



Southern Shield

Good/ Best Practice feedback

Nature of works	Track Works - Superbug 300
Date of good practice	01/02/2020



Description of the good practice

The scope was to design and build a disruptive machine for the track renewals with increased performance. The machine needed to undertake everything on the critical path of a track renewal faster and more efficiently.

To achieve this the Superbug required:

- Increased lifting capability compared to a standard RRV
- Increased digging capability compared to a standard RRV
- Ability to lay sleepers with new 14 sleeper hydraulic spacer
- To be a heavier machine at 35 tonnes but compact and able to work in confined spaces

Digging - A standard RRV trackrailer is fitted with a 0.68m3 bucket. The Superbug is fitted with a 1.8m3 bucket meaning it can dig at a rate of 3 x the speed of a standard machine fitted with the standard bucket.

Sleeper laying – ReadyPower Rail Services designed and built a new 14 sleeper hydraulic spacer. The design allows the sleeper spacer to pick up 2 packs of 7 sleepers, therefore train loading does not need to change, and you can revert to a 7-sleeper spacer as a contingency.

The design includes fabricated a bespoke bucket that can shift 3 tons of spoil with each pass. That's four times more than a regular bucket (it has already proven its benefits for our customers, and is planned for a 15,000t excavation early this year)

The Superbug 300 weighs 35 tons, however the tracks have been designed to help avoid 'rutting' the formation.

There has also been recent success on CRSA when the Superbug scrapped out 30ft panels onto a train in a tunnel

What are the benefits?

- Due to increased focus on the environment and reducing emissions, the Superbug runs on a very efficient Tier 4 AdBlue engine. Due to its capability it will also allow for the reduction in the amount of machines needed to complete a job, therefore less haulage and staff driving to the site

- A Superbug running on a tier 4 engine will emit 86 % less carbon and 86 % less particulate matter than an old machine running on a tier 0 engine.

Are there any drawbacks?

Supporting Information





Please send completed forms back to shield@networkrail.co.uk