

## SUCCESS STORIES

# NEXT GENERATION CLAMP TECHNOLOGY

## 50% | COST REDUCTION ON NEW CLAMPS

Our engineering experts applied their industry know-how to solve leakage and safety issues in diesel engine clamps through a technically advanced solution. Working side-by-side with our customer and supplier, we subjected our work to more than a year of rigorous leak and pressure testing.

### PROBLEM

When our customer reported leaks in the traditional, spring-loaded hose clamps on 12- and 15-liter diesel engines, **our engineers set out to find a new, better solution.**

### SOLUTION

We sourced a new clamp—made of stainless steel, more compact, and 30% lighter—from a supplier in our trusted network. The clamp provides a constant seal that's evenly distributed around the hose, and that adapts more effectively and completely to pressure and temperature fluctuations. Due to the 360-degree seal, we were able to shorten the long bolt that previously attached the clamp to the housing juncture, eliminating the safety issue.

Our engineers coordinated four design improvements with our supplier, so that when our customer rolled out the new SmartSeal and WaveSeal clamps, we were confident in their quality.

### RESULT

**To date, the customer has rolled out 15 new clamps in 60,000 of its diesel engines, and has confirmed that the SmartSeal and WaveSeal clamps are more robust, more efficient, cheaper to produce and easier to install. In addition, the new clamp styles meet or exceed PPAP level 3 safety standards and have a defect rate of less than 50 parts per million.**