



Point mounted suspension



Wide top walkway



100mm discharge pipe work



## Standing up to the heat

BUILT USING A SPECIAL HEAT AND CORROSION RESISTANT STAINLESS STEEL, TWO **TIEMAN** 'NEW GENERATION' 30,500 LITRE ARTICULATED BULK BITUMEN TANKERS WILL BE ADDED TO THE **WILLOW'S BITUMEN HAULAGE** FLEET IN QUEENSLAND. OFFERING OPTIMUM HEAT RETENTION, THESE UNITS WILL BE USED AS THE REAR TANKERS IN TWO 26 METRE B-DOUBLE COMBINATIONS.

Set for delivery by mid June, the 'New Generation' Tieman bitumen tankers will be put straight to work and bring the fleet up to 28 tankers. From the Willow's Bitumen Haulage facility in Townsville, they will be used to cart bitumen predominantly throughout Queensland and the Northern Territory, as well as other parts of Australia. Tieman has built many of the newer tankers in the Willow's Bitumen Haulage fleet. Shane Wilson, who started Willow's Bitumen Haulage 20 years ago, says that the company has continued to purchase Tieman tankers because of the overall quality and finish of the Tieman product, as well as the

great service provided by the Australian tanker manufacturer. "Over the last few years, all of the tankers we have purchased have been built by Tieman, including another two that we purchased recently. The quality and finish of their work is always excellent, and the heat retention is spot on." A recent analysis by another bitumen transport company of the gas cost saving and heating time savings from the Tieman design indicates savings of more than \$10k per tanker per year. The new tankers have been designed using the latest 3D modelling and Finite Element Analysis (FEA) design software. This ensures that tare weights

are minimised whilst providing maximum payloads and structural integrity. The barrels of both tankers are constructed from Tieman's special heat resistant grade stainless steel. This is tougher and more ductile than standard stainless steel. High structural integrity means there is no need for major refurbishment caused by corrosion and metal thinning throughout the tanker's life. The chance of inherent structural issues created by expansion and contraction are also eliminated. The tankers feature Tieman's unique ringed design where the rear barrel is point mounted to the suspension on the

**Estimated gas cost savings of more than \$10k per tanker per year are achieved with Tieman's design.**

rear tanker rather than being attached to the chassis. This not only aids in reducing tare weight, but also reduces heat loss allowing for full wrap of cladding around the rear of the tanker. For increased safety, the external structural rings protect the barrel from rupturing in the event of a side impact collision or rollover. Each ring is laminated with cork to minimise heat loss by maintaining a 75mm air gap between the barrel and the outer casing sheets. The cladding can be pulled down tight onto the rings so that no moisture can accumulate under the sheets. Stainless steel pneumatically operated collapsible handrails are fitted to the outside of the top walkway. The operation of these handrails is interlocked with the trailer park brake system. The extra wide walkway is 1310mm wide to further increase safety. A Rockwool grade 450 insulation blanket offers a further improvement in thermal/heat retention. Heating is provided via a single Kleenheat liquid withdrawal propane gas burner. Having to reheat the barrel less

often not only saves on gas costs, but Shane explains that this is particularly important when travelling through areas where gas is not available. It also greatly assists in the management of driver fatigue hours. He adds that Tieman's 'New Generation' stainless steel tankers maintain temperatures much better than mild steel designs and are also easier to clean. Less heating over time results in less carbonisation to the roof of the tanker. The tankers are fitted with internally mounted hydraulically driven product pumps that enable pressure discharge and product recirculation during heating. To improve discharge and flow rates, all pipe work has a wider diameter of 100mm. This also helps prevent slugs in the pipelines. A dump valve on the suspension also assists with lowering the rear of the tanker for quicker unloading. Both units are fitted with BPW AL2 road friendly suspension, steel hubs and mechanical drum brakes with auto slack adjusters. For improved safety and handling, they each feature ABS brakes and sensors to

two axles. The tanker design enables both of these units to be supported by landing legs, even when fully loaded. Technical & Contracts Manager for Tankers, Mark Nelson comments, "I've been involved with building tankers for Tieman for over 35 years. The combination of these features makes for the best bitumen tanker in the industry. It offers great structural integrity through the proven ringed design, an optimum tare weight for the best payload, an ergonomic layout for improved operator safety and the lowest life time operating cost due to minimal maintenance with the best heat retention. In years to come people will only want to buy second hand bitumen tankers that are made of stainless steel so this is another important factor when considering your investment." 

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