

Design Rationale

Team *It's a Wrap!*
48Hr Repack



The cement pail has remained unchanged for years. Despite its portability and weather protection, the standard 20 liter cement pail is difficult to palletize, prone to slippage, and dangerous for customers. It is time for a change.

We created Honeycomb, a reimagined cement and grout packaging solution that maximizes comfort, stacking, and palletization efficiency.

Our design uses a hexagonal prism shape to optimize efficiency while still keeping the positive qualities of the original cylindrical pail. After testing different shapes, we found that the hexagon optimizes space and strength in palletization with a strong tile structure while minimizing the material used compared to other designs. On a standard 40" by 48" shipping pallet, the average 20L cement pail can only fit 12 pails in one level of the pallet and 36 total pails across 3 levels. In comparison, 16 Honeycomb pails can fit in one level of a standard pallet with 3 total levels, resulting in 48 total pails in a single pallet.

Our group had no prior experience using powdery cement and grout, so we struggled to understand the pain points of the original target audience. We started our design process by conducting an ethnographic study of the intended user group, which includes employees at mainstream hardware shops, construction workers, and homeowners. After speaking with these groups, we realized that ease of access, back pain, and stackability were key issues with the current pail design. To address these concerns, the Honeycomb stacks easily so that the bottom side of the pail interlocks with the top lid of another pail. This mechanism ensures the containers are secured on shelves and during shipping. Handles on opposite and diagonal corners allow customers to access the pails safely on high or low shelves and prevents slippage accidents and back pain. Not only that, but the handles are integrated into the container itself to alleviate any strap or handles from digging into the users' hands and provide a comfortable grip.

Made entirely from 100% recycled polyethylene, Honeycomb is easy to manufacture and recycle. Built-in clear panels on the packaging improves the consumer trust and allows them to verify the quality of the product. With its user-friendly, efficient design and eye-catching graphics, Honeycomb will undoubtedly cement itself in the construction industry!

