

SB Rail's green machine will soon be here!

Further to *Rail Infrastructure* Issue No: 93, the SB Rail green machine, the new Plasser & Theurer O9-4x4/4S Dynamic continuous action tamper, returned to Austria following the iaf exhibition in Münster for approval testing, final calibration and operator training. Unfortunately, it is not possible to show moving pictures on the pages of this magazine to illustrate the ride, noise and braking tests the machine has been undertaking. However, below are some 'tines in the ground' photographs taken during the calibration process. Operator training is on-going and live work on ÖBB infrastructure is taking place during August. This will include continuous action tamping through S&C layouts.



Approval procedures

As part of the authorisation process, the machine has to be shown to be compatible with the infrastructure and, among other things, this includes proving that it conforms to W6a gauge. While at first glance W6a may seem to be a simple gauge profile, it actually has some complex rules - especially once a vehicle exceeds a distance of 12.8 metres between bogie centres. The allowed profile is reduced the further away it is from a bogie centre, either towards the machine centre or outwards to the end of the overhang. On the O9-4x4/4S Dynamic, the satellite unit has to be evaluated separately as it has its own bogie. However, as the satellite

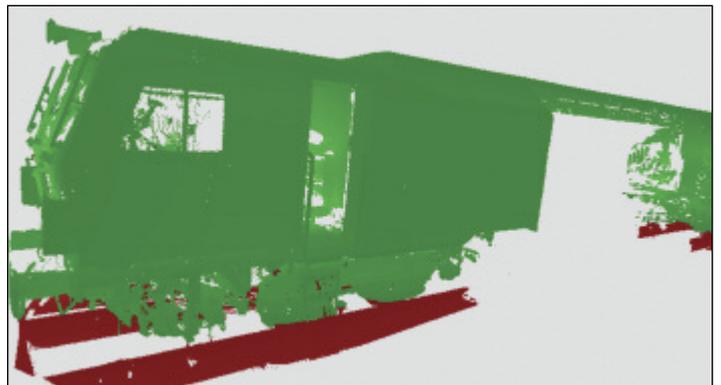


only has one bogie, calculating the distance between bogies for the formulae requires imagining a second virtual bogie - which happens to lie 1.75 metres in front of the main machine bogie!

Proving compliance with these requirements is not an easy task and Plasser & Theurer is currently evaluating laser profiling technology to complement this process. In the screenshot below, the laser scanned points of the satellite and trailer of the machine can be seen mapped outwards onto the reduced W6a profile applicable to each point.



Below is an example of the main part of the machine, with the satellite excluded, coloured green to indicate what is within the reduced W6a gauge and red to show areas of exceedence. The W6a does not extend to the track or even the bottom of the wheels, hence the clear areas of red indicating those scanned points that are out of gauge.



Of course, it looks much better in its original colour as shown left - which the scans are also capable of capturing!

Currently, the compatibility process for Network Rail infrastructure also has additional requirements beyond compliance with W6a. Interfleet Technology is in the process of updating the Vampire machine model against the results from the approval testing and will use that model in a final ClearRoute assessment.

The machine will arrive in the UK by the autumn and it will be on display at the Open House Seminars and Exhibition Plasser (UK) is hosting at the end of October.

