

# The What, How, and Why of Sustainable Floor Care

# Building A Successful Floor Program ... <sup>2</sup>



The What ...

# OF SUSTAINABLE FLOOR CARE

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“EVS Departments are being presented with green and sustainability standards that are affecting both product selection and product usage. They state, however, that they are not willing to sacrifice efficacy to achieve a green product profile. In every instance, respondents chose efficacy over every other factor.”

# A Sustainable Floor Care Program Just Isn't Worth It If ...

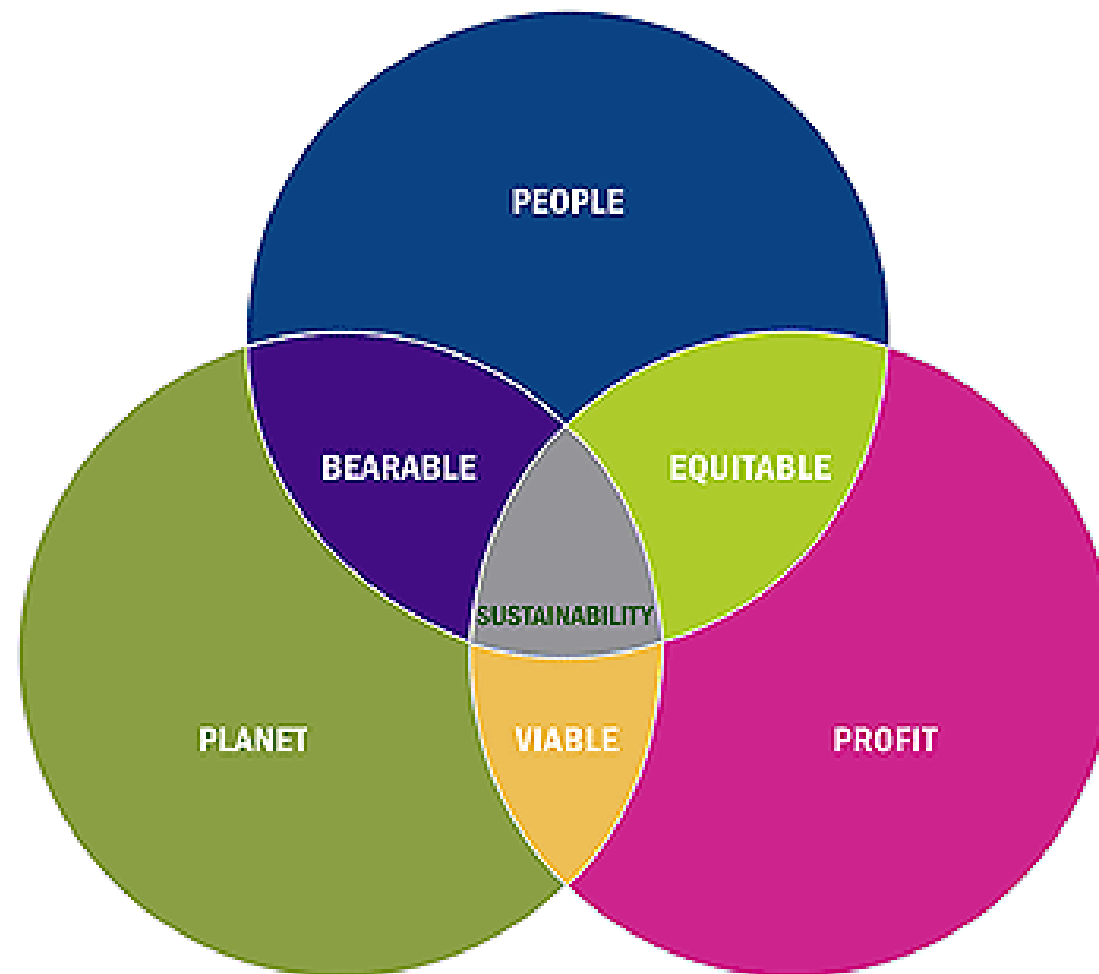
- ▲ The products or procedures cause other problems.
- ▲ The effort compromises customer service or patient / resident care.
- ▲ The expense means cutting other crucial positions or services.

Green  Sustainable



# Sustainability

Good for people, the environment and business?



# Working Definition Of Sustainable Floor Care

A combination of products, processes, and people that consistently produces a clean, healthy and attractive floor with minimal impact to the environment and public health.





The How ....

# OF SUSTAINABLE FLOOR CARE

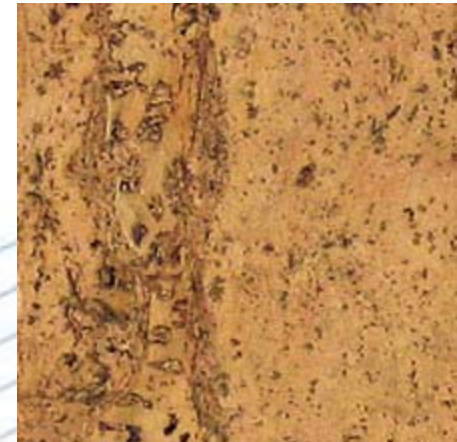
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# Substrates – Not just Vinyl Composite Tile

Factors you may not be able to control

- What is it made of?
- Where does the material come from?
- How difficult / hazardous is it to install?
- How long will it last?
- What products and procedures are required?



# Conventional Floor Finish

The most common type of finish on the market

- Formulated for resilient flooring (VCT/sheet vinyl)
- Some can also be used on Terrazzo or concrete
- Some products labeled as “green”
- Requires multiple coats
- Requires interim and restorative maintenance
- Typically made from acrylate polymers
- Typically zinc-crosslinked for wear performance
- Sometimes blended with urethane for wear performance
- Available in glossy and matte versions



# Alternative Floor Finish Technologies

Hybrids – newest category on the market

- Formulated for VCT, sheet vinyl, Terrazzo or concrete
- Requires multiple coats
- Typically applied by microfiber flatmop or string mop
- Two-part system that must be mixed
- Requires minimal maintenance
- High alcohol hand sanitizer/quat disinfectant resistance
- Combines conventional / ultradurable polymer technologies
- Available in glossy and matte versions



# Alternative Floor Finish Technologies<sup>13</sup>

## Ultradurables

- Typically multi-part systems that must be mixed
- Typically requires one coat
- Typically applied by a roller
- Requires minimal maintenance
- High alcohol hand sanitizer/quat disinfectant resistance
- Typically isocyanate-crosslinked urethanes
- Typically very high gloss





# Alternative Floor Finish Technologies

## UV Curables

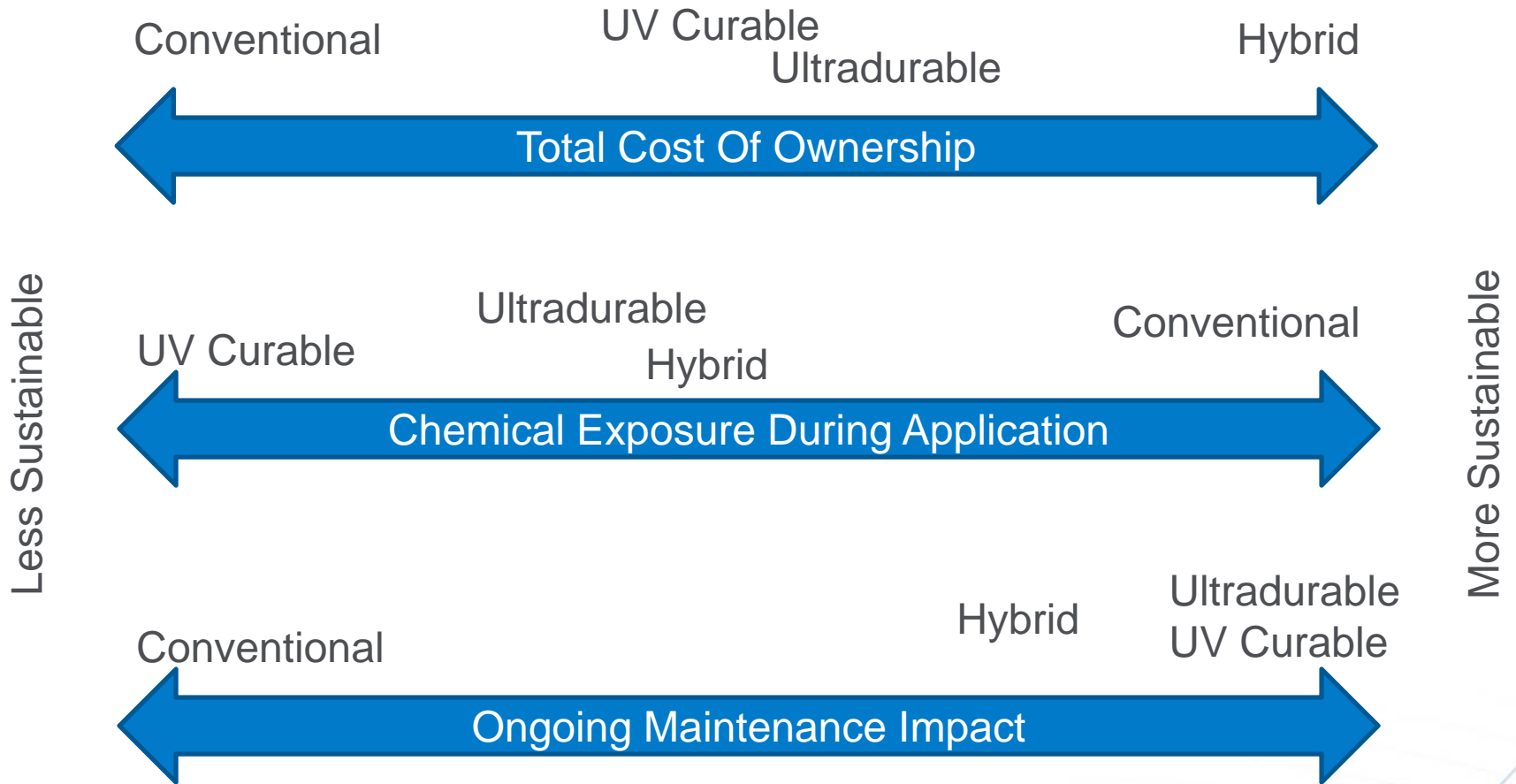
- Often multi-part systems that must be mixed
- Typically requires one coat
- Typically applied by a roller
- Requires minimal maintenance
- High alcohol hand sanitizer/quat disinfectant resistance
- Dries almost instantly after exposure to UV light unit
- Typically very high gloss



# Which Finish Type Is Right For You?

	Typical Install Time	Install Waste	Maintenance	VOC Content	Potential Exposure / Environmental Concerns
<b>Conventional</b>	3 hours	Depends – contained in the mop	Medium - High	Depends	<ul style="list-style-type: none"> <li>•Zinc</li> <li>•Styrene</li> </ul>
<b>Hybrid</b>	2 hours	Depends – Unused product	Minimal	Depends – often zero	<ul style="list-style-type: none"> <li>•Unreacted isocyanate</li> </ul>
<b>Ultradurable</b>	6-8 hours	Depends - Unused product	Minimal	Depends – often zero	<ul style="list-style-type: none"> <li>•Unreacted isocyanate</li> </ul>
<b>UV Curable</b>	< 1 hour	Potentially hazardous waste disposal  Depends – Unused product	Minimal	Depends – often zero	<ul style="list-style-type: none"> <li>•High level of skin sensitizers</li> <li>•UV light</li> <li>•Ozone produced</li> </ul>

# Is My Floor Finish Sustainable? It's All Relative





# The Finish Is Applied – Now What?

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## Daily Maintenance

- Cleaning
- Placement of walk-off mats

## Interim Maintenance

- Deeper cleaning
- Burnishing

## Restorative Maintenance

- Scrub and Recoat
- Strip and Refinish



# Daily Maintenance Cleaning

- Is the product sold as a concentrate or RTU?
- How well does the product actually clean?
- Are there any exposure concerns?
  - VOC level
  - Product pH
  - Potentially hazardous ingredients
  - Any PPE required
  - Consult the MSDS
- How much packaging waste is there?
  - Can it be recycled?
  - How often do you throw away the empty bottle?
- Are there any hazardous waste / disposal concerns?



# Interim Maintenance Deeper Cleaning

- Can I avoid restorative steps by doing a deeper clean?
- Do I need additional (e.g. stronger) products?
- Are there any exposure concerns?
  - VOC level
  - Product pH
  - Potentially hazardous ingredients
  - Any PPE required
  - Consult the MSDS
- How much packaging waste is there?
  - Can it be recycled?
  - How often do you throw away the empty bottle?
- Are there any hazardous waste / disposal concerns?



# Interim Maintenance Burnishing

Buffing the floor - removes some dirt and marks, improves the shine

- How often do I really need to do this?
  - Choice of floor finish has a huge impact
  - How shiny do I want my floor to look?
- Do I use an electric or a propane unit?
  - Electric – more quiet, less expensive, better for smaller areas
  - Propane – stronger, better for larger areas



# Restorative Maintenance

## Scrub and Recoat

Removal of the top couple of layers of finish, followed by reapplying 2-3 coats of fresh finish.



- How often do I really need to do this?
  - Choice of floor finish has a huge impact
  - How shiny do I want my floor to look?
- Do I use a chemical or mechanical removal method?
  - If chemical ...
    - Do I need additional (e.g. stronger) products?
    - Are there any hazardous waste / disposal concerns?
    - Consult the MSDS
  - If mechanical ...
    - Am I creating any dust that needs to be cleaned up?

# Restorative Maintenance

## Strip And Refinish

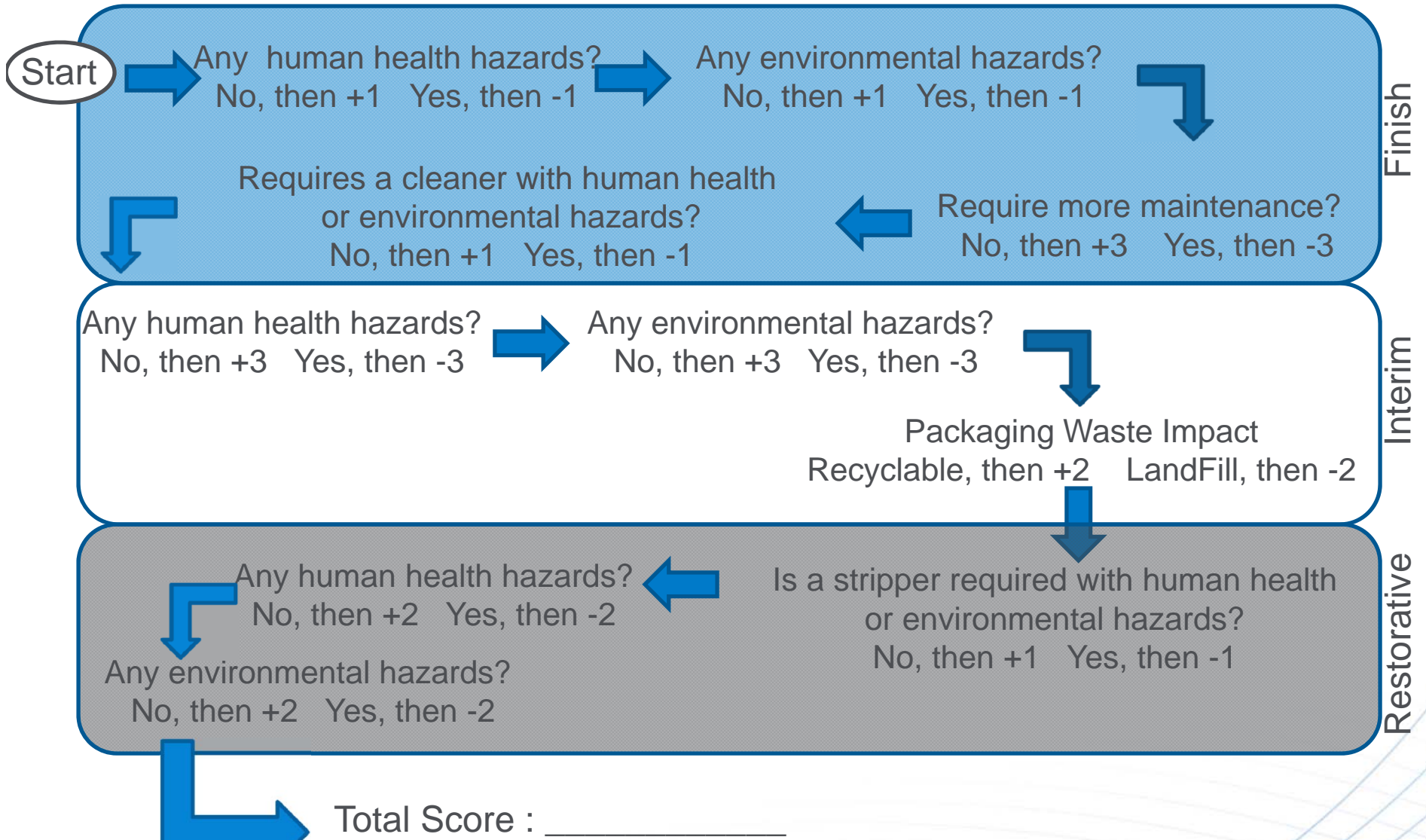
“The Worst Job in Floor Care”

- How often do I really need to do this?
  - Choice of floor finish has a huge impact
  - How shiny do I want my floor to look?
- Do I use a chemical or mechanical removal method?
  - If chemical ...
    - Are there any exposure concerns?
    - VOC level
    - Product pH
    - Potentially hazardous ingredients
    - Any PPE required
    - Consult the MSDS
  - If mechanical ...
    - Am I creating any dust that needs to be cleaned up?
    - Is my new finish impacted by the finish left on the floor?





# Now It's Time To Build The Program



# Program Scenario

## Change the floor finish and alkaline cleaner

### Current Program

- Standard high maintenance floor finish
- Standard alkaline floor cleaner, with periodic disinfectant cleaner
- Burnish every 2 weeks
- Scrub and recoat every 6 months
- Strip and refinish every 12 months

### New Program Proposal

- Zinc-free, CARB VOC compliant, low maintenance floor finish
- CARB VOC compliant alkaline floor cleaner, with periodic disinfectant cleaner
- Burnish every 4 weeks
- Scrub and recoat every 12 months
- Strip and refinish every 24 months



# Comparison Scorecard

		Current Program		New Program	
Floor Finish	Health Hazards	Non-compliant VOC level	-1	CARB Compliant	+1
	Environmental Hazards	Zinc containing	-1	Zinc free	+1
	More Maintenance	Standard program	0	Half the maintenance needed	+3
	Hazards from Cleaner	Non-compliant VOC level	-1	CARB Compliant	+1
Interim Maintenance	Health Hazards from floor finish	Non-compliant VOC level	-1	CARB Compliant	+1
	Environmental Hazards from floor finish	Zinc containing	-1	Zinc free	+1
	Packaging Waste	Landfill	-2	Landfill	-2
Restorative	Health/Environmental Hazards from stripper	High VOC solvent level / high pH	-1	High VOC solvent level / high pH	-1
	Health Hazards from floor finish	Non-compliant VOC level	-1	CARB Compliant	+1
	Environmental Hazards from floor finish	Zinc containing	-1	Zinc free	+1
Total Score		-10		+7	

The Why....

# OF SUSTAINABLE FLOOR CARE

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So, is it really worth it??

# Employee Benefit

## Reduced Chemical Exposure

- Less chemical reduces opportunity for odor complaints
- Using low or no-VOC products reduces potential inhalation hazards

## Higher Productivity – Higher Value

- Reducing maintenance frequency makes rooms available for use
- Reducing time spent on routine maintenance allows me to focus on key problem areas in my facility

# Customer / Patient Benefit

## Reduced chemical exposure

- Less chemical reduces potential for odor-related issues
- Using low or no-VOC products reduces potential inhalation hazards

## Better Experience

- Reduced stress and discomfort caused by their room conditions
- Reduced equipment noise
- Reduced hassle of moving people, equipment, furnishings



# Environmental Benefit

## Lower energy usage

- Reducing burnish and strip frequency lowers energy usage
- Reducing scrub and strip frequency uses less water

## Less harmful waste

- Using zinc-free floor finish reduces impact to aquatic life
- Using lower pH strippers reduces water treatment requirements
- Reducing stripping frequency means less chemical down the drain
- Reducing product usage means less plastic discarded

# Financial Benefit – Case Study

Proposal – switching to a different floor finish that reduces maintenance (less burnishing, less scrub and recoat, less strip and refinish)

Annual Program / 400 sq ft hospital room	Product A (buy at \$20/gal)	Product B (buy at \$30/gal)
Product Use - Cost (floor finish and stripper)	\$54.33	\$39.00
Current burnish labor cost – every 2 wk	\$15.50	
Proposed burnish labor cost – every 4 wk		\$7.75
Current scrub/recoat labor cost – every 6 mo.	\$15.50	
Proposed scrub/recoat labor cost – every 12 mo.		\$7.75
Current strip/refinish labor cost – every 6 mo.	\$25.50	
Proposed strip/refinish labor cost – every 12 mo.		\$12.75
<b>Total Program Cost</b>	<b>\$110.83</b>	<b>\$67.25</b>

So, is it really worth it??



# References

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2. AHE Annual Survey 2012, Ulrich Research Services, 4/1/2012
3. Sustainability Roadmap for Hospitals, AHA, 2010  
<http://www.sustainabilityroadmap.org/>