

Manufacturer's railroad pays for itself

Should a company that ships in bulk by rail have its own railroad scale? Definitely.

And on the same basis that it acquires any capital equipment – the ROI (return on investment).

That's why the Ampacet plant in Terre Haute, Indiana, installed its own rail scale in 1998.

Ampacet (headquartered in Tarrytown, New York) compounds polyolefins for plastics manufacturers. Using high-intensity mixers, the 180 production employees at the Terre Haute plant modify pure polystyrene, polyethylene, and polypropylene with color concentrates and/or additives that alter the final properties. If you want resin for a yellow blow-molded bottle, a film that sticks (or doesn't stick) to itself, or a coating that will screen out UV rays, Ampacet can make it for you. The plant represents over half of the company's domestic capacity and over a third of its global capacity.

Ampacet ships product out in bulk in rail cars. The weight of the product in a rail car determines the amount of the sale and the amount Ampacet bills its customer. Previously, the plant relied on the railroad to determine that weight. The rail carrier hauled each car to the nearest rail yard with a scale certified by Indiana's Weights and Measures Department as legal-for-trade. Then the car was sent on to its destination.

But using the rail carrier to determine price had two problems.

First, it took an average of eight days for the car to go to the Conrail yard in Indianapolis, Indiana, wait its turn on the scale, then wait to be included in the next available train out. Thus, billing was delayed eight days, and the cost of the delay came out of Ampacet's pocket. The company's money was tied up in finished goods inventory and not available to finance continuing manufacturing operations or for investment.



The railroad never actually weighed the product. It weighed the product and the car together, then subtracted a standard value for the weight of the car (the tare weight). Sometimes that standard tare weight was wrong. And if the tare weight was wrong, the billing would be wrong. Erroneous tare weights would not only yield inaccurate billing to its customers, but to inaccurate weighments of incoming shipments of raw materials



With its own legal-for-trade railroad scale, Ampacet would solve both problems. Accurate billing could be sent out simultaneously with the product, and incoming cars with raw materials could be weighed full and empty to determine the actual amount of raw material

received... and Ampacet would pay for precisely what it received.

While no estimate was possible on savings based on accurate tare weights, calculating an ROI based on eliminating the eight-day billing delay was straightforward.

Assume 190,000 pounds of product at \$1.00 a pound in each car. At an interest rate of 10.50% (prime plus 2% as of 1/24/00), a simple interest calculation yields:

**(10.50%)
(8/365 of a year)
(\$190,000/car)
= \$437**

Eliminating the eight-day wait would thus save Ampacet \$437 per car. Multiplying \$437 by the number of cars that go out in a year yields the basic ROI on a railroad scale for Ampacet. Two cars a week yields \$45,448 a year in savings. Four cars a week doubles the savings to \$90,896.

Ampacet process engineer Mark C. Wolfe selected a RailMate® railroad scale mounted on DigitOL® load cells (100,000 pound capacity each) and controlled by a JAGUAR™ computer based terminal.

The Jaguar terminal, using standard METTLER TOLEDO software for railroad scales, sums the weights from the scale segments and displays a single number representing the weight of the car and its contents. The JAGUAR™ can communicate the weight to other devices such as a printer, a hard drive for storage, or a central computer, e.g. one shared by the accounts receivables department to prepare invoices.

Wolfe decided on the RailMate scale for three reasons.

"First," Wolfe said, "METTLER TOLEDO



Scott Taylor In the scale house enters data from the rail car. It will be printed out along with the gross weight of the car. All incoming and outgoing cars are weighed full and empty. Scale weighments also yield accurate inventories of raw material held in cars.



and the local distributor here (Koenig Scale) have done a great job throughout the plant in providing batching and floor scales."

"Second, Koenig Scale has just installed a nearly identical scale at another Terre Haute manufacturer. It was just what we needed and it's performing very well."

"Third, scale systems based on the JAGUAR™ terminal enjoy an excellent reputation with our rail carrier and our state regulatory personnel."

The scale was installed in the spring and summer of 1998, commissioned and certified by the state of Indiana as legal-for-trade in August, and has been saving the company money ever since thanks to accelerated billing. The company also identified two incoming cars with erroneous tare weights. The shippers were obligated to re-certify those cars with correct tare weights at their own expense.



Process engineer Mark Wolfe (left) and Richard Bonine of Ampacet collect information off the side of the rail car. The yard engine, with Scott Taylor at the controls, is off the scale. The yard engine is periodically weighed as a rough check to make sure the scale remains calibrated.



Testing the Ampacet rail scale. Hydraulic jacks extend down from the center 'doghouse' of ConRail's test car, lifting the car into the air and concentrating 100,000 pounds certified weights on the scale.

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