



Painting Fundamental - 9

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Sanding between coats - Typically referred to as scuff sanding, fine sanding, light sanding or buff sanding

Need: 1. Remove fine debris/imperfections, 2. Reduce brush, roller, or spray texture from previous coat, 3. Create "profile" for improved next coat adhesion, 4. Reduce undesirable surface texture such as raised wood fibers.

Definitions:

Burn through/break through – areas where sanding removes the coating down to the substrate.

Profile – micro texture created by fine sanding to provide for improved adhesion

Haze – consistent removal of surface sheen by uniform fine sanding

Procedure Steps:

1. Grit guidelines
 - a. The level of abrasive that will meet your goals but will not show scratches in the final finish.
 - b. Fine sanding grits typically range from 240 to 400 but can go much higher for super smooth finishes especially with high gloss coatings.
2. Determine the correct amount of pressure to achieve the goals. A light touch with more movement usually works better than hard pressure with fewer strokes.
3. All surfaces should be uniformly sanded.
4. Sand in the direction of the grain of the wood whenever possible.
 - a. When having to sand cross grain (such as the bevel at the top and bottom of a raised wood panel) use less pressure or a finer grit paper.
5. Sand up to but not over edges or outside corners. The risk of burning/breaking through edges is greater than on flat surfaces since the edges have less coating build-up.
 - a. Moldings with delicate profiles fall into this category as well.
6. Vacuum the surface as needed to remove debris and dust.
7. Inspect surfaces with a "raking" (shallow angle) light, also rub your clean dry hand over it to check for imperfections.
8. Remove all dust and debris before applying the next coating.

Sanding Products:

- Sheet sandpaper (hand or machine sander use)

Pros

- Wide range of grit levels
- Wide range of abrasive types and backing materials for different substrates and coatings
- Versatile for use on curved moldings as well as flat surfaces
- Can easily be cut to desired size
- Stores in a small space
- Can apply pressure to specific areas
- Readily available

Cons

- On curved moldings and trim the sandpaper must be worked into each profile and edge
- Can create uneven sanding resulting from pressure points

Uses

- Especially good for the first sanding step and for aggressive sanding

- Sanding Sponges

Pros

- Good for curved surfaces and corners
- Can dampen for wet sanding
- Good for rounding corners/edges
- Uniform sanding without pressure points
- Easy to hold
- Angled and contoured edged sponges are great for corners and moldings

Cons

- Wear out quickly
- Relatively expensive
- Takes lots of storage space for inventory
- Limited grits and abrasive types
- They don't apply pressure to specific target areas well
- When sanding flat surfaces over edges, sponges can burn through the corners

Uses

- Particularly good for light sanding between coats

- Sanding Pad

Pros

- Reduces pressure points for more even sanding
- Good for curved surfaces
- Relatively small storage space
- Can dampen for wet sanding

FINE SANDING BETWEEN COATS

Cons

- Can burn through corners if sanded over edges
- Relatively expensive
- Not great for applying pressure to specific areas

Uses

- Very good for fine sanding between finish coats

- Abrasive nylon pads, often referred to as “Scotch-brite pads”, come in a range of abrasive strengths color coded including brown, maroon, green, gray, white.

Pros

- Good for corners and curved surfaces
- Can be used for wet sanding
- Multiple abrasive levels
- Reduced corner burn through

Cons

- Can scratch glass even though it may not be expected (except for white which can be used to clean glass)
- Limited in-store availability of varied abrasive levels

Uses

- Washing trim and small items
- Fine sanding between coats, especially on curved moldings and corners

- Hand held sanding block to hold sheet sandpaper

Pros

- Lots of different sanding materials available
- Provides a firm flat surface with more uniform pressure than hand sanding
- Easy to hold
- Can be faster than hand sanding for medium sized surfaces
- Can apply any flat sheet sandpaper grit
- Inexpensive tool

Cons

- Not good for curved moldings
- Creates more dust than power sanders with dust collection
- Typically slower than power sanders
- More likely to leave sanding marks than power random orbital sanders

Uses

- Flat surfaces
- Narrow flat edges
- Great for getting into inside flat corners

Methods:

FINE SANDING BETWEEN COATS

1. Hand sanding - Dry:
 - a. Pros
 - i. No electricity
 - ii. Lots of different sanding materials available
 - iii. High level of control
 - iv. Minimize chances of damaging a surface vs power sander
 - b. Cons
 - i. Lower production than machine sanding
 - ii. Creates more dust than either wet sanding or machine sanding w/ vacuum suction
 - iii. Vacuum suction
 - c. When most useful
 - i. When no electricity is available
 - ii. On small projects and between coats
 - d. When typically not most useful
 - i. Large flat surfaces
 - ii. Production runs
2. Hand sanding - Wet:
 - a. Technique details
 - i. Slightly wet the surface using a spray bottle of water or have a bucket to dip the abrasive into before sanding.
 - ii. Dip the abrasive into before sanding.
 - iii. Have a sponge, dry towel, and a clean bucket of water to wipe off the sanding residue before it dries on the surface.
 - iv. Sanding residue before it dries on the surface.
 - b. Pros
 - i. No electricity
 - ii. Water can serve as a lubricant so that a coarser grit can be used with less potential for damage.
 - c. Cons
 - i. Creates some mess that needs to be cleaned from the surface
 - ii. May draw out tannin stains from wood
 - iii. Can be slow
 - d. When most useful
 - i. For high gloss finishes
 - e. When typically not most useful
 - i. For high production situations
3. Machine sanding:
 - a. Technique details
 - i. Carefully select a sander for optimal performance for your requirements. Important criteria include comfort, easy control, shape and size for surface being sanded.
 - ii. The tighter the random orbit pattern of the sander, the better for fine sanding.

FINE SANDING BETWEEN COATS

- iii. A soft sanding pad is often appropriate for fine sanding to reduce burn throughs except when sanding over edges.
- iv. Start the sander with it lightly resting on the substrate then operate it with the desired amount of pressure. When finished, lift the sander off the substrate and turn it off.
- v. Beware that if the sander goes over the edges or corners it can create burn through.
- vi. There is typically some hand sanding to accompany the power sander use.
- b. Pros
 - i. May be attached to a vacuum
 - ii. Higher production than hand sanding
 - iii. Can provide an extremely uniform surface
- c. Cons
 - i. Be careful that grit or ripped sandpaper does not get caught under the sander creating swirl marks that will show through the next coat.
- d. When most useful
 - i. Flat surfaces
 - ii. For higher production requirements
 - iii. When dust is an issue
- e. When typically not useful
 - i. Curved moldings and detailed work
 - ii. Small or confined areas

Tips:

- A hand-held light can be an effective inspection tool and is easy to move around your work area.
- Clean, dry hands without hand lotion, “liquid glove”, or residues from soap, oils, etc. are required to prevent contamination problems with the next coat. Alternatively, protective gloves can be worn.
- Select the correct abrasive material for the substrate (wood, existing paint/coating, metal etc.).
- Refer to manufacturer’s guidelines regarding the need to sand between coats to promote adhesion. This information can typically be found on the back of the paint can or on the technical data sheet.
- If a fine enough grit for your purposes is not available, sanding materials can be rubbed together to smooth or “knock down” excessive grit.
- Worn sanding sponges can be wrapped with sand paper for additional use.
- A molding profile can be created out of a piece of rigid foam insulation by applying a coarse piece of sandpaper to the molding (grit side facing out) and sanding the foam piece over that until it has the matching profile. Then apply sandpaper to that piece in whatever grit desired.
- A vacuum may not remove dust packed into corners. A dust brush or compressed air **tool** may be needed to loosen dust for effective removal.
- To prevent vacuum tools from marking work surfaces, tape can be applied around them.

FINE SANDING BETWEEN COATS

- On vertical items start sanding at the bottom and work up so that the dust and debris does not fall on surfaces to be sanded.
- Tack Cloths - for waterborne paints do not use tack cloths that contain waxes, oils, or other contaminants that would create adhesion or other coating problems. Special tack cloths are available for use with waterborne coatings. Also, microfiber cloths can be very effective to remove fine dust.
- Know the desired surface finish level before starting any sanding so that you may determine and use the best sanding system, proper sanding grits, products, techniques, etc. to achieve the desired outcome. In other words, know the finish line before you start.
- To extend the life of your hand sandpaper, masking tape can be applied to the back side to prevent tears and improve durability.
- When folding sandpaper sheets, do not fold texture side to texture side as this will wear out the sandpaper faster. One method is folding a half sheet of sandpaper into thirds.
- Dried coating with runs or sags can be removed fast and smoothly by shaving with a sharp scraper before fine sanding.

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