

September 21, 2022

Living Building Challenge 4.0 (LBC) Requirements for Vinyl Finishing Products

Before defining the requirements for vinyl-based finishing products, let's quickly review what the LBC is. "The Living Building Challenge (LBC) is a certification program, advocacy tool, and philosophy defining the most advanced measure of sustainability in the built environment today. As a certification program, it addresses all buildings at all scales and is an inclusive tool for transformative design. Whether the project is a single building, a renovation, an infrastructure project, or a park, the Living Building Challenge (LBC) provides a framework for design, construction, and improvement of the symbiotic relationships between people and all aspects of the built and natural environment."¹ The goal is for construction projects to move beyond being "less bad" for the environment to become truly regenerative.

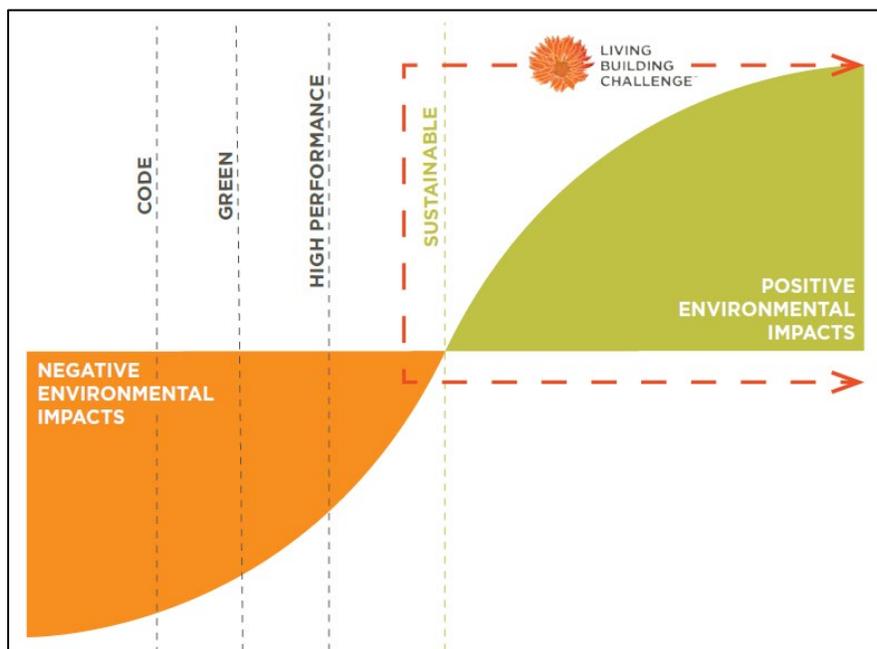


Figure 1: Living Building Challenge (SM) 4.0

"The Living Building Challenge consists of seven performance categories, or 'Petals': Place, Water, Energy, Health & Happiness, Materials, Equity and Beauty. Each Petal is subdivided into Imperatives, for a total of twenty Imperatives in the Challenge."¹ Within the Materials Petal, we find Imperative #13 which is the **Red List** and this is where we begin to see how vinyl based finishing products are influenced by the LBC. The LBC version 4.0 states that "all projects must avoid the following Red List chemical classes in 90% of the project's new materials by cost. In situ materials do not need to be removed or vetted for Red List chemical classes."¹

¹ Living Building Challenge 4.0 dated June 2019 and the Petal Handbook, July 2022

Red List Chemicals

1. Antimicrobials (marketed with a health claim)
2. Alkylphenols and related compounds
3. Asbestos compounds
4. Bisphenol A (BPA) and structural analogues
5. California-banned solvents
6. Chlorinated Polymers, including:
 - a. Chlorinated polyethylene (CPE)
 - b. Chlorinated polyvinyl chloride (CPVC)
 - c. Chloroprene (neoprene monomer)
 - d. Chlorosulfonated polyethylene (CSPE)
 - e. Polyvinylidene chloride (PVDC)
 - f. **Polyvinyl chloride (PVC)**
7. Chlorobenzenes
8. Chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs)
9. Formaldehyde (added)
10. Monomeric, polymeric, and organophosphate halogenated flame retardants (HFRs)
11. Organotin Compounds
12. Perfluorinated and Polyfluorinated Alkyl Substances (PFAS) / Perfluorinated Compounds (PFCs)
13. Phthalates (orthophthalates)
14. Polychlorinated biphenyls (PCBs)
15. Polycyclic aromatic hydrocarbons (PAHs)
16. Short-chain and medium-chain chlorinated paraffins
17. Toxic heavy metals:
 - a. Arsenic
 - b. Cadmium
 - c. Chromium
 - d. Lead (added)
 - e. Mercury
18. Volatile organic compounds (VOCs) in wet- applied products
19. Wood Treatments containing creosote or pentachlorophenol

Currently, all ClarkDietrich vinyl-based finishing products include PVC, which is number 6.f on the Red List above, so these products will **NOT** qualify for use under LBC 4.0.

Best Regards,

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