COMMON CARPET TILE MATERIALS

<table>
<thead>
<tr>
<th>Face</th>
<th>Backing</th>
<th>Installation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nylon - 43%</td>
<td>Vinyl &amp; Polyurethane</td>
<td>Adhesive</td>
</tr>
<tr>
<td>Polyester - 41%</td>
<td>Polyester</td>
<td>Tecos</td>
</tr>
<tr>
<td>Polypropylene - 12%</td>
<td>Recycled plastic</td>
<td>Vizcino</td>
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<tr>
<td>Wool - 2%</td>
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SELECTION CONSIDERATIONS

Target populations
Types of inhabitants will affect choice; office workers are susceptible to indoor air quality, while toddlers will touch the fiber surface much more.

Lack of clarity
Carpet manufacturers often make health certification claims that are difficult to check against each other for efficacy; many materials are noted as proprietary on product declarations.

Health priorities
Designers must judge whether the sound, thermal, and aesthetic benefits of carpet products are worth potential risks in terms of indoor air quality and downstream environmental effects.

Petrochemical reliance
Most carpet products are solely dependent on petrochemical materials, with more natural materials like wool having less market presence.

SELECTED PRODUCTS

POPULATION FOCUS: OFFICE WORKERS, PRODUCT FOCUS: MODULAR CARPET TILES

Interface
CQuestBioX Tile
Pros: More recycled materials, carbon-negative backing; less petrochemicals
Cons: Adhesive installation

Bentley Mills
AFFIXX Tile
Pros: Velcro installation allows continuous replacement and lower VOCs
Cons: All layers utilize petrochemicals

Mohawk
Creative Spark Tile
Pros: Recycled nylon fibers, comprehensive recycling program
Cons: Adhesive installation, petrochemical layers

MATERIAL HEALTH CONSIDERATIONS

Manufacturing Hazards
- Plastics manufacturing emissions and VOCs
- Substantial thermal energy required
- Recycling process requires substantial energy

Occupancy Hazards
- VOCs and off-gassing after installation and during installation
- Stain and flammability treatments can contain risky chemicals
- Frequency of maintenance needed affects lifespans

Installation
- Tiled installation
  - Prefer carpet tacks and fasteners in lieu of glue adhesives (risk of VOCs)
  - Bond strength affects wear and tear over time

End of Life
- Most manufacturers offer take-back recycling programs, but efficacy is lacking
- Most carpet ends up in landfills
- Recycled carpet often ends up downcycled into simpler products