

Working With Re-Claimed Wood (Part 2 of 2)

To Remove - or Not Remove - an Old Finish and Put on the New

Info in red font is for the benefit of the teacher (notes and ideas for differentiated learning etc). Delete text in red font from the copies that are distributed to students.

In a document / template that is intended to be "filled in" by students for assessment / evaluation purposes, the Version History table can be retained for students to use. Making an improved version is great learning.

Version History:

V #	Date	Author	Short Listing / Description of Changes
1	July 16/12	D.B. McCowan	Initial Version -- uploaded to OCTE Safety Portal
2			

REFER ALSO TO FILE 16.1_Old_Finishes_doc.

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1 Integrate New Knowledge with Old to Enable Informed Decision-Making

Note to Teacher Regarding the table below:

-Delete answers / feedback in red font prior to distribution to students – take up afterwards
 -This learning activity could be in the form of a quiz in an on-line learning management system such as Moodle. Moodle also has Discussion Forums for the short answer / class discussion questions.

There is some critical thinking involved in the following practice quiz... how do you protect yourself and others? You may find that a little more on-line or library research will be required in order to answer all of the questions. These questions relate to the matters of removing an old finish and applying a new one.

#	Question	Answer / Feedback
1	If you intend to use wood for your project, you should ensure that it was recently heat treated and properly stored because: a You don’t know where that wood has been b Wood boring insects may be inside it c It may be at too high a moisture content for good furniture assembly d All of the possible responses	d Strictly speaking, there are two independent issues in heat-treating lumber: 1--slowly kiln-drying the wood to about 7% water content 2--thoroughly soaking the entire mass of the wood to a minimum temperature for minimum length of time in order to kill all phases of insect life cycle (egg, larva,

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#	Question	Answer / Feedback
		<p>pupa, adult)</p> <p>The minimum standard for this heat sterilization (2) process is 133°F for 30 minutes. As long as there is a temperature gradient in the wood – keep heating. To be safe, 150°F for at least 4 hours is better.</p> <p>After heat sterilization, the wood must be surface finished and / or stored to prevent re-visiting by another generation of insects.</p>
2	Wood boring larvae can destroy the structural integrity of a wooden member, reducing its strength dramatically. (T/F)	<p>True</p> <p>Some beetle larva can bore undetected through a wooden beam for up to 3 or 4 years before it exits as an adult.</p>
3	Wear kitchen-type latex gloves when using a paint stripper. (T/F)	<p>False</p> <p>Read the MSDS for the stripper material. The gloves must be resistant to the chemicals in the stripper.</p>
4	<p>Using paint strippers is a thermally-driven chemical process. Which of the following statements is not true?</p> <p>a Energy is required for the paint-stripping process to work</p> <p>b The temperature of the room in which you are working with the paint stripper must be at least 20°C.</p> <p>c If stripping paint indoors, a fan should be used bring in fresh air from behind you and exhaust contaminated air away from you to the outdoors.</p> <p>d It is preferred to use a paint-stripper outdoors in warm weather</p> <p>e Smoking while working with a paint stripper could ignite flammable vapours from the paint stripper</p>	<p>b</p> <p>If the ambient temperature is too low, the chemical process of breaking the paint / wood bond will be slower. Follow the manufacturer's instructions on the container.</p>
5	<p>Power sanding is the least advisable way to strip a lot of paint and varnish because:</p> <p>a it can put sawdust into the air</p> <p>b it can put chemical powders into the air</p> <p>c it could put lead particles into the air if the paint is old</p> <p>d all of the possible responses</p>	<p>d</p> <p>Sanding by hand may be a best approach for a small wood surface as long as the workspace is very well ventilated and the worker wears gloves and a mask certified for use with organic chemicals.</p>
6	Paint and varnish removers cannot affect the human nervous system because the nervous system is so closely linked to the brain. (T/F)	<p>False</p> <p>A person who breathes too much varnish remover could become dizzy or unsteady or appear to be confused or even drunk. This person could even go into a coma.</p>
7	People with heart conditions are wise to use a methylene chloride-based paint stripper because it is a long-proven and well-established kind of stripper. (T/F)	<p>False</p> <p>Do not use a methylene chloride-based paint stripper if you have a heart, lung or blood condition.</p>
8	If your piece of 19 th century kitchen flooring is painted pine, you should suspect that the paint is lead-based because it is so old. (T/F)	<p>True</p> <p>Do not use a heat gun and do not use a power sander to remove the paint. A heat gun could vaporize the lead in the paint. Rapid spinning of a sander and blowing from a</p>

#	Question	Answer / Feedback
		heat gun can lift lead paint dust into the air.
9	If you have four small pieces of old painted pine flooring for your picture frame project you must not: a use a power sander to take off the paint b use a heat gun to melt / peel the paint c strip the paint indoors d all of the possible responses	d You should use a paint stripper outdoors and wear the appropriate chemical-resistant gloves and an approved well-maintained breathing mask that is certified for use with organic chemicals. Work for 10 minutes at a time. Take frequent breaks -- close your containers tightly, and walk away for a few minutes, keeping a close eye on your workstation. Contact the municipality to see how you must dispose of the paint / chemical residues.
10	The classic old finish for barns in rural Ontario was red oxide powder mixed in linseed oil. (T/F)	True This finish, more recently using a red oxide paint mixed with linseed oil, was also used to protect steel bridge girders immediately following the removal of rust.
11	Turpentine, typically extracted from pine trees, has been known to repel wood boring insects. (T/F)	True Mixing turpentine with linseed oil was an old finishing strategy for wood that was exposed to the elements.
12	If the varnish manufacturer does not specifically recommend, on the label, that it can be used to finish the wood surfaces of food handling utensils, they just forgot to mention it. Go ahead and use any varnish to finish your wooden salad bowl. (T/F)	False Labelling is very serious business. If the label does not recommend it, then don't use it for that purpose.
13	<i>Your work piece is old painted pine flooring. Your best option for stripping the paint is to use a methylene chloride-based paint stripper.</i> Do you agree or disagree with this statement? Explain your rationale for your position. Describe any conditions that you put on your position – for example what administrative controls should be imposed? Write 100 to 150 words in your answer.	Short answer / followed by discussion in class or in an on-line Discussion Forum such as Moodle

2 Assignment – Product Re-Finish – 100 Marks (Thinking & Comm'n)

For your re-claimed woodworking project you must write a *Product Re-Finishing Proposal*. In your proposal you must identify the finish that you would prefer to apply to your re-claimed wood product (both the compound type and the brand name). Justify your choice of finish and describe the relevant results that you want to achieve for your wood product. Identify the finish product part number, container volume, supplier address, and price. Write a six-step procedure for removing the old finish from your wood and otherwise preparing your wood for the new finish. Write a six-step procedure for applying the new finish. Include a materials and tools list with your prep-finishing procedure. Your parent / guardian must sign and date your proposal. Your overall Product Re-Finishing Proposal must be between 200 and 300 words in length. Include the applicable WHMIS symbols in your proposal.

Your proposal will be graded against Written_Report_Rubric.doc. (100 marks)

3 Safety Reminder

During wood re-finishing work, maintain good forced local ventilation, wear the recommended chemical-resistant gloves and wear a tight-fitting breathing mask that is certified for use with organic chemicals.

4 Peer Assessment

NOTE: In the feedback, the Peer Assessor must “make the student think” – not give the student the answer! Be sure to include comments justifying the assessment value that you are giving. Peer Assessor must put his / her comments in **red** font. Hand in both your version 1 with peer comments and your improved version 2.

Assessor’s Name and Additional Notes: