BRAZIL: THE COMPERJI PROJECT INSTALLATION OF 200 PIPE RACK MODULES

PROJECT	EQUIPMENT	WEIGHT
PETROC	SPMTs / CONNECTING BEAMS	Up to 800 ton

Fagioli through the joint venture TRANSDATA FAGIOLI DO BRASIL (TFB) had been working for more than a year for a huge petrochemical project in Brazil. The main scope for TFB was the heavy transport by means of SPMTs of more than 200 pipe rack modules from manufacturing area up to foundation, including the final installation. The road distance was about 8 km. The modules (composed of three groups with different width, ranging from 3 to 6 and 9 meters) were long between 20 and 35 meters, weighing between 100 and 800 ton. The most challenging aspect was the transport of 3 m wide modules due to their height and to the fact that the COG was at about 11 meters. TBF came up with the idea of a tailor made structure in order to get the necessary stability during the removal from hangar: one row of 18 axle lines SPMTs with five lattice towers (4 m height, weighing 3 ton each) on top of it and 2x34 m maximum longitudinal beams. Thanks to the hydraulic system, the trailer was positioned underneath the pipe rack module with extreme precision and care. This was the only possible way to execute the transport. The scaffoldings positioned at the side of the pipe rack modules and the restricted area compelled TFB trailers to operate with particular care and without any possible mistake. Considering that the tipping angle was maximum 3.7 degrees, a lateral bend would have caused the fall of the item.Once in the yard the pipe rack was assembled and completed with pipes and accessories reaching the weight of 193 ton.

As above mentioned the 3 mts wide pipe racks had an elevated COG (almost at 11 meters) which forced TFB to prepare a particular convoy arrangement. In order to better stabilize the whole structure during the transport, on top of the lattice towers which were 3 x 8 m each, transversal beams were positioned (supporting 2 x 34 m max. long longitudinal beams). All the transversal and longitudinal beams, as well as the base and top frames structure are bolt jointed together to improve safety. The engineering department provided the correct numbers and drawings to reduce all the possible risks. Sometimes for the longest pipe racks modules TFB utilized 2 rows for a total of 36 axle lines SPMTs and 2 connecting beams. This new trailer configuration improved stability during the trip from manufacturing to installation areas. The challenging phase of the transport of course was not only to guarantee the stability of the whole convoy (considering the height of the item and the tipping angle of 11 degrees with 2 lines of SPMTs during the transport) but also to avoid the pipe rack legs to scratch or touch the ground. The transport of three m wide pipe racks modules were safely executed. This project was awarded by ESTA for the best 2013 SPMTs transport of the year prize.