SUSTAINABLE
Supply Chain

High-Expanding Pillar Filler

IMPROVEMENT CASE STUDY: HIGH-EXPANDING PILLAR FILLER

Reduce CO_2 emissions at the supplier level by selecting high-expanding pumpable pillar filler. Henkel pumpable pillar filler can expand more than 500% while curing, which greatly reduces shipping volume in its uncured liquid state. Together with efficient drum packaging, this minimized shipping volume allows OEMs to reduce the number of required annual truck shipments – reducing their supply chain CO_2 emissions compared to injection- molded nylon baffles that ship at installed size.

CUSTOMER SITUATION

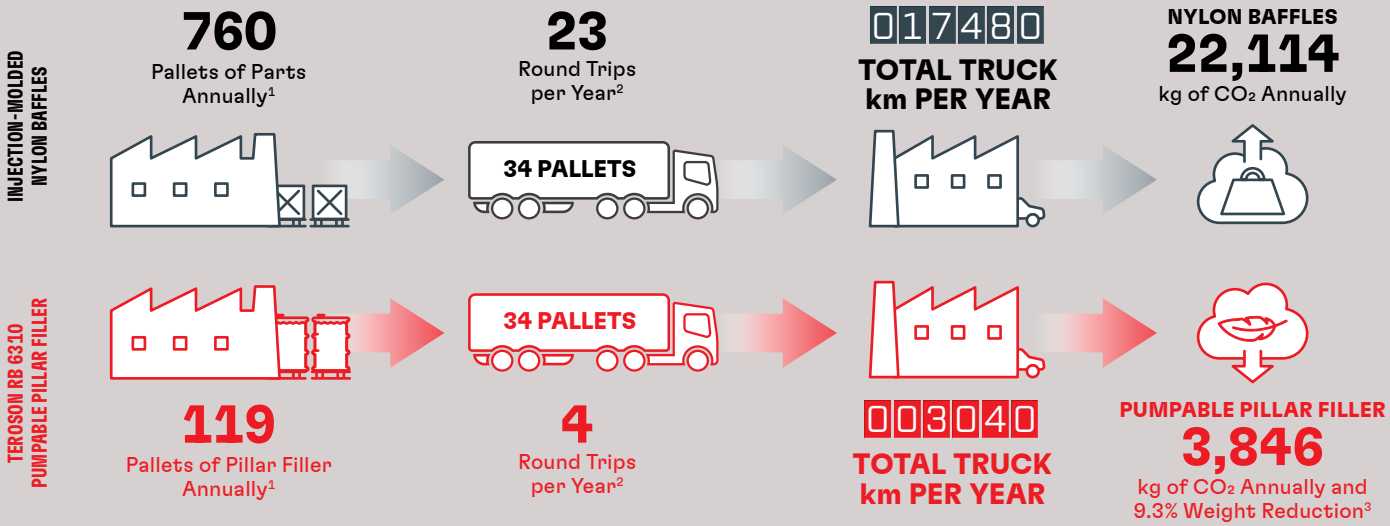
To progress toward their sustainability goals, a major OEM analyzed every aspect of their operations. As part of that analysis, they reached out to Henkel to assist in exploring ways to reduce CO2 emissions in the supply chain, ahead of their own integrated production operations.

RECOMMENDED SOLUTION

The Henkel Team identified TEROSON® Pumpable Pillar Filler as a route to reducing supply-chain CO2 emissions through shipping volume reduction and efficient packaging. High-expanding pumpable pillar filler packaged in drums vastly reduces cargo volume in comparison to injection-molded nylon baffles that ship at their actual finished size. Substituting just 15% of the total required baffles per car with TEROSON RB 6310 Pumpable Pillar Filler eliminated 19 delivery truck round trips annually. This reduced transportation emissions, fuel consumption, equipment costs, labor – and even vehicle weight.

SHIPPING CASE STUDY:

INJECTION-MOLDED NYLON BAFFLES VS. PUMPABLE PILLAR FILLER



[1] Order volume based on 15% of total baffle order for the subject vehicle line.
[2] Round-trip distance to customer plant: 760 km. Numbers based on total customer production of 400,000 cars annually.
[3] Average weight per baffle reduced from 14.7g for injection molded nylon to 13.33g for pumpable pillar filler.

83%

IN THIS CASE, HIGH-EXPANDING PUMPABLE PILLAR FILLER REDUCED TRANSPORTATION CO2 EMISSIONS AND FUEL USAGE BY NEARLY 83%

Henkel

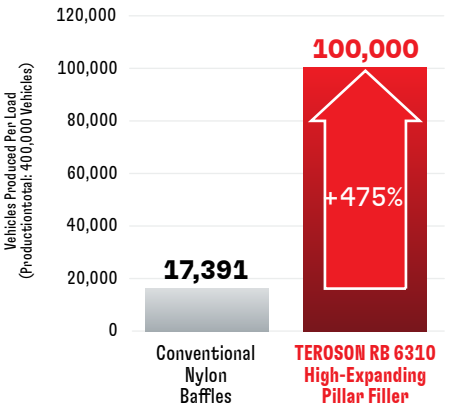
OUR GOAL

The Henkel Team's goal is to reduce our carbon footprint wherever possible while improving sustainability across the entire value chain. As we continue to integrate those efforts into our adhesive solutions, we also work to identify ways to lessen the environmental impact of transporting raw materials and finished products. Our efforts continue to pay off with energy and process savings that benefit both the environment and our customers.

SUSTAINABILITY OPPORTUNITY: HIGH-EXPANDING PILLAR FILLER

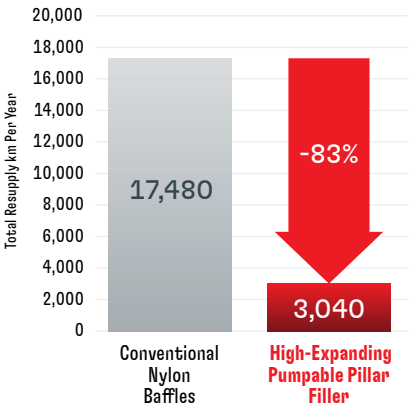
High-Expanding pillar filler reduces packaging volume and slashes transport CO_2 emissions.
Packaged efficiently in palletized drums in its green state and expanding more than 500% after application, Henkel's high-expanding pillar filler can substantially decrease transport CO_2 emissions by cutting the number of round trips required to resupply the vehicle production plant. It also reduces transport labor expense, equipment costs and disposable packaging waste. On the assembly line, robotic application can reduce manual baffle positioning labor by as much as 15%.* The cured weight of pumpable pillar filler can also provide a vehicle lightweighting advantage over nylon baffles as well. In contrast, injection-molded nylon baffles ship at 100% of their finished form in disposable packaging destined for landfills. Beyond the environmental savings, there are significant benefits to using pumpable pillar filler, including fewer resupply trips, reduced transport fuel consumption and increased production volume per truck delivery.
*Based on total percentage of nylon baffles replaced by pumpable pillar filler, car line and labor assignment.

MORE VEHICLES PRODUCED PER TRUCK SHIPMENT



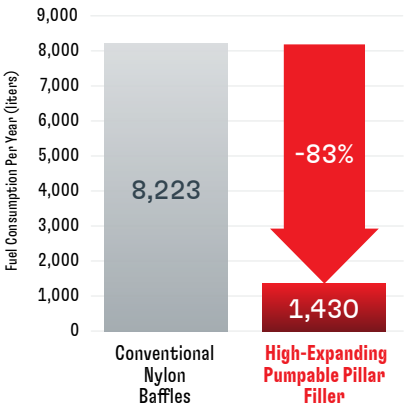
In the case study, 15% of nylon baffles were replaced with TEROSON RB 6310 High-Expanding Pillar Filler. The pillar filler replaced 23 annual truck shipments of nylon baffles with four truck shipments of product, allowing production of 100,000 vehicles per shipment. In contrast, a single shipment of nylon baffles completed only 17,391 vehicles.

FEWER RESUPPLY km DRIVEN PER YEAR



High-expanding pillar filler vastly reduces packaging volume, resupply trips and kilometers driven in comparison to conventional injection molded nylon baffles.

REDUCED FUEL CONSUMPTION TO RESUPPLY



Replacing 15% of conventional nylon baffles with high-expanding pillar filler across a production run of 400,000 cars saved nearly 6,800 liters of fuel.

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