

CASE STUDY

RAF BRIZE NORTON - RUNWAY & TAXIWAY WORKS



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Allied Infrastructure has a history of working at RAF Brize Norton having successfully carried out a full runway Rhinophalt® application of 167,000m² in 2017.

There was a runway surface repair project in 2019 which replaced the sections of the asphalt surface around the centre line section of Runway 25 between Taxiway Golf and Taxiway Charlie, and another section adjacent to the RHAG area at Taxiway Bravo at Runway 07. Allied was also involved in this project carrying out all the AGL removal and reinstallation on the new surface course.

Allied were awarded a second application of Rhinophalt® spray treatment in August 2020 to slow down the rate of weathering and raveling until the planned runway resurfacing in 2025. The runway is a grooved Marshall asphalt with SMA patches at either end. This latest project also involved treating all the taxiways. The second application of Rhinophalt® spray treatment is expected to extend the life of the runway by three-five years until the planned resurfacing in 2025. It was decided to include the annual rubber removal works as part of the project to ensure the spray treatment was applied to a clean runway as far as is deemed possible.



Installing Rhinophalt® preservation treatment to prolong the life of the existing runway and taxiway surfaces at RAF Brize Norton, with over 458,000m² area to cover, working within a dynamic programme along with the constraints of weather, airfield operations and logistics they have shown true professionalism, whilst maintaining high quality workmanship executed throughout each stage

Lee Downey

Airfield Manager, Amey Defence Services

ASI's Rhinophalt® asphalt preservation on runways, taxiways, aprons and access roads provides a recognised maintenance solution to airport asset managers. Rhinophalt® extends the operational life of the asphalt surface. Rhinophalt® helps meet airport operators' sustainability aims because it can deliver more than 90% in carbon savings compared to resurfacing. The technique allows more of the original aggregates in the asphalt to remain in place and to be protecting meaning that resurfacing (which puts new aggregates in) doesn't have to be done so often.

It significantly reduces Foreign Object Debris (FOD) caused by surface raveling, as well as with post-rubber removal. Also re-lining can be applied in the same shift and Rhinophalt® can be successful used on shoulders.

It contains Gilsonite which is a natural asphalt, Gilsonite, is a mineral antioxidant and is a key component in preventing asphalt deterioration caused by oxidation of the bitumen. Gilsonite resin is much harder than bitumen – it is an antioxidant that reinforces, seals and strengthens the surface course and slows down asphalt ageing. Sustainability through preservation conserves the valuable mineral resources and fossil fuel binders.

An airside compound incorporating welfare facilities was initially set up where all Rhinophalt®, Rhinodust®, line marking paint and all the plant and equipment was stored. Due to the large volume of materials required on the project everything couldn't be stored on site from the commencement of the project therefore the logistics of planning, ordering and the delivery of the key materials to ensure we had sufficient quantity was monitored daily and key to the overall success.

Allied as principal contractor managed the project from the initial rubber removal subcontract through to co-ordinating the daily closures with the client of where the Rhinophalt® application and follow on trade of line markings would be on each shift, to the final friction testing subcontract package at the very end.

The main works of the Rhinophalt® application was carried out by our in-house Rhinophalt® team of up to 8 personnel using our specially modified Rhinophalt® spray tanker capable of spraying up to 15,000m² per hour.

Although the works took place over four weeks, the first two weeks were significantly impacted by the typical wet British Summer weather. The receiving surface course must be dry for the application

On this project, 229,000 litres of Rhinophalt® and 115 tonnes of Rhinodust® were applied.

resulting in us being unable to apply the Rhinophalt® because the surface was wet, therefore the bulk of the works were condensed into a two week period.

In summary and during this reduced time period, Allied successfully delivered and handed over the largest Rhinophalt® project on any airfield anywhere in the world to a very satisfied client and end user (DIO).

Paul Hancock

Operations Director, Allied Infrastructure



Paul Hancock, Allied's Operations Director said: "In summary and during this reduced time period, Allied successfully delivered and handed over the largest Rhinophalt® project on any airfield anywhere in the world to a very satisfied client and end user (DIO)."

ASI and Allied provide a sustainable solution to airport asset managers for maintaining and extending the life span of asphalt surfaces on private, commercial, international and military airfields. Rhinophalt® significantly reduces Foreign Object Debris (FOD) caused by surface ravelling. It is successfully used on shoulders or alongside resurfacing to part of runway and can bring airports substantial carbon savings.

Craig Marshall, UK Commercial Manager at ASI Solutions said: "The Brize Norton project was a complex one to undertake. The areas being treated were surfaced using different materials with varying age profiles. Collaborative working between ASI and Allied Infrastructure Airfields division provided a platform for creative and innovative application techniques. Transparent dialogue between both parties ensured optimum outputs, whilst meeting the clients' requirements. ASI is proud of the work they do for Defence Infrastructure and look forward to supporting them in their asphalt life extension ambitions of the future."

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Craig Marshall

UK Commercial Manager, ASI Solutions

"Amey Defence Services recently selected Allied Infrastructure as our chosen contractor to undertake this prestigious project award of installing Rhinophalt® preservation treatment to prolong the life of the existing runway and taxiway surfaces at RAF Brize Norton, with over 458,000m² area to cover, working within a dynamic programme along with the constraints of weather, airfield operations and logistics

they have shown true professionalism, whilst maintaining high quality workmanship executed throughout each stage of the delivery process and successfully completed the works to the standards our client the Defence Infrastructure Organisation and the RAF expect from Amey Defence Services and its Supply Chain” said Lee Downey – Airfield Manager – Amey Defence Services

Box out: ‘Invisible nighttime work’ key to airfield delivery

*The works on the runway took place during flight embargoes on Friday and Saturday nights between 19:00 and 07:00.

*The works on the taxiway were more fluid and flexible with most works taking place during the dayshift 08:00 – 17:00 with each area agreed with the base at a daily start of shift meeting. We were only allowed one section of taxiway at a time due to operational requirements and some areas where the road and taxiway are on the same alignment required night shift working due to the volume of air and road traffic.

*After each shift the runway and taxiways were required to be returned to operations and therefore FOD (Foreign Object Debris) management was key to the success and a logging in and out of all items removed from each van was instigated.



167,000m² of Asphalt Surface Course – Military Airbase



48
Runway
closures



1,680
HGV
movements



1,214,800
Carbon
kgCO₂e/m²

167,000m² of Rhinophalt Asphalt Preservation – Military Airbase



4
Runway
closures



10
HGV
movements



54,700
Carbon
kgCO₂e/m²