove tape
Let dry
Re-tape
Apply sealers
Remove tape

DIAGRAM:



Tile and Formica Countertops

TILE:
Summary:
Prime the surface with the Skimstone bonder.
Plaster with #70 sand smoothing coat allow to set and wet sand as mentioned above pull tape
Let dry
Re-tape
Plaster with #70 finish base coat, set and sand as above, pull tape
Re-tape
Repeat if necessary.
Apply finish coat and sealers.
Directions:
Bonder: This product is used to bed the fiberglass mesh into place and create a rough surface for the plaster to bond to.
Fiberglass cloth/mesh: You will need a 3 or 4 foot roll of 4oz fiberglass mesh compatible with cement. Cut the mesh to size including all corners, interior and exterior, including overlaps.
Bonder application: Plaster the mesh into place with a trowel using the bonding agent.
Drying time: Allow to dry approximately blah minutes.

#70 sand smoothing base coat: Apply (as indicated above) and allow to partially dry, and sand with #80 grit sand paper on a pad. Pull tape.
Drying time: Allow to dry completely, until dark spots are no longer visible.
#70 sand finish base coat: Apply (as indicated above) and allow to partially dry, sand with #80 grit sandpaper. Pull tape.
Repeat above process as needed until tile lines are no longer visible: This may take 2-3 coats.

FORMICA:
Same treatment as the tile, less #70 sand finish base coats will be needed, as no tile lines are visible.