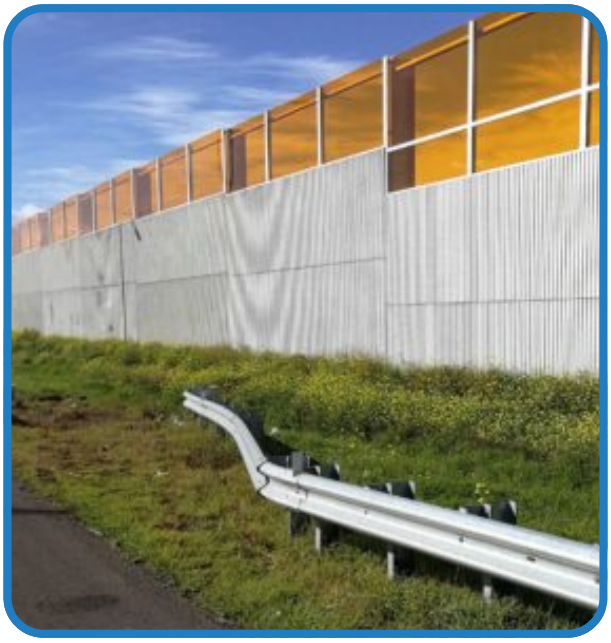
Encapsulating Noise Reduction Inside Rotomolded Panels

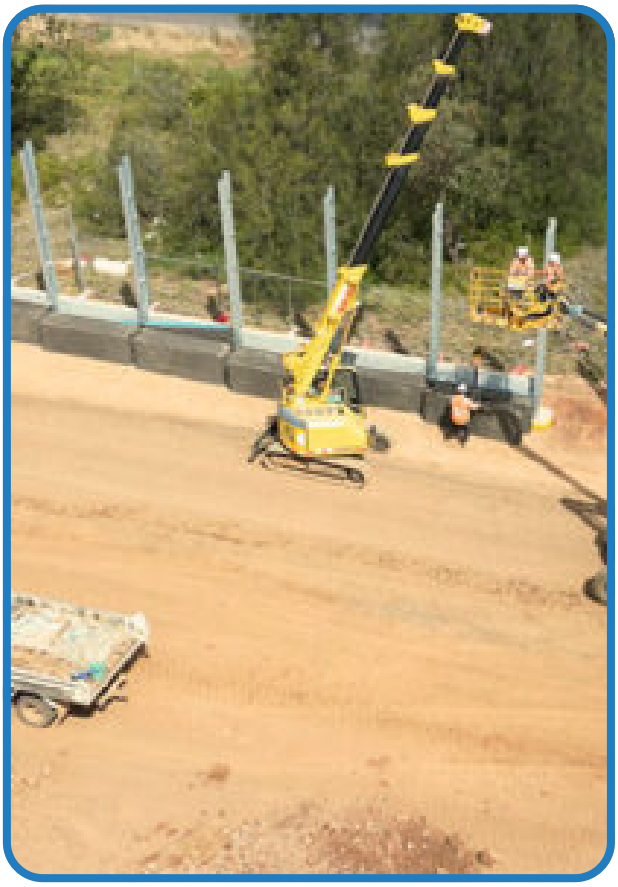
INTRODUCTION

When a manufacturer developing advanced noise barrier panels needed a way to integrate sound-reducing material inside a durable plastic structure, they turned to CPI Products. The goal was to create a rotationally molded panel that could fully encase the material while maintaining structural strength and consistent production quality. Working closely with the client's design team, CPI helped engineer a solution that allowed the internal sound-reducing material to be integrated directly into the molding process.



CHALLENGE

The design required the sound-reducing material to be fully encapsulated within the molded plastic panel. However, during rotational molding, the material needed to remain precisely positioned inside the mold. If the material shifted or touched the mold walls, the plastic would not flow evenly around it. The challenge was to engineer a mold system that could keep the material balanced and suspended while allowing the plastic to properly surround it.



SOLUTION

Through careful engineering and multiple design considerations, the team created a mold system capable of keeping the material properly balanced and suspended within the cavity throughout the rotational molding process. This allowed the polyethylene material to flow evenly around the internal component, fully enclosing it within the finished panel.

Key elements of the solution included:

- Collaborative Engineering: CPI worked alongside the client's engineering team and the mold manufacturer to design a mold capable of supporting the internal material while maintaining proper plastic flow.
- Precision Mold Design: The mold was engineered to keep the sound-reducing material suspended in the correct position during the entire molding cycle.
- Expert Rotational Molding: CPI's experienced rotomolding team ensured the plastic material flowed evenly around the internal structure, producing a fully encapsulated panel with consistent wall thickness and durability.

By combining engineering expertise with advanced rotational molding capabilities, CPI successfully transformed a complex concept into a scalable manufacturing solution.

CONCLUSION

Through collaboration and engineering expertise, CPI successfully helped bring a complex panel design to life. The result is a durable molded product that integrates sound-reducing technology while maintaining the strength, consistency, and scalability required for large-scale production.

Ready to Get Molding?

Contact us at (414) 391-3830 · mmayorga@cpiproducts.com

cpiproducts.com