

# Heatsink Lapping Guide

Lapping heatsinks has become very popular with overclocking enthusiasts looking to squeeze as much as they can from their systems. As you probably know, an important factor for successful overclocking is keeping temperatures as low as possible. Lapping the CPU heatsink is an effective way to help in keeping the CPU temperature under control.

For the purpose of this guide I will be lapping a Thermalright HR-01 Plus CPU cooler. The method explained can be used for just about any heatsink though. The following is a list of the items I used to accomplish the lapping.

One Package (4 Sheets) of 9"X11" 400 Grit Sandpaper (Wet or Dry Type)

One Package (4 Sheets) of 9"X11" 1500 Grit Sandpaper (Wet or Dry Type)

One 15"X15" Piece of Single Pane Glass

Duct Tape

Glass of Water

3 to 4 Hours of Time

The first thing to do is find a good work table to perform the lapping, and a comfortable chair! Lay your glass on the work table and use some duct tape in the corners of the glass to affix it to the work table. Then lay a sheet of 400 grit sandpaper on the glass and again use the duct tape to attach the sandpaper to the glass. Take care to get the sandpaper flat and tight, you do not want the sandpaper moving while you're lapping. See the picture below.



Once everything is set up correctly, grab the heatsink you want to lap and place in on the sandpaper. You can experiment with sprinkling some water on the sandpaper or just using it dry, I actually used both methods and both worked well. Sometimes using the water on the sandpaper can help if your heatsink is “Skipping” as you drag it along the sandpaper. You can even use a tad of soap in the water to aid further if “Skipping” is an issue. Be aware though, if you having trouble with the heatsink skipping, then the sandpaper is probably not attached to the glass tight enough. Begin by sliding the heatsink up and down over the sandpaper, use VERY little pressure and let the weight of the heatsink provide the pressure to the sandpaper. Only use the pressure needed to drag the heatsink across the sandpaper. Take your time and go slow, this process takes time..... Don't get in a hurry!!

After about half an hour you should begin seeing results similar to the picture below, as you can see by the picture my HR-01 Plus was not very flat.



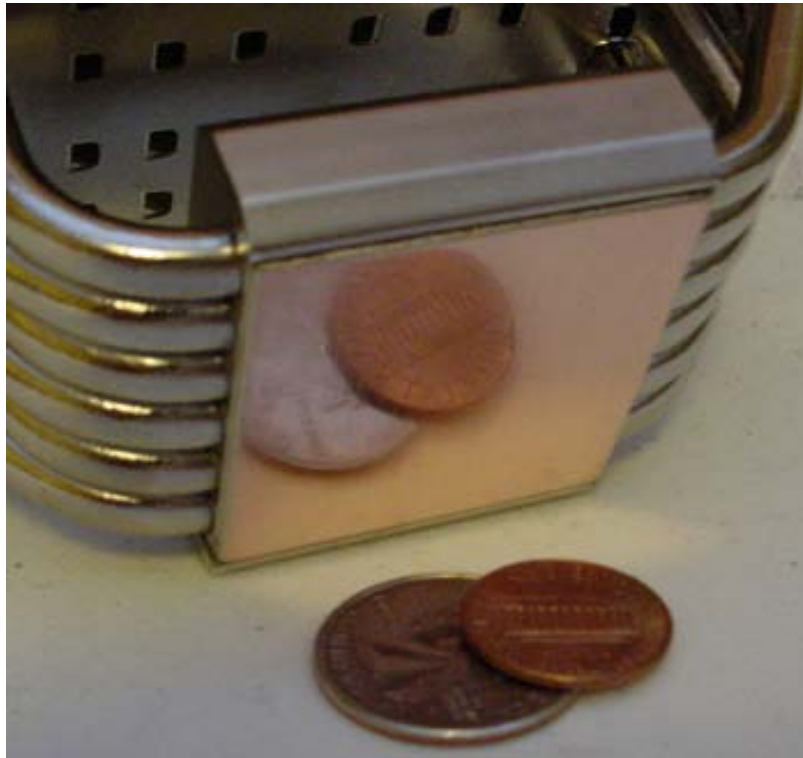
Continue your forward and backward motion over the sandpaper, occasionally rotating the heatsink 180 degrees. After another 30 to 45 minutes I began to see better results, but still a long way to go!



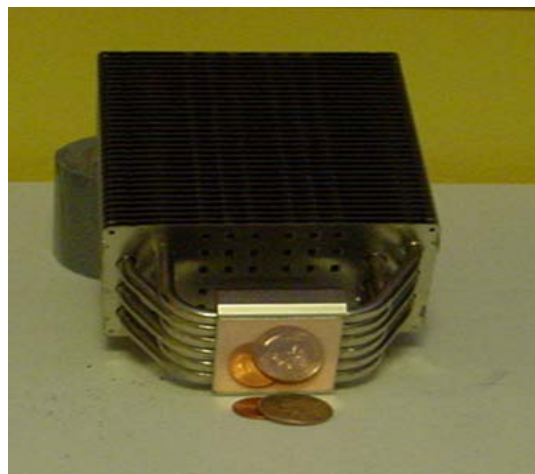
Continuing on about another 45 minutes or so, we are getting close!!



Finally after a couple hours we have completed the first lap with the 400 grit sandpaper, Whew!!



Not looking to bad at this point! Next you want to take a sheet of the 1500 Grit sand paper and affix it to your glass. Begin working your heatsink back and forth just as you did before. Remember to use as little pressure as possible and work slowly. I sanded my heatsink for close to an hour over the 1500 grip sandpaper and finally ended up with the results in the below picture.



I ended up with a smooth mirrored finish. This should help keep the CPU cool under overclocked conditions.

Hopefully this guide will help you understand the best way to lap a heatsink and give you the confidence to attempt it yourself. Good Luck!!