

E-ONE Case Study

Since 1962, Bull Moose Tube Company has earned a solid reputation as an innovator in the industry – seeking constant improvement of its products to drive the highest level of efficiency and the best results for its customers. The company’s Stratusteel® line of 100 KSI high-strength tube steel is a prime example of its ingenuity and drive to provide the products that allow their customers, in turn, to drive innovation in their own industries. Stratusteel’s direct-form rolled¹, 100 KSI tube steel offers a higher strength-to-weight ratio, which opens up many possibilities for new designs and applications, as well as the opportunity to reduce the weight of conventional designs and applications.

BMT customers in several industries already have discovered the benefits of high-strength tube steel and have incorporated Stratusteel into products and components, often innovating and expanding their industries along the way.

Founded in Ocala, Florida in 1974, E-ONE is an industry leader in the engineering, manufacturing and delivery of fire trucks worldwide. Primarily known for producing aluminum aerials for its firefighting equipment, E-ONE recently introduced its first steel ladder – the HPS 105 aerial ladder – during the 2015 Fire Department Instructor’s Conference held in Indianapolis, Indiana, in April, 2015.

Aerial ladders are operated at full extension and low angles, requiring structures to be very strong to support personnel and firefighting equipment. E-ONE incorporated Stratusteel 100 KSI tube steel in the ladder’s hand rails, main rails and bracing to maintain the company’s stringent 2.5 to 1 structural safety factor, while remaining lightweight to ensure vehicle stability during operation. By using 100 KSI tube steel, the company also was able to maintain a narrower outrigger design to enable the vehicle to set up in narrow areas.

Prior to its official launch, the HPS 105 aerial met or exceeded all of the NDPA standard requirements, as well as E-ONE’s own technical requirements. Since launching the product in the spring of 2015, the company has experienced “significant customer interest.”

“By utilizing Stratusteel high-strength tube steel, we have been able to maintain the features and design indicative of an E-ONE aerial with a steel ladder for those customers who prefer steel,” said Jay Johnson, vice president of sales and product management for E-ONE. “Stratusteel’s light weight and high strength gave us the flexibility we needed to maintain the E-ONE aerial ‘DNA’ in a steel ladder, as well as our traditional aluminum construction.”

- 1. Direct Form is a method of manufacture where a square or rectangular tube of steel is directly formed from a strip of steel, then welded. Conventional methods include forming a strip of steel into a round, welding it, and then cold-working the tube shape into a square or rectangular profile. While conventional methods rely on cold-working to meet minimum strength requirements, Bull Moose Tube Company starts with 100 KSI high-strength steel that already meets ASTM 500 requirements, ensuring product quality and high tolerances on twist, straightness, concavity and convexity.**