



Household Chemical

BENTONITE PERFORMANCE MINERALS

Scoopable Cat Litter

TricorBraun Helps Reduce Cost with New Package Design and Supply Chain Management. *From Stock to Strength.*

Bentonite Performance Minerals LLC (BPM), a subsidiary of Halliburton, recently came to TricorBraun with a tall order – they wanted to redesign their current cat litter package to develop a more robust bottle design with less material. [BPM](#) also wanted to lower costs, lower capital and simplify the supply chain. To some, a more robust design with less material may sound counterintuitive, but to the Design & Engineering team at TricorBraun, this is just the type of challenge that they welcome with open arms. The project management team recommended one custom mold with two interchangeable body blocks to accommodate two bottle sizes – in the short term, this would result in one of several cost saving ideas that the team would propose during the course of the project.

BPM, with more than 85 years of history in product innovation and a commitment to quality, produces sodium bentonite mined from the highest quality Wyoming reserves, which is used in scoopable cat litter. The design request was a 2-gallon (14-16 lbs. HDPE) and a 2.5-gallon (20-22 lbs. HDPE) bottle for

private label scoopable, flushable and clumpable cat litter. According to Jim Mabrey, Business Development & Sales Manager, BPM, “My biggest concern was how do you offer the smaller size, have the material compact and not have the bottle look under filled?”

TricorBraun conducted capacity and density testing for filling volume in addition to BPM conducting drop testing. Given BPM’s concern about the fill volume, if the average wall increased then how would the fill line look? The bottles are clear and the material compacts 10-15% but the offering needed to meet the total within a 2 lb. range.

Because the two sizes needed to be part of the same mold, TricorBraun leveraged the expertise of their Mold Shop in Lake Elsinore, CA. The team was called in to build interchangeable body blocks to save on cost. It was really important that the split lines be barely visible. According to Shawn Viola, Director of Extrusion Blow Molding, “Big bottles are tough. With a lot of extruded plastic, there’s a lot of stretch, corners can become weak and break, so proper die ovalization is key while venting is also important so that air can escape and plastic can get into corners.”

Several opportunities were explored and developed by TricorBraun’s design team to improve the design from stock to a custom solution for a stronger bottle with less material. Ribs were added to the sides for strength along with a bottom grip for enhanced consumer experience. A chamfer or beveled surface was added to the corners for structure and visual appeal. Fitting the deco sleeve over the bottle was also extremely important.

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—Jim Mabrey, Business Development & Sales Manager, BPM

In addition to having the custom bottle design, BPM needed someone to line up vendors, coordinate the components, oversee the process

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and improve its costs. The company approached TricorBraun and challenged them on this front to improve costs and reduce freight. BPM ended up with savings on both the smaller bottle and reductions on several boxes that are now procured through TricorBraun.

TricorBraun Design & Engineering Group is a business unit of TricorBraun, one of North America's leading providers of rigid, corrugated and flexible packaging. Our team's primary mission is to design, engineer and manage the development, production and commercialization of custom packaging solutions for personal care, cosmetics, healthcare, food and beverage, industrial household chemical and animal health products. It is supported by TricorBraun's more than 40 offices globally, holding one of the largest inventories of rigid packaging components worldwide.

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