

Wuddoc and Li'l Rick take on another challenge

Another challenge has been brought to our attention. This time a piece of furniture with no finish had grayish areas. After closely looking at the wood through a magnifying glass, we could see small pieces of metal. This was confirmed with a magnet.

How did this metal get into the chair? The owner admitted they decided the wood needed smoothing before applying a finish, since it felt rough. Mystery solved!

Steel wool was used on the unfinished wood. The steel wool fibers broke away, and that caused the graying spoty look.

What should the user have done instead of using steel wool? First, steel wool is made of different diameters of metal, from coarse to fine. The packages are marked indicating rough to fine, or "0" to "0000." Steel wool is used for polishing a finished piece of wood, but only if used with a polishing liquid.

The steel wool strands break off, and the broken strands imbed themselves in the finish. Wood always retains some water moisture, and the broken steel strands eventually rust. The rust then causes brown spots in the finish. So what should you do if you want to smooth unfinished wood?

Off we went to the Wood Technology program at the Franklin County Career Tech Center in Belgreen to find out. There we used the students in Rick Graben's wood technology class to find out the best methods for smoothing the wood.

To begin, we purchased various kinds of abrasives from local stores and brought them to the lab. These included coated abrasives (sandpaper), non-woven material (3M pads), and steel wool. Coated abrasives are sheets of paper with glue spread on them hold particles of natural or man-made materials. Non-woven materials are strands of plastic-type material with what appear to be small bumps in the strands that act as an abrasive.

Coated abrasives are what we wanted the students to work with. In the past coated abrasives were called "sandpaper," and the name has stayed with the material over the years. Initially, coated



Rick Graben watches a student sanding a piece of wood.

abrasives were sand paper, as the rough material was silica (sand) glued to a piece of paper. Today, the abrasive material varies depending on the usage.

The students sanded with portable power tools and hand-sanded various species of wood to produce a smooth board before finishing. The students primarily used Garnet and found that they needed to start with 60 grit paper. The number indicates abrasiveness, with low being coarse and high fine. Sixty grit was found to remove marks and deep scratches in the wood. It was explained to the students that industry will sometimes go as low as 24 grit. This coarse material quickly reduces the wood thickness.

Sixty grit smoothed out the different species of wood but left small grooves. In order to remove the grooves, 80 grit was used. This left finer grooves. The 60 grit reduces the thickness of the board while the 80 grit shaves off the peaks left by the 60 grit.

Depending on the species, certain grit sizes will smooth the wood to the point that any finer grits are not going to make the board any smoother. In some instances, finer grits cause the board to end up so smooth that when the board is stained it will not absorb the stain evenly. The non-woven material was tried and was found to lack the same amount of grit sizes as the coated abrasive paper.

Next time we will cover the various types of sanders and sanding blocks that can be used to smooth unfinished wood or a finish.



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