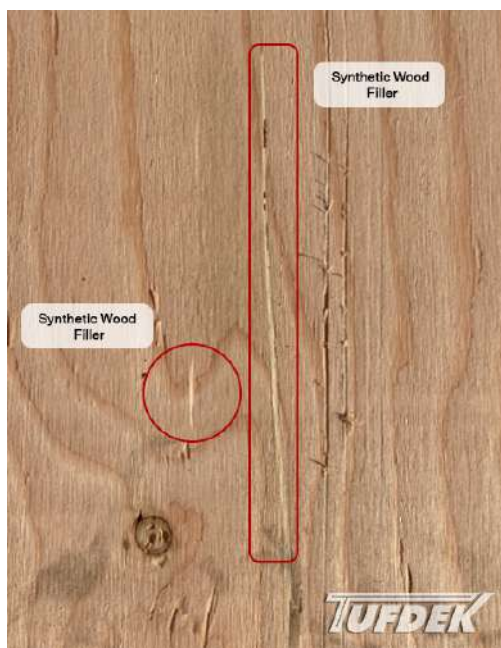


TECHNICAL

WATERPROOFING

ADDRESSING PLASTICIZER DEPLETION AND DISCOLORIZATION IN VINYL MEMBRANES DUE TO SYNTHETIC FILLER PLUGS IN PLYWOOD

Plasticizer depletion in vinyl membranes can stem from the presence of synthetic filler plugs in plywood, particularly in G1S and G2S variants. This technical bulletin aims to explore the implications of these filler plugs and the potential for discoloration along with providing guidance on mitigating these issues to ensure the longevity and aesthetic appeal of the vinyl membrane.



Synthetic Filler Plugs and Their Impact on Vinyl Membranes

Synthetic filler plugs, often utilized in the plywood manufacturing processes to achieve a smoother surface can inadvertently cause discoloration in vinyl membranes. These plugs, composed of various synthetic materials, may contain elements that react adversely with the vinyl membrane, resulting in the stripping of the Plasticizers and whitening the vinyl surface creating unsightly appearances in the membrane. The following issues may arise:

1. **Discoloration:** Synthetic filler plugs, when in contact with the vinyl membrane, might trigger chemical reactions and Plasticizer degradation leading to discoloration, compromising the appearance of the surface.
2. **Adverse Chemical Interaction:** Certain constituents within these plugs might react with components of the vinyl membrane or adhesives, potentially affecting their integrity and durability.

Issues arising from improper substrates, improper slope, substrate movement, deflection, synthetic filler plugs or plywood knots etc. are excluded from the Tuff warranty. Please refer to the written warranty for further information. The manufacturer or supplier of products not supplied by Tuff are responsible for assuring the compatibility and correctness for their use with Tuff PVC Membranes.

Preventing Plasticizer Migration, Discoloration and Staining in Vinyl Membranes

To mitigate Plasticizer degradation and discoloration in vinyl membranes caused by synthetic filler plugs in plywood, consider implementing the following preventive measures:

- 1. Use the proper substrate:** Plywood fillers are becoming more prevalent and show up in substrates not recommended by Tuff Industries. When selecting wooden substrate materials, choose a Tuff Industries recommended substrate of either Tolko T-Ply Easy T&G, or Select Tight Face (SEL TF) T&G Douglas Fir. (See Tuff Plywood recommendations)
- 2. Removal:** Any synthetic filler material must be removed prior to installing Tuff vinyl membranes and the voids filled with Tuff Industries deck patch.
- 3. Sealant Application:** If removal of synthetic filler material is not an option, then they must be covered with Tuff Deck Patch and two coats of Zinsser Bin Shellac Based Primer Sealer.



Conclusion

The presence of synthetic filler plugs in G1S and G2S plywood poses a risk of Plasticizer depletion, discoloration and or staining in vinyl membranes. However, by diligently inspecting materials, employing suitable sealants, and selecting compatible plywood, the likelihood of these issues can be minimized. Ensuring compatibility between materials and proactive measures during installation are pivotal in preserving the visual appeal and durability of vinyl-covered surfaces.

Please note that while efforts can be made to minimize staining risks, ultimate responsibility for material selection and installation lies with the installer or contractor. Proper assessment and selection of plywood without synthetic filler plugs are vital to preventing potential issues in vinyl membranes.

Installers proceed with the expectation that all elements of the building and / or deck are constructed to meet the building code and that if you choose another contractor to build, remodel or prepare the substrate, it complies to Tuff's substrate recommendations.

The responsibility for the substrate used during installation lies with the vinyl installation contractor and not Tuff Industries. If decks exhibit appearance degradation due to improper or poorly prepared substrates, it is solely the responsibility of the installation contractor. Proper substrate preparation and material selection are crucial in maintaining the quality and longevity of vinyl membrane decks. Tuff Industries is not accountable for any issues arising from substrate-related matters.