



Circular Solutions

A case study from Algood Caster Innovations

Wheels on wheels: Algood Rolls Tite

To achieve success as an innovator in the transportation industry, Roll-Tite Corporation needed a wheel that would allow them to offer an outstanding product and achieve business targets. To do that, they needed Algood Caster Innovations as a solutions partner.



Roll Tite manufactures retractable tarpaulin systems that turn a 53-foot flat bed trailer into a rig that can carry a full cargo load but with greater flexibility. The tarpaulin can be completely customized and is mounted on a number of bows attached to a wheel/rail system that allows it to retract.

Roll Tite needed a wheels to meet incredibly demanding specifications. They had to withstand the extreme temperatures that come with destinations that range from Fairbanks to Fort Lauderdale. They also had to stand up to the salt and brine mixtures on winter roads. On the open road, trucks are often subjected to cross winds of 60-70 miles per hour, which put strain on the tarpaulin's wheel system. For the tarp to perfectly fit the bow structure, it has to be pulled incredibly tight and the wheels must retain their shape despite the corresponding pressure. The wheels move through an aluminum rail and it is critical that the rails are not degraded through contact with the wheels. As if all of that wasn't enough, Roll-Tite's performance standard is that the driver must be able to open the covering in 15 seconds, which means that the wheels have to move smoothly every time.

Simply put, Roll-Tite wanted the best wheel system with the best warranty. It was a tall order but Algood's engineering department knew it had to start with an on-site visit and see the tarpaulin system in action. The development that followed took over three months of design and testing.

In the testing centre within Algood's manufacturing facility, wheels were frozen for 24 hours and then immediately exposed to temperatures of 125 degrees. They were subjected to numerous pressure and impact tests and finally they were tested in operation on the tarp system.

The result was to re-design the way the wheel operates and develop a custom manufactured glass filled nylon wheel with a stainless steel bearing system. The wheels were as hard as steel and could withstand any of the forces they were subjected to. At the same time, they wouldn't damage the aluminum rails. The stainless steel bearings were guaranteed to never fail. To address concerns about the bearing disengaging from the wheel, Algood developed a clip ring to keep the bearing in place. Its added benefit was that the wheel now had a modular quality allowing bearings to be placed in new wheels.



The new wheel met Roll Tite's exceptionally high quality standards. It was guaranteed to perform flawlessly for up to five years. Roll Tite ramped up sales and production, manufacturing almost 400 tarp systems a year. At 76 wheels per unit, that translated into over 30,000 wheels a year.

Algood wasn't prepared to rest on its laurels and continued working with Roll Tite to further improve the wheel and enhance business results. In particular, the object was to maintain quality while reducing costs. Carbon bearings were an interim measure but the ultimate solution was a custom designed nylon wheel with the stainless steel bearing moulded in place. Costs were reduced significantly with no impact on performance.

Roll Tite came to Algood because of their reputation as one of North America's largest caster manufacturers and their proven customer-focused engineering and design team. Roll-Tite believed that Algood could help them find the solutions to make their business more successful and they weren't disappointed.

For more information on how Algood can provide solutions for wheel and caster needs, call 1-800-254-6633 or email sales@algood.com. Visit our website at www.algood.com.