

GNDEC

SCHOOL OF ARCHITECTURE

SUB :- BUILDING MATERIAL
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TOPIC :- CORK SHEET AS FLOOR COVERING
MATERIAL.

SUBMITTED TO:
Prof. SUKHWINER SINGH

SUBMITTED BY –
SANJANA PANDIT(2299016)
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CORK SHEET



Cork is an impermeable buoyant material. It is the phellem layer of bark tissue which is harvested for commercial use primarily from Quercus suber (the cork oak), which is native to southwest Europe and northwest Africa. Cork is composed of suberin, a hydrophobic substance. Because of its impermeable, buoyant, elastic, and fire retardant properties, it is used in a variety of products, the most common of which is wine stoppers.

CONSTITUENTS

Cork composition varies depending on geographic origin, climate and soil conditions, genetic origin, tree dimensions, age (virgin or reproduction), and growth conditions. However, in general, cork is made up of suberin (average of about 40%), lignin (22%), polysaccharides (cellulose and hemicellulose) (18%), extractables (15%) and others.

PHYSICAL PROPERTIES OF CORK

- The unique structure described above gives cork a number of physical properties that are hard to find together in other materials...
- **Low heat transfer**
 - Cells in cork are small and closed to eliminate convection. The gas enclosed in its cells also has low thermal conductivity. As a result, it's very hard for heat to pass through. The same qualities make it highly resistant to fires too.
- **Impermeability**
 - Cork is practically impermeable for liquids, thanks to its hexagonal air-filled cell walls which are bolstered by suberin. In simple terms, that means water can't pass through, making it ideal for waterproofing.
- **Low density**
 - Because its cells are hollow, the majority of cork is made up of air. That also adds buoyancy to the physical properties of cork. It also makes cork impressively flexible, as it can be compressed without losing its original shape.
- **Durability**
 - Despite being lightweight and low-density, cork is still durable and hard-wearing. Thanks to the inclusion of lignin in its chemical composition, the material is naturally long-lasting and strong. Its flexibility also means it won't incur long-term damage from impact or compression.
- **Acoustic properties**
 - Because it's non-dense and porous, cork is also great at absorbing sound. This natural physical property prevents sound from passing through anything that is lined with cork.

USES

- Cork sheets are used for a variety of purposes, including¹²³: Making bulletin boards
- Making floor and wall tiles
- Making fishing floats and buoys
- Making handles for fishing rods
- Mounting to substrates (including wall board, Gypsum, plywood and Masonite)
- Used as a wall covering and tacking surface
- Used for thermal and sound abatement benefits
- Making ruler backing



PROCESS OF LAYING



Old Floor Removal:

Begin by removing your old flooring. Make sure the subfloor is clean and free from debris.

Subfloor Inspection:

Inspect the subfloor thoroughly. Look for any imperfections, unevenness, or damage.

If you're installing cork on a new subfloor, ensure it's properly prepared.

Preparation:

Prepare the subfloor surface for installation. This may involve sanding, leveling, or applying a moisture barrier.

If you're using glue-down cork tiles, choose an appropriate adhesive (such as mastic or water-based contact adhesive).

Apply the adhesive to both the subfloor and the bottom of the cork tile. Once dry, place the tiles in position

Installation:

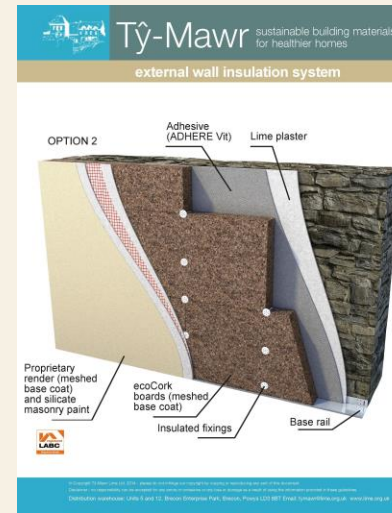
- For vinyl-clad cork tiles (which are usually click-lock), follow these steps:
 - Start in a corner of the room.
 - Lay the first row of tiles, ensuring they interlock securely.
 - Continue adding rows, staggering the joints for stability.
 - Use a tapping block and rubber mallet to ensure tight connections.
 - Trim tiles as needed to fit the edges of the room.
 - Leave a small gap around the perimeter for expansion.
 - Install baseboards or trim to cover the gaps¹.

Finishing Touches:

- Once all tiles are in place, inspect for any visible seams or gaps.
- Clean the floor thoroughly to remove any adhesive residue.
- Enjoy your new cork floor!

BENEFITS

- **Highly sustainable:** Made from the bark of Portuguese Oak trees.
- **Multiple style options:** Choose natural cork, vinyl-clad cork, or urethane-topped cork.
- **Natural insulation:** Absorbs vibrations and sounds, making floors quieter.
- **Easy on the wallet:** Extremely affordable and fits most budgets.





Thank You!