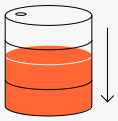
CASE STUDY - POLYURETHANE

Dramatically lower emissions and higher product quality for a footwear company.

200
TONS/YEAR REDUCTION IN CO_2 EMISSIONS

93%
DECLINE IN SOLVENT USAGE



INCREASED AIR QUALITY

WHAT WE ACHIEVED.

A large polyurethane footwear manufacturing facility in Asia aimed to improve its factory's air quality, which had been compromised by high levels of solvent-based emissions — especially during the summer months. By transitioning from a solvent-heavy release agent to Chem-Trend's advanced water-based solutions, the factory achieved a dramatic reduction that took them from 82,560 kg to just 5,760 kg solvent usage per year. This shift resulted in a calculated reduction of 200 tons of CO_2 emissions annually. In addition to environmental gains and improved air quality, the new release agents also delivered a consistent matte surface finish, eliminating the need for rework caused by unwanted gloss.

HOW WE GOT THERE.

Chem-Trend worked closely with managers to understand the factory's needs and constraints. We proposed two tailored PU solutions via a structured trial process: First, we confirmed with a lab-scale trial that the new products would not compromise product quality. A one-shift trial to fine-tune spray patterns and application amounts followed. Lastly, a two-week production trial validated mold cleaning cycles and long-term performance. Both products passed all quality tests, and the trials confirmed that spray amounts could be significantly reduced while improving bonding and achieving the desired matte finish. The customer then began full-scale conversion, supported by the installation of a SprayIQ™ unit to digitally monitor spray usage.

OUR SOLUTION.

Separate products for DESMA machines and PU pouring lines were introduced in this application. After the structured three-phase trial, both products demonstrated superior performance. They significantly reduced spray usage, enhanced bonding strength, and delivered a consistent matte finish. Most importantly, our water-based agent greatly improved air quality within the customer's facility.

HANDPRINT IMPACT.

At Chem-Trend, we pride ourselves on our long history of sustainability efforts. However, it is our effect on our customers' processes that provides the greatest impact. It goes beyond our global Footprint; it is our even wider Handprint.

Here, we achieved the following:

- Emissions reduced by switching to a water-based agent
- Material usage reduced by eliminating rework
- Waste reduced due to lower defect occurrence

For more information about our polyurethane capabilities, our innovations, or other stories, visit CHEMTREND.COM