**Abrasive Paper and Sanding Methods**

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1. **Types of abrasives**
   1. **Flint or quartz**
      1. Yellowish in color
      2. Inexpensive
      3. Used for hand sanding
      4. Does not hold up for machine applications
   2. **Garnet** 
      1. Made from crushed rock
      2. Reddish brown
      3. Works better on harder woods since it is harder
   3. **Aluminum Oxide**
      1. By-product of aluminum production
      2. Reddish brown, white, pink, purple
      3. Used on sanding machines since it is durable
   4. **Silicon Carbide**
      1. Shiny black to green
      2. Can be used wet or dry
      3. Used for sanding between finish coats of lacquer and

varnish

* + 1. Extremely hard

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* 1. **Sandpaper Production**
     1. Lower the number on the paper the coarser the paper
     2. Higher the number the finer the paper
     3. Sandpaper is made by using varied sizes of wire

screen. The number of open spaces on the screen is

the number on the paper. Example 150 grit would

have at least 150 open spaces per square inch to

allow at least 150 sand grains to pass through

* + 1. Sandpaper is also made by electrostatic charge where

the paper receives a negative charge and the sand

receives a positive charge. If more charge is applied,

larger sand particles are attracted.

* 1. **Sandpaper Grades**
     1. Very fine 220, 240, 280
     2. Fine 180,150,120
     3. Medium 100, 80
     4. Coarse 50, 40, 36
     5. Very coarse 30
     6. Papers above 400 grit are classified as extremely fine

of just as finish paper only have applications for

finishing paints and lacquers.

* 1. **Sanding Tips**
     1. Fold the paper and tear along a straight edge
     2. Never use scissors
     3. Sheets that are torn to size are cheaper than buying

precut sheets

* + 1. Sand with the grain never across the grain
    2. Use a sanding block to achieve a flat surface

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* + 1. Always remove sanding dust before going on to the

next fine grit

* + 1. Apply even pressure
    2. Sand curved or rounded surfaces with used/worn

paper using your hand to follow the contour (no

sanding block)

* + 1. When finish sanding rub a damp cloth over the wood

and allow it to dry. This will swell the wood grain

and produce a smoother surface after finish sanding

1. **Portable Sanders**
   1. **Belt sanders**
      1. Common sizes are 3 x 21, 3 x 24, 4 x 21, and 4 x 24
      2. Place the belt on the sander in the proper direction so

the splice does not tear apart

* + 1. Sand with the grain
    2. Sand on the “pull” stroke
    3. Keep the sander flat
    4. Belt sanders are for rough sanding and are not a

finish tool

* + 1. Never rock or tilt the sander
    2. Always turn the locking switch off
    3. Never apply excessive pressure

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**B. Finish Sanders**

1. used for sanding an assembled project

2. can be used to sand components

3. types

a. straight-line, leaves minor sanding marks

b. circular, leaves swirl marks

c. orbital, leaves only very fine marks

4. never use any sanding grits coarser than 120. it can burn

out the motors prematurely

5. always clamp your work

6. never start or finish with the sander in contact with the

work surface

7. common sizes are ¼ and ½ sheet

8. never apply excessive pressure to the sander

1. **Sanding Machines**
   1. **Stationary Belt Sander**
      1. rapid removal of material
      2. not finishing a tool
      3. sand with the grain
      4. keep the board moving
      5. can do face, edge, or end sanding
      6. can also sand angles
   2. **Stationary Disc Sander**
      1. used mainly for end grain sanding
      2. discs are glued onto the plate
      3. always sand on the left side of the disc
      4. clean the disc periodically
      5. to sand slower move towards the center

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\*discs and belts sanders are commonly both tools in one (like the one in this lab)

* 1. **Narrow Belt Sander**
     1. has a small narrow belt for sanding intricate edges
     2. only for edge work
     3. common sizes are ½” and 1” wide belts
  2. **Oscillating Spindle Sander**
     1. has a sanding sleeve mounted on a rubber drum
     2. moves up and down while rotating, thus sanding

faster and using more of the sanding drum

* + 1. used for sanding curved surfaces
    2. sizes ½”, ¾”, 1”, 1 ½”, 2”, 3”
  1. **Sanding Attachments**
     1. plate for the table saw to convert it into a disc sander
     2. sanding drums that mount onto a drill press (not

recommended because it causes stress on the drill

press shaft)

* + 1. Flap-wheels (rotary wheels) that sand irregular three

dimensional surfaces with a drill press

F: Sanding Notes