Volume 2, Issue 4

October, November, December, 2007

Coatings Review

News and Updates from Your Source for Quality Wood Finishing Solutions

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Technical Tip - The Benefits of Thin Coats

High-build finishes produce a beautiful 'full fill' appearance often specified by architects or designers. Two common methods of application may be used to achieve this attractive finish: multiple thin coats or fewer heavy coats. You may be inclined to choose the latter in order to save time and improve efficiency with fewer spray-outs. This could work in some situations; however, thick coats can often lead to performance problems, especially if the coating is not specifically formulated to be applied in this manner.

A heavy coat, 6 to 8 wet mils, will often achieve a surface dry in approximately the same amount of time as a thin coat. This can be deceptive since a thick coat may feel dry to the touch but still have solvents trapped under the surface film. These solvents will cause the finish to remain soft and will lengthen the overall cure time. In addition, the surface may feel tacky when sanded, and is likely to stick to other pieces when stacked. Micro-bubbles are also more readily trapped in thick coats. In some instances, the coating may blister while drying as the solvents try to escape through the dried surface film. This is especially true on oak or other deep grain woods. Plus, wrinkling, lifting, and "orange peel" are all more likely to happen with heavy coats. And finally, heavy coats are more prone to cracking caused by shrinkage. This occurs when a coating dries slowly over time and physical force stretches the film. When that stress is relieved it produces fine cracks that tend to run in many directions rather than follow grain, as would cracks resulting from cold checking. Most of these problems associated with heavy coat application occur more readily when there is high air movement and warm temperatures.

"...thick coats can lead to performance problems..."

Continued on page 3

Health & Safety - Spray Booth Start-up Procedures

No matter how big or small the operation, having proper start-up and shut-down procedures is important to facility wide safety. Many regulatory agencies also require start-up and shut-down procedures for various operations. The following is an example start-up procedure that can be adapted to your facility; this information is only a general guideline. To ensure proper operations and safety, it is important to consider specific equipment and coatings recommendations when establishing this procedure for your facility.

"Many regulatory agencies also require start-up [ ] procedures"

Continued on page 2

Happy Holidays

From Your Rudd Company Sales Team!

From Left to Right: Matt, Ed, Dwayne, Pat, Dean.

Health & Safety - Spray Booth Start-up Procedures (Continued)

Example: Spray Booth Daily Start-Up Procedure

Every morning, before starting spray-coating operations

- Turn on the exhaust system
- Visually inspect the spray booth to ensure:
  - ◊ Booth filters are securely in place
  - ◊ Booth filters cover the entire exhaust panel opening
  - ◊ There is not excess spray build-up in the booth filters
  - ◊ Loose overspray is cleaned per the 'Lacquer Dust handling Procedure' below
  - ◊ Sprinkler spray heads covers are in place and void of excessive spray build-up.
  - ◊ Paint or solvent cans have lids or covers securely in place
  - ◊ Garbage and solid waste containers lids are covered at all times
  - ◊ The area is free of excess combustible materials and debris
  - ◊ Light is functioning properly
- Record the manometer reading on the spray booth maintenance log
  - ◊ If the manometer reading is within the acceptable range, proceed with spray coating operations
  - ◊ If the manometer reading is outside the acceptable range, change the booth filters and recheck the manometer reading (See filter change out procedure below)
    - ♦ If the reading is within the acceptable range, proceed with spray coating operation
    - ♦ If the reading is still outside the acceptable range, notify your supervisor or maintenance personnel. DO NOT proceed with spray coating operations
- Visually inspect coatings containers and equipment to ensure:
  - ◊ Proper bonding and grounding
  - ◊ Coating containers are covered with lids
  - ◊ Proper assembly of spray guns, lines, etc.
    - ♦ Reassemble any equipment that was disassembled by the previous work shift
- Turn on the air to mixing equipment and mix according to a pre-established schedule
- Turn on air to pump and spray equipment
- Bleed the spray line if product is prone to settling in the line
- If wood pieces are on conveying equipment, make sure 'all-is-clear' before starting the conveyor to ensure everyone's safety, even those outside the booth

Practical Tip:

Use a pre-printed start-up checklist for convenient record keeping . Sign and date it after each shift check is complete.

Spray Booth Filter Change-Out Procedure

1. Remove used filters from spray booth
2. Place in metal drum labeled "Used Filters"
3. Wet with water
4. Cover drum with metal lid
5. Remove from spray booth
6. Store drum outdoors in designated area
7. When full, seal drum and dispose in dumpster

Lacquer Dust Removal Procedure

1. Sweep floors in spray booth area at the end of each shift
2. Use straw broom to prevent static electricity & aluminum dustpan to prevent sparking
3. Place sweepings in metal pail and wet with water
4. Cover with metal lid
5. When full, seal and dispose of in dumpster
6. Rinse broom and dustpan with water before storing

Check out our next quarterly issue for a sample spray-booth shutdown procedure. For additional information regarding specific regulations and requirements, contact Rudd Company's Regulatory Manager, Kalyn Burmeister, at 1-800-444-7833 or kburmeister@ruddcompany.com.

Drop Down Puzzle

The Greek poet, Hesiod, provides a little bit of wisdom in this puzzle.

How to solve the puzzle:

Each letter appears above the column in which it belongs. All you need to do is figure out which row to drop each letter down to. Some words are continued on the following line.

For answers:

Visit our web site at www.ruddcompany.com.

A			E	A	I	C		A			A			H
E	B	A	G	D	T	N	A	D			D		L	I
I	F	A	L	I	T	O	H	E	D	L	H	A	L	I
T	T	E	N	M	U	T	H	E	N	O	I	O	T	L
T	T	L	Y	O	U	T	L	S	O	S	N	T	T	L
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■			■					■	■	■	■	■	■	■

Technical Tip - The Benefits of Thin Coats (Continued)

In contrast, multiple light coats can be applied easily by thinning or adjusting spray tips, pressures, and other techniques, depending on the type of spray equipment being used. A coat that is 3 to 4 wet mils is ideal for most coatings and yields the correct color, sheen, and application characteristics. This film will dry-through quickly, sand easily and can be repeated several times. This repetition of light coats plus sanding produces the same smooth film as the heavy coats, in the same amount of time, and is by far more resistant to all of the previously mentioned problems associated with heavy coat applications.

"Three to four wet mils is the ideal for most coatings..."

So remember, as a general rule multiple thin coats produce better results and prevent costly downtime spent dealing with lengthy and difficult repair situations related to heavy coat applications.

Calendar Highlights

Thursday & Friday, November 22nd & 23rd: Rudd Company will be closed for Thanksgiving. Freight companies will not deliver on Thursday or Friday.

Orders placed on Wednesday, Nov. 21st will be delivered the following Monday.

Monday & Tuesday December 24th & 25th: Rudd Company will be closed for Christmas. Freight companies will not deliver on Monday or Tuesday.

Orders placed on Friday, Dec. 21st will be delivered the following Wednesday.

Regular customer service hours are Monday - Friday 7:30 am - 5:00pm PDT

Orders may also be placed by e-mailing them to: onlineorders@ruddcompany.com

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Article Excerpt - Causes of color variation

There are many factors that affect staining color variations. The following is a list of some of these factors.

1.Size of the abrasive mineral particles [grit] - Different grit finishes will stain differently. Even if one is using the same type mineral on each grit belt, coloration will be different. Boards sanded with finer grit belts stain lighter than those sanded with coarser grit belts.

2. Different types of abrasive minerals - Different types of abrasive minerals will stain differently. The same grit belts of silicon carbide will stain differently than aluminum oxide or ceramic minerals. Silicon carbide will color the lightest, ceramic will color the darkest and aluminum oxide will color in between

3. Consistent depth of scratch - If the depth of the various scratches from belts with different grit minerals or different types of minerals varies, it will result in color variations within a given board. Sanding heads must be exactly parallel [no side to side variation], and the depth of cut of individual sanding heads must be consistent throughout the life of the abrasive belt.

4. Ratio of abrasive belt speed to feed speed - Changes in this ratio can affect finish. To maintain color consistency, run the abrasive belt speeds and feed speeds at the same rate if parts from multiple machines must color match.

5. Differential in sharpness of abrasive belts across the width and during their useful life due to wear - Not much can be done regarding this factor, but it is a contributor to the problem.

6. Plant humidity - Variations in plant humidity can cause staining color variations.

7. Wood moisture content - Variations in wood moisture content can cause staining color variations.

8. Difference in type of scratch produced Straight line vs. cross grain or random orbit scratch.

9. Not removing previous grit scratches - If your removal rate is always consistent this should not be a factor. However, my personal experience shows that this is never the case. Removal rates continually change from hour to hour due to a multitude of reasons, resulting in variable scratches.

10.Fuzzy grain characteristics in the wood being sanded - Refer to previous article on “Fuzzy Finish” (Modern Woodworking, July, 2004)

ANY COMBINATION OF THE ABOVE FACTORS COMPOUNDS THE PROBLEM!

Article by Howard Grivna excerpted from Modern Woodworking magazine, October 2005.