

INDENTATIONS IN VINYL FLOORING

Choosing the Right Flooring for the Environment

Minimizing the risk of indentations in vinyl flooring starts with **selecting the appropriate product for the intended use**. Different vinyl products are designed to handle varying levels of foot traffic, furniture weight, rolling loads and indentation. In high-traffic or heavy-use environments—such as schools, hospitals, offices, and healthcare facilities—it is critical to:

- Select vinyl flooring that is specifically tested and rated for indentation resistance.
- Review the manufacturer's Technical Data Sheet (TDS) to confirm compatibility with the expected load and traffic.
- Use furniture glides, wider equipment wheels, or alternative caster types to distribute weight more evenly across the floor surface.

Even durable vinyl can fail when placed in the wrong environment or under inappropriate stress. Understanding where and how to use each product is key to long-term performance.

The Role of Adhesives and Installation Practices

Indentation issues are often linked to improper adhesive selection or application.

To reduce risks:

- Always use an **adhesive recommended by the vinyl flooring manufacturer**.
- Follow the specified **trowel size and spread rate** precisely. Using the wrong trowel, applying too much or too little adhesive, or allowing it to dry out can cause adhesive displacement, leading to soft spots under the flooring.
- **Use appropriate floor preparation materials**. Overwatering or under-watering patch or leveling compounds can weaken the substrate, making it more prone to compression and indentation.
- Immediately after installation, rolling loads on soft adhesive can leave visible impressions, especially on sheet vinyl, which has welded seams and is less breathable.



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Environmental and Substrate Considerations

Indentation can also result from site conditions, particularly moisture in the concrete subfloor. Excess moisture can:

- Soften water-based adhesives, reducing bond strength.
- Allow the adhesive to become tacky under pressure, enabling equipment wheels to leave track-like marks.
- Increase the flooring's vulnerability to compression, especially with welded sheet goods that trap moisture beneath the surface.

Ensuring the substrate is dry, flat, and stable is essential for indentation resistance. Soft, weak, or improperly cured substrates can collapse under pressure, deforming both the adhesive layer and the flooring above it.

Understanding Load and Pressure Distribution

Even with proper flooring and adhesive selection, excessive weight concentrated over a small area can cause permanent indentations. For example:

- A hospital bed with a heavy patient can exert more than 900 pounds of pressure, especially if equipped with narrow, hard wheels.
- Replacing such wheels with larger, wider casters can help distribute the load more evenly and reduce the risk of denting the vinyl.
- The same principle applies to furniture legs: larger surface area on chair or table feet results in less pressure per square inch, helping to avoid surface compression.

Most commercial vinyl floors are rated for compressive loads between 125 and 250 PSI. Exceeding that threshold—whether by concentrated load or inappropriate flooring choice—will likely result in surface deformation.



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Summary

Vinyl flooring indentation is a multifactorial issue tied to:

- The **type of vinyl selected**
- The **correct use and application of adhesives**
- **Substrate conditions** including moisture and surface prep
- The **nature of furnishings or equipment**, including their design and pressure points

No vinyl product is completely immune to indentation. But with thoughtful product selection, proper installation techniques, and attention to site-specific factors, the risk can be greatly reduced.

Note:

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