

The ultimate workbench top!

by [poptones](#) on July 30, 2008

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Intro: The ultimate workbench top!

Using cheap mousepads makes for a low cost, VERY easily repaired, handsome and comfortable workbench!

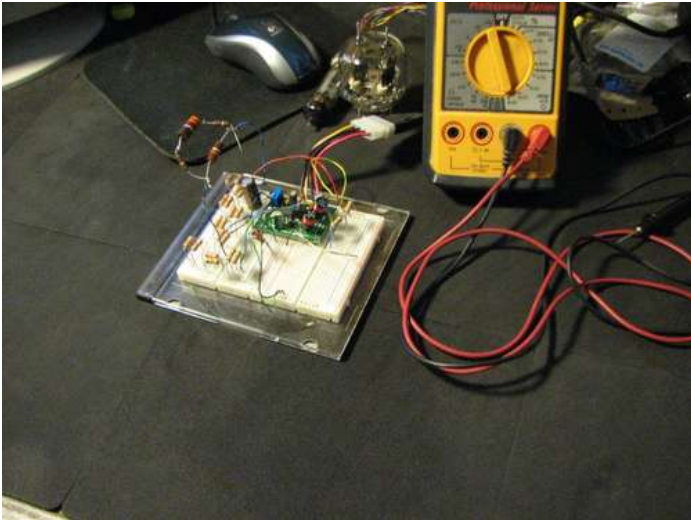


Image Notes

1. Scarred surface is result of soldering iron heat, wear, multiple x-acto lacerations, goop from old equipment innards... this is why we want a consumable surface.

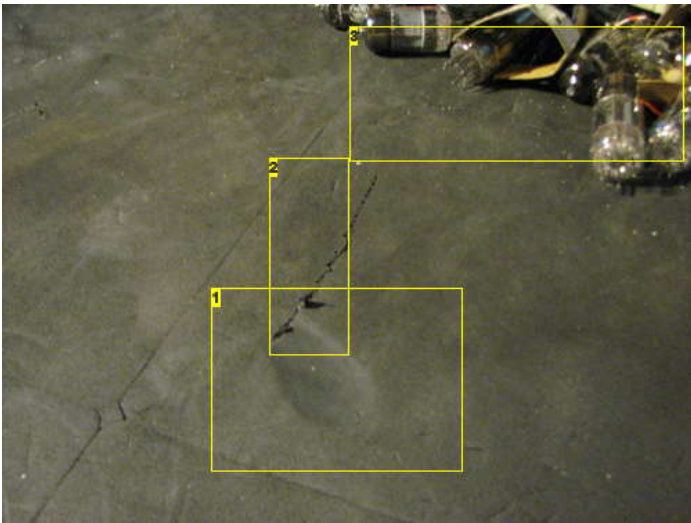


Image Notes

1. This is the result of direct heat from a soldering iron. Note how even with this heat it still protects the surface below.
2. The final blow: torn by the edge of an old reel to reel deck!
3. Yes, I have a lot of tubes. No, it's not a problem... really.





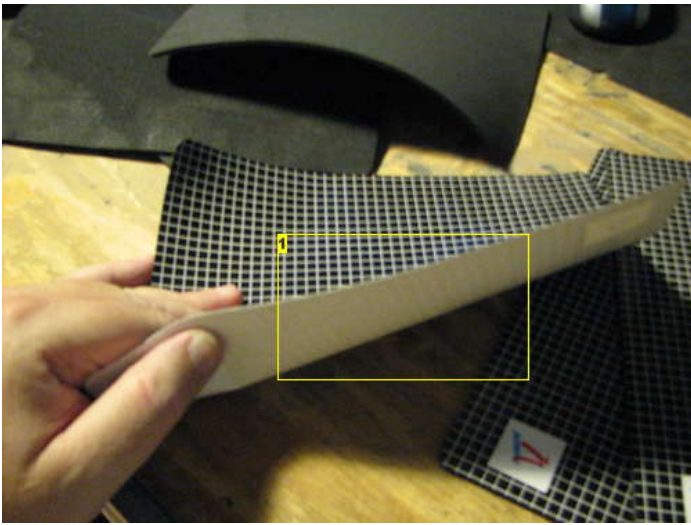
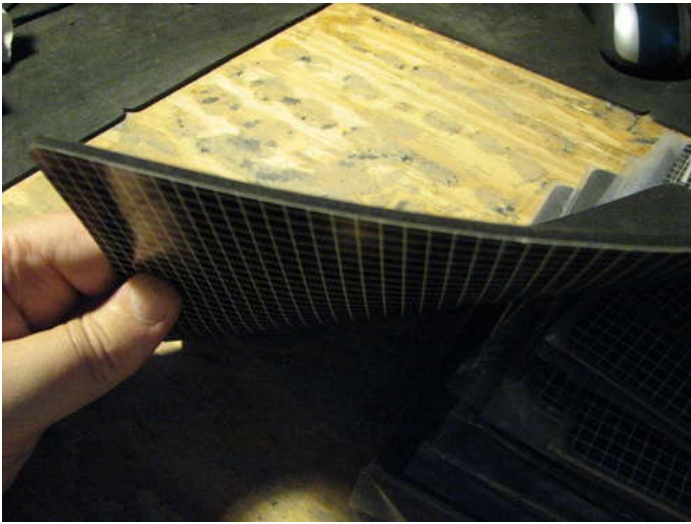


Image Notes

1. Plastic coated cardboard - the biggest waste item in the project. Removing this makes it possible to butt the soft mousy stuff below much more closely, lessening the seams.

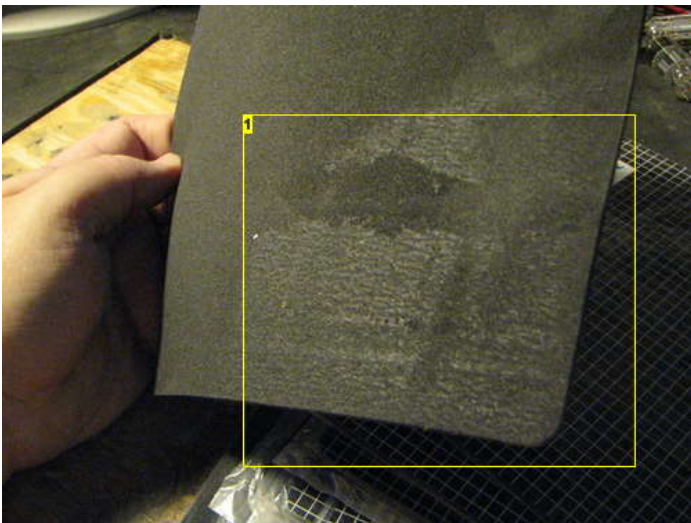


Image Notes

1. The "bottom" of the pad was formerly the top that was attached to cheap cardboard. Don't worry if there are small imperfections left from the separation, put this side down and you won't know it was there.



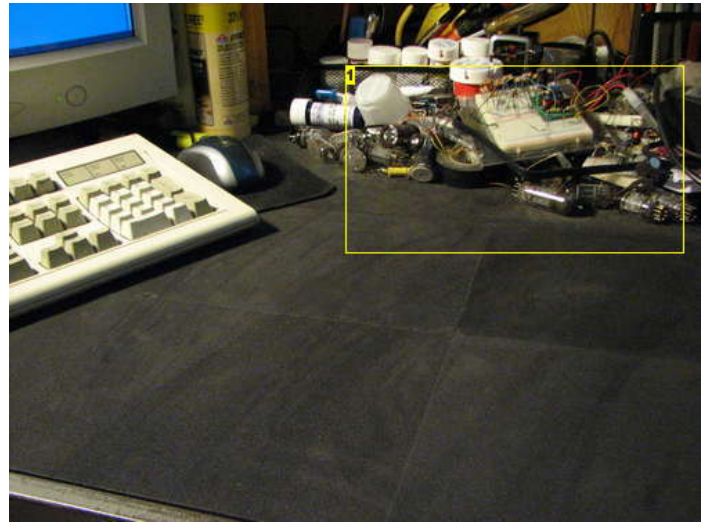


Image Notes

1. Who needs to clean off the bench to repair it?

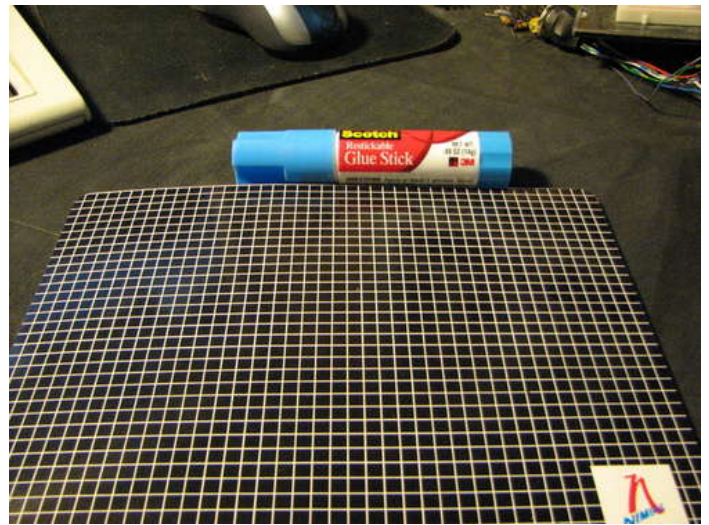
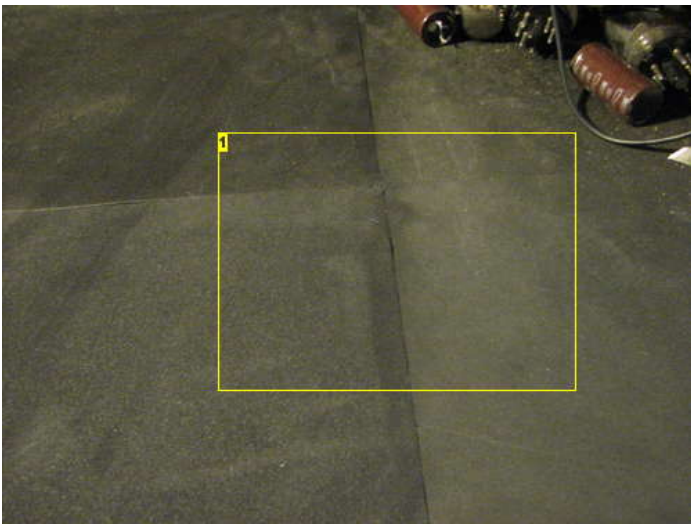


Image Notes

1. The "diamonds" make perfect alignment of the pads less important. The difference in appearance between the older pads and new repair wont last and soon it will all look relatively seamless again.

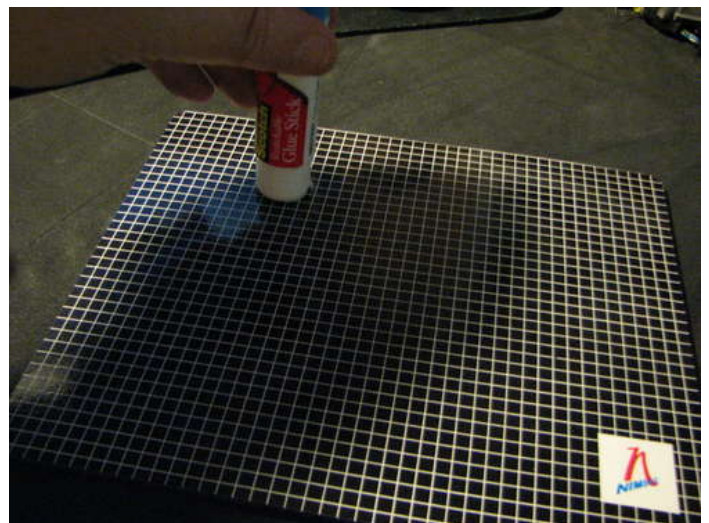
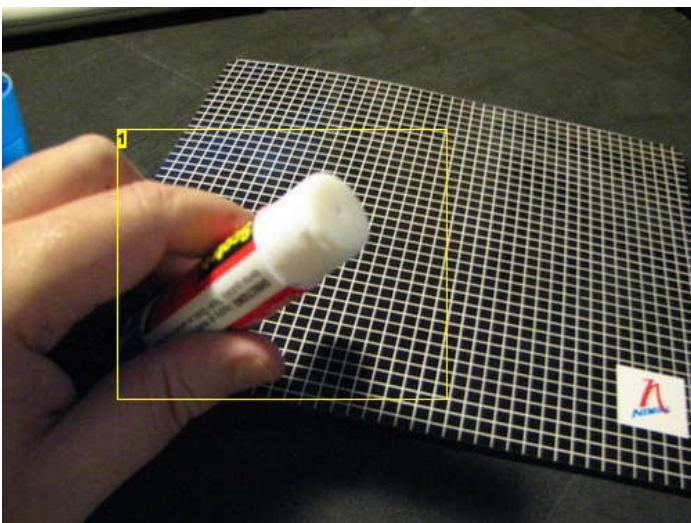


Image Notes

1. Don't call me Suzy Chap-Stik

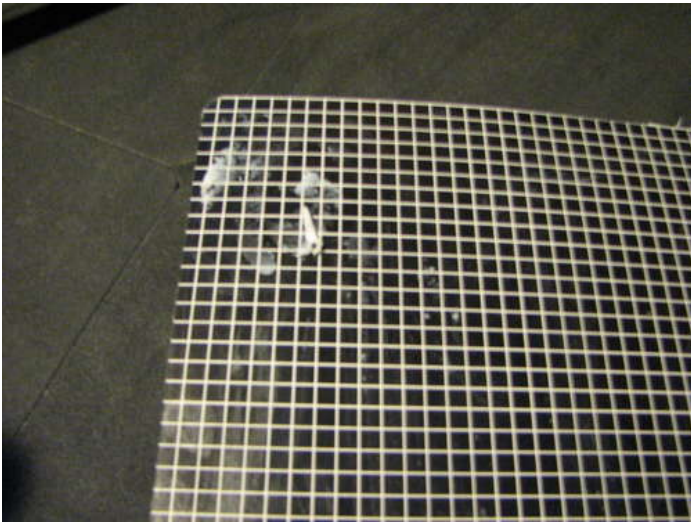


Image Notes

1. Sticky residue wipes right off with alcohol or warm water.

step 1: The problem

Workbench tends to collect damage from soldering iron, gunk from old radio innards, x-acto cuts and so forth.



Image Notes

1. Scarred surface is result of soldering iron heat, wear, multiple x-acto lacerations, goop from old equipment innards... this is why we want a consumable surface.

step 2: Remove the crud

Oh no! I've torn my desktop loose!

Note that the surface below this is, on my desktop, just plywood. Well, this whole thing works just great even if you didn't build your desk yourself from scrap iron and use cheap plywood for a top...



step 3: Removed the damage

After much tearing, the surface will finally look like this.

Again, this all tore the way it did because I use wood glue on plywood. I do this because this is the primary surface of my bench and I don't care - but believe me, it works just as well using white glue on nicer tops. If you have a formica countertop, white glue with this stuff works great and it won't tear as easily. Mine usually doesn't even tear this badly, but I put off replacing it longer than usual and it was pretty badly cut up.

White glue also cleans up easily with warm water, so the next step won't be needed if you are starting with a nicer subsurface.



step 4: Clean up a little

Scraping the stuff off with a piece of scrap pc board sometimes isn't enough - that's why I used this coarse sanding sponge. Sanding sponges are like the ultimate brillo pad - but don't use them on NICE formica surfaces!

Old formica surfaces, on the other hand...



step 5: All cleaned up, the magic begins

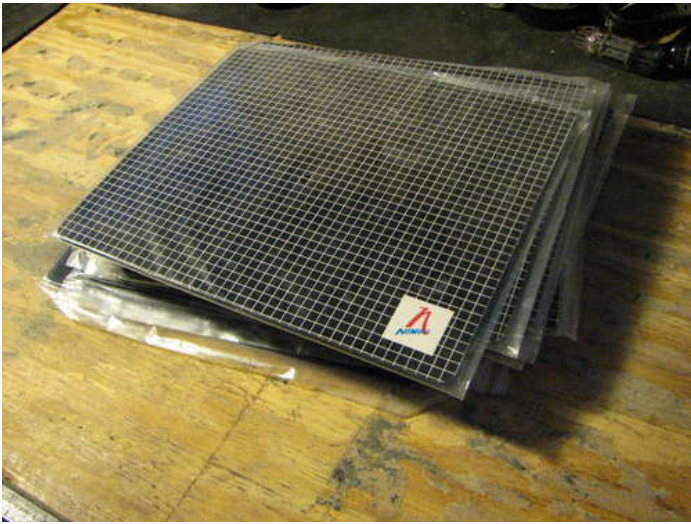
Now that we have a fairly ok surface to start with, let's add the magic.

Note that you don't need a GREAT surface to start with. My desk uses a piece of old exterior grade plywood I happened to have lying around the day my dad and I welded it up, and it works great. With the neoprene top you can't feel an unevenness and it looks great. And no slivers!



step 6: Mouse pad, mouse pad

Here is the source of our magic: CHEAP mouse pads. These particular mousepads came from pcsurplus or something, I can't recall. What I recall is I bought a box of 100 for 35 bucks - and 100 mouse pads will last a LONG time! My whole desk uses 40 mouse pads and it is 6 feet long and 30 inches deep. Usually only one or two pieces are repaired at a time.



step 7: Cheap is the word

This is the key: buy CHEAP pads. You don't want the fancy 10 dollar pads that are made to last! These particular pads I bought because they had this grid on the front and when I saw them I thought "cool I can use the grid to cut lines and stuff" but when I got them I saw that front was really just cheap cardboard with a plastic coat.

So, I decided I like the back surface better. What I did for my desk is tear that cheap coating off. You have to be merciless about this or it won't work - get one corner started, then RIP! If you try to tear it apart a little at a time the neoprene is just going to tear and you'll have scrap.

If you have a nicer desktop surface like formica, you may not want to do this part. Again, I tear the backing off because I consider the surface "part of" my desk. If you want something less permanent, don't tear off that plastic-cardboard part and skip ahead, I'll show you another method that works great for protecting "nice" surfaces.

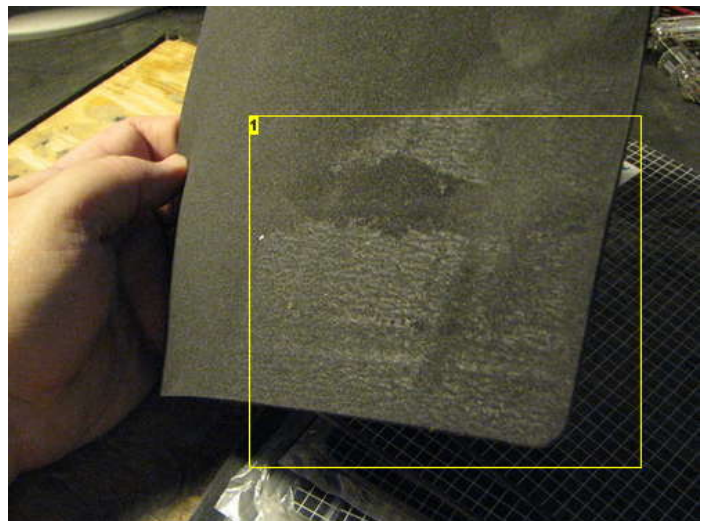
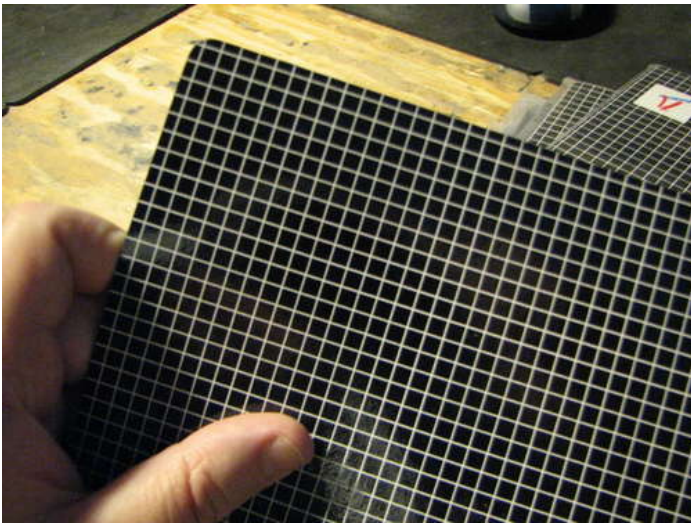


Image Notes

1. The "bottom" of the pad was formerly the top that was attached to cheap cardboard. Don't worry if there are small imperfections left from the separation, put this side down and you won't know it was there.

step 8: Tile your desk

Apply glue (white glue for less permanent tops) and lay the prepared squares of neoprene (ie the mouse pads) in place. Mash them around a bit and work the edges together. They may buckle a bit at first but if you roll them down with your palm and squeeze the seams together you will end up with a nice continuous surface with almost invisible seams! All that will let you know this isn't one solid piece is the corners where the mouse pads are rounded... we'll get to that in a bit.



step 9: Fill in the corners

On less permanent surfaces this part won't matter because you're not likely to leave it in place so long that junk collects, but on a more permanent desktop you'll want to fill in the corners. This is easily fixed by taking a bit of the scrap that was just removed, cutting it into a strip, then making little squares.

Size isn't critical because hey, it's neoprene - it's compressible, right? Just dab on a bit of glue and mash it down. Rub it around a bit to even things out and you have a perfectly filled gap. These are much more durable than you might think because there's glue directly on them - sometimes when I take up a couple of pads, I have to scrape these off because they stick so well.

Again, not an issue if your surface is less permanent.

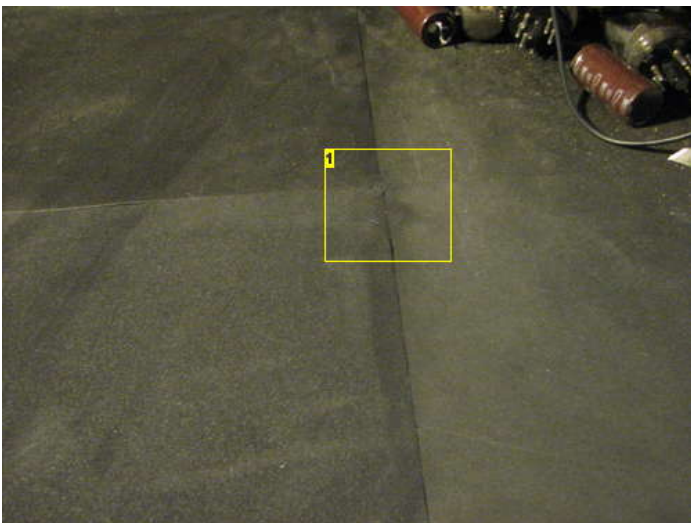
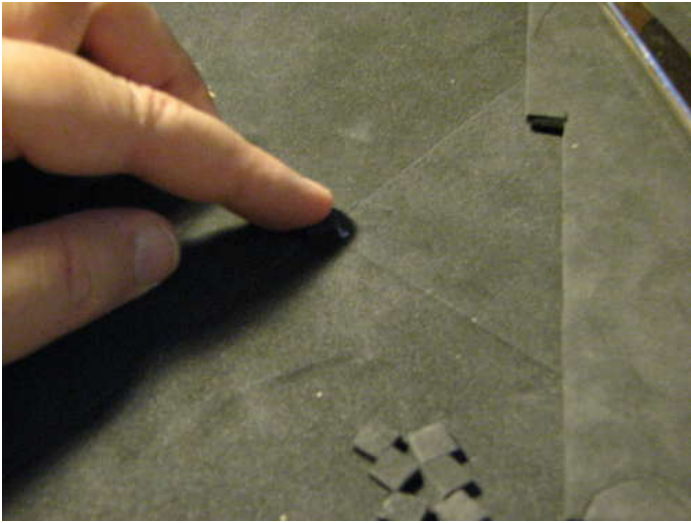
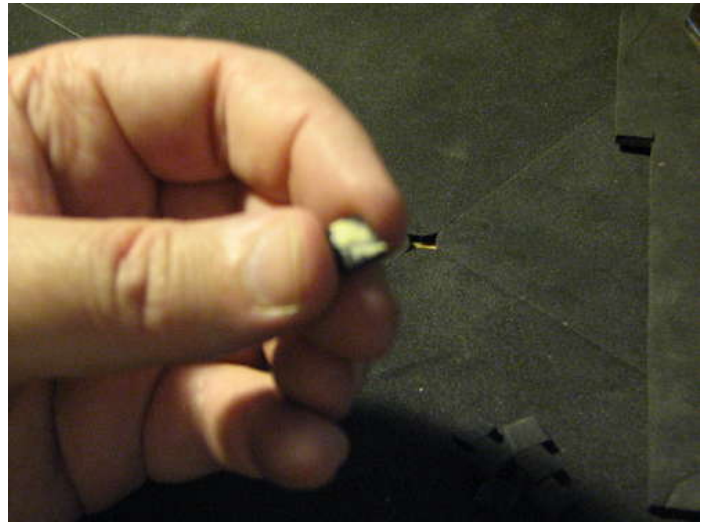


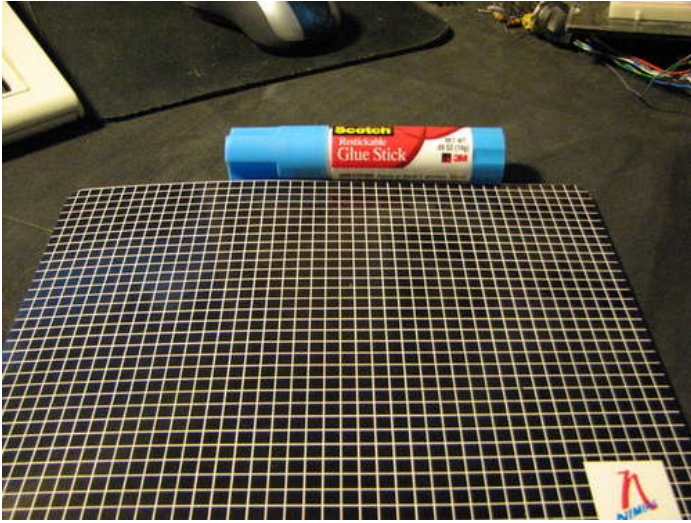
Image Notes

1. See the tiny plug? It doesn't take long for the glue to dry and it all becomes one fairly solid surface.

step 10: For those less committed

Here's where we do the magic on those "nicer" surfaces. Because the surface will be much more even and because we might not want to have to wash up white glue residue from, say, the kitchen counter, here's the cheat.

This stuff is the same glue as used on post-it notes. It looks sorta like white glue stick, but it never dries. It does leave behind a bit of an icky residue, but that washes up with nothing but warm water in a cotton towel. It's a totally temporary solution - and by temporary I mean you can leave this stuff down for months and you may have to push one back down every now and then, but it works quite well and is easily removed and cleaned up.



step 11: Paste away

With the glue stick you have to make sure you cover the shinty surface fairly well all the way to the edges. That's easy enough. It helps if you mash kinda hard and collect visible "flakes" of the glue. These may linger after you have removed the surface, but again they are easily washed away with warm water.

Note how well this thing sticks to the WALL (that's VINTAGE paneling, chief) but it takes almost no effort to remove it when I want to. A warm (warm is important) damp towel wipes away what little residue was left and one would never know I once had a piece of neoprene glued to the wall.

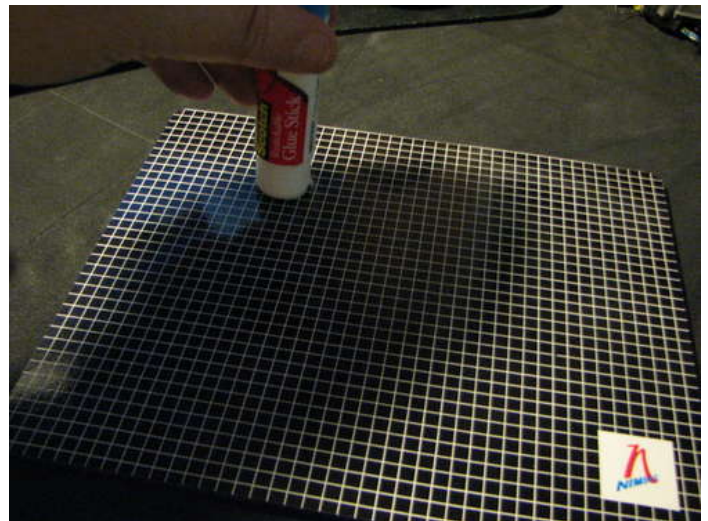
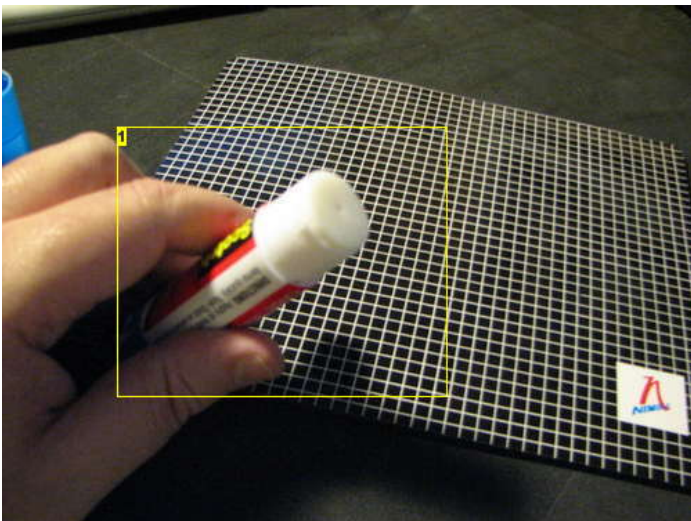


Image Notes

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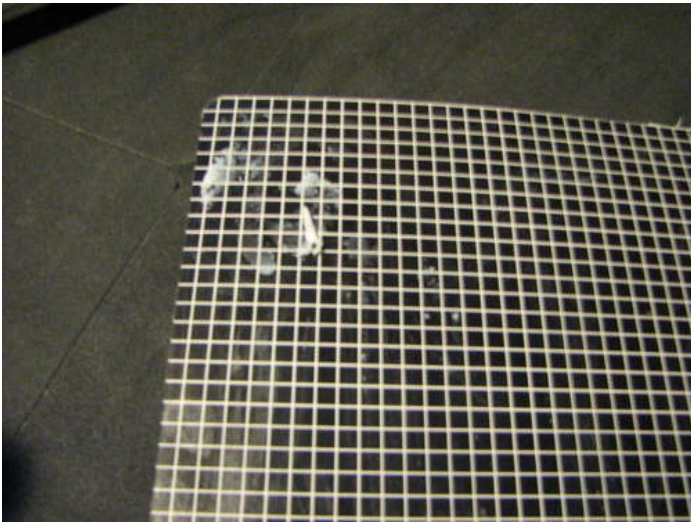


Image Notes

1. Sticky residue wipes right off with alcohol or warm water.

step 12: Fin

That's it! Thirty five dollars worth of mouse pads has given me a desktop surface that is essentially a consumable. I don't have to worry about x-acto cuts, heat damage, scratches from old equipment or any of that. And the surface is soft and very comfortable to rest my arms on - which is important not just to me and my arms, but the old equipment I often have to work on. I can lay an old radio chassis on my desk and not have to worry about scuffs and scratches. My desktop protects whatever I am working on, and is well protected in turn.

But the best part is not having to take EVERYTHING off my work area in order to repair it. With most desks, you mess up the top and now it's major work to refinish. I can "refinish" only the part that's needed in less than an hour!

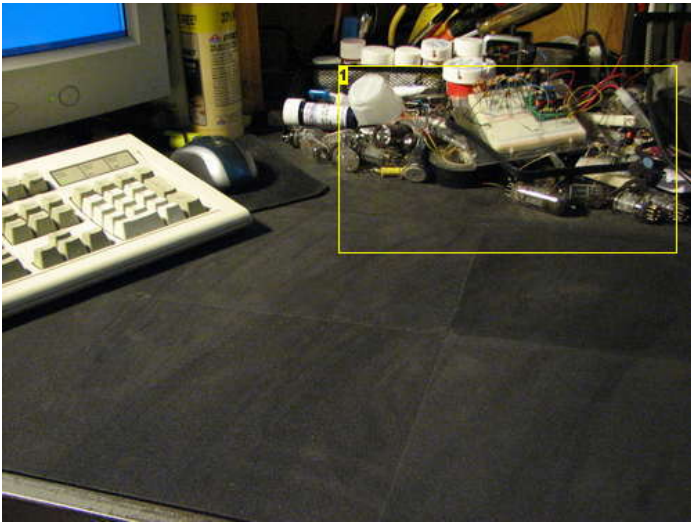


Image Notes

1. Who needs to clean off the bench to repair it?

Related Instructables



Mousepad Wallet by stranoster



Cheap (but excellent) Mouse Pad by flashmonkey



Cheapest, Easiest, Most Portable "Mouse pad" by jtmax24



Mouse Pad ACU Knee Pads by shax



Nail Cushion version DIY by loup226



Creating a laptop stand for under \$5.00 by mohler7154





How To Use Mousekeys - Move Your Mouse Cursor with the Number Pad - Windows XP by Aeshir





Curiously Strong and Wireless Usb Mouse by jeoncs

Comments

29 comments [Add Comment](#)

-
- 
xproplayer says: Apr 2, 2009. 3:24 PM [REPLY](#)
 im no expert but couldnt u just use the rubber bottom and not glue it that is what it is designed for
-
- 
poptones says: Jan 20, 2009. 11:42 PM [REPLY](#)
 Thanks for all the great comments, though I don't understand the recent flurry of comments on this article! Sadly, the DIY desk is now gone, burned along with my home. The upside is I now am building a new desk, this one with a wonderful smooth top - a solid core door purchased at a discount outlet for 12 bucks! One end has been hacked away but this is of no concern to me!

 My new home came with a fantastic workshop in the back yard... and I have cast iron for legs on the way via UPS, and have located a great supplier of surplus closed cell foam on ebay.
-
- 
rightbraincreative says: Jan 20, 2009. 9:40 PM [REPLY](#)
 I work in a print shop and sometimes take home the press "blanket" after it is changed on the press to cover my workbench. It is essentially a rubber mat with a degree of self healing properties. It will be pretty ugly after it's been on a press for a while, but is very durable. Ask your local print shop to save you one.
 Thnks for the 'structable
-
- 
Phil B says: Aug 22, 2008. 9:58 AM [REPLY](#)
 Another idea for a soft surface that will not damage polished parts and offers a constantly renewable surface is an old telephone book. Rip off the front cover. Anytime the top pages are torn or soiled, just tear them off and you have a new surface.



DYLEGO says:

There may be a cough small cough fire hazard involved... Plus the surface won't be even if you combine multiple books...

Jan 20, 2009. 7:10 PM [REPLY](#)



Phil B says:

This was a suggestion a number of years ago from Popular Science or Popular Mechanics. The object was not to cover an entire table surface with old phone books, nor was the object to use old phone books near any flame or heat source. The object was to have a soft, clean surface always available for delicate parts subject to destructive scratches. An old phone book makes a very good surface for rebuilding a carburetor, for example.

Jan 20, 2009. 8:43 PM [REPLY](#)



rob.price.3 says:

Great idea. you can get the same material but in a large sheet form for about \$10.00 from rubber or industrial supply or gasket house. I looked at my mousepad and it is made from 1/16 thick #3120 open cell neoprene sponge. I used to make mousepads as a kid. Since someone else used a mentioned a company, I will too: www.murdockindustrial.com Your mousepads looks like they were made from 1/16 thick SC42 closed cell neoprene sponge.

Aug 3, 2008. 11:39 AM [REPLY](#)



poptones says:

Thanks. That's very cool too. There are other sources I have found where you can also buy various types of foam. I have recently found a surplus lot of antistatic foam that has already been cut into tiles, but it is only .050 thick, too thin I think to be strong enough for desktop use.

Aug 3, 2008. 1:14 PM [REPLY](#)

Your mousepad is made from 3120? Isn't that an antistatic foam? The thin tiles I found were made from 3120.

See, the fact it isn't large sheets adds to the value. If I buy large sheets, now I have to cut it up into tiles myself.

Even the rounded edges of the mouse pads work toward making a nice desktop. Why? Because that little "diamond" at every corner conceals slightly bad alignment. If the mousepads all had square edges then any slight misalignment would make the seams look bad (I know this because the first few I tried cutting the sides so the corners would be square, and it looked terrible).



DYLEGO says:

Do you think maybe you could remove the extra pictures at the beginning? I can't rate it... Usually that happens when there are so many pictures that it covers the "related" section... I want to give you 5 *s, but, well, I can't...

Jan 20, 2009. 7:57 PM [REPLY](#)



puffyfluff says:

Hmmm... Useful.

Aug 31, 2008. 1:20 PM [REPLY](#)



codongolev says:

coolio!

Aug 29, 2008. 6:13 PM [REPLY](#)



recynd says:

You, sir, are the greatest. Ever.

Aug 10, 2008. 10:44 PM [REPLY](#)



dpocius says:

I like the "tile" aspect whereby you can renew the benchtop without having to remove absolutely everything. I've screwed a 2' x 4' piece of 1/4" thick of MDF (medium-density fiberboard) to the front-center of my 8' x 3' benchtop to take the beating from the boat anchors I typically work on. I also have an antistatic mat I lay down on top of that for more delicate work. The MDF is easily and cheaply replaced, with the old piece typically recycled for some utilitarian use.

Aug 8, 2008. 6:40 AM [REPLY](#)



Coffee bean says:

cool but can you right on it well

Aug 7, 2008. 5:51 PM [REPLY](#)



chalky says:

genius!

Aug 6, 2008. 9:09 AM [REPLY](#)



akira45 says:

totally awesome, right now I have a small (like 2'x4'4") computer desk I'm using for some electrical work (modding r/c cars, fixing neighbor's dvd players etc.) and I've been wondering how to fix the problem of stuff rolling around and bouncing screws and whatnot! this looks like a great idea to solve that problem, plus all the pros previously mentioned. much kudos!

Aug 5, 2008. 5:06 PM [REPLY](#)



Dragonboy says:

That is pro. I use a self-healing mat, you know those green ones, but this is probably cheaper.

Aug 2, 2008. 7:34 PM [REPLY](#)



szechuan53 says:
cool. comfy. cheap.
3 c's=good workbench top.

Aug 2, 2008. 11:59 AM [REPLY](#)



egreen767 says:
awesome!
I think it's kinda funny that you use a mouse pad for your mouse on top of a mouse pad covered table.

Aug 2, 2008. 11:53 AM [REPLY](#)



technodude92 says:
Awesome, original idea! 5* and fav'd!!

Aug 1, 2008. 10:31 PM [REPLY](#)



Llewner says:
For a more durable solution, you might try a self healing cutting mat from [Denver Sign Supply](#) . It will cost a bit more, but it should outlast SEVERAL changes of the mousepads.

Aug 1, 2008. 6:07 AM [REPLY](#)



poptones says:
Thanks for the link, I have been looking for some of the stuff they sell. I hadn't considered vinyl cutters when looking for that self healing mat.

I don't know about more durable though... a 4x8 foot mat for 100 bucks that is one piece? In six months I've replaced maybe 12 pieces and I don't have to clean off my whole desktop to do it. At this rate my 100 mouse pads will easily last 2 years or more, and they cost 35 bucks. For 100 dollars I could have bought like 300 which, for my purposes, would probably be a lifetime supply.

Aug 1, 2008. 10:41 AM [REPLY](#)

By the way, they still have these. Must have bought thousands of them

<http://www.outletpc.com/c6896.html>

It's funny - they pretty much suck as mouse pads. Ball mice work ok but they are too shiny for optical mice. The only way they work for optical mice is if you sand them to dull the shine. So on my mouse pad covered desktop, I still have to use a mouse pad!



tyler_durden says:
It's a nice idea, however, you won't get any static discharge protection this way. Much better to invest in an antistatic mat that covers the bench and get a wrist strap that plugs into the ground connection on the mat. If you work with any semiconductors you'll save a lot of time and heartache by properly grounding yourself and the bench.

Aug 1, 2008. 1:23 AM [REPLY](#)

Get a grounded soldering iron, too.



poptones says:
It's not meant to be anti-static, its meant to be soft and flexible and easy to repair. I realize it may look like an anti-static surface, but that was never my intention. This all came about almost completely by accident as I was looking for a "self healing" surface (like seamstresses use) and this just sort of happened when I discovered the back of the mousepads I bought were way more useful than the way I had intended when I bought them.

Aug 1, 2008. 2:57 AM [REPLY](#)

I can cut things, stick things in my desktop - do whatever I need without fear of "messing it up." If you have a "real" desktop (and not a piece of plywood) the paper and plastic backing on the mousepads help make those surfaces almost as carefree, as they will protect the surface below from all but the heaviest x-acto cuts.

Not to be difficult, but I am 45 years old and have been working with electronics (no exaggeration) nearly 40 years, and I have never had a component DOA due to esd. The bags esd sensitive components come in make great esd safe work areas. Why buy something I only need occasionally when I can just recycle what I already have? That's why I bought the mouse pads: they were new surplus - they were one step from a landfill. Mine will still end up in a landfill, but not before serving a useful life.

Anyway, some things are static sensitive, but tubes aren't one of them. I work with a lot of vintage tube gear which cannot get scarred up. This desktop is fantastic for that: it protects the gear and it takes heat, spills, solder blobs, cuts, scrapes and still looks great with just a few minutes touch-up.

Thanks for your comment.



Mr. Rig It says:
Cool idea, nice use of materials and lots of great photos, Good Job.

Jul 31, 2008. 9:05 PM [REPLY](#)



=SMART= says:
Original Idea !! , i think i would use the plastic side though so it is wipe-clean

Jul 30, 2008. 1:58 PM [REPLY](#)



poptones says:
Aha! I should have mentioned this in the article!

Jul 30, 2008. 4:13 PM [REPLY](#)

One of the best parts about it is because it is neoprene it IS essentially wipe clean. I regularly clean mine by pouring on a bit of alcohol and wiping it down. Liquids and even hot solder just pool up.

It is "soft" but it isnt very absorbent. I would say you would have to deliberately neglect it in order to get a spill soaked in.



=SMART= says:

Actually yes you are right, the neoprene side is wipe clean and it has the added grip too

Jul 30, 2008. 4:21 PM [REPLY](#)



uguy says:

Cool idea!! Thanks for sharing.

Jul 30, 2008. 1:38 PM [REPLY](#)
