CASE STUDY

- COLAS UK
- NORTH SOMERSET
- MARCH 2013

Retread Carriageway In-Situ Recycling

Retread is a cold in-situ recycling process which reconstructs the entire carriageway or footway surface to a depth of 75mm.

With increasing focus on sustainability, Colas' Retread process offers a low CO_2 emission alternative. By reducing the output of energy, emissions and waste, Colas are able to aid clients in significantly lowering their carbon footprint and cost.

Overview

The site was identified by the client as requiring resurfacing due to rutting, potholes and loss of surface texture. Retread was chosen as a trial in the residential area as a low-cost, sustainable alternative to conventional plane-out and inlay.

The local authority had used Retread in the past, but never on a residential site, but were convinced due to the benefits the process can offer over its alternatives, most notably lower lorry movements and minimal waste generated.

Our Approach

Residents and businesses were notified before the road was closed using Colas' traffic management. The surface was broken up and scarified using specialist equipment, and re-profiled to ensure existing ironwork and drainage levels were maintained. Bitumen emulsion was evenly injected into the surface and additional passes were made to ensure the scarified material was evenly coated. The site was then compacted and dressed with a 14mm and 6mm surface dressing before being rolled again. Road markings were re-applied within a matter of days.

Throughout the process, residents were kept informed and permitted access when it was safe.

During

During

During

Associated Benefits

North Somerset Council has certainly noted the environmental benefits gained from using this process and has been delighted having received the environmental calculation which shows impressive saving figures (see page 3).

North Somerset will have saved over £60,000 using the Retread process.

Despite the site being in a housing estate, there were no complaints from the public noted, which is always a major issue for any council.

The professionalism of the crew and the quick construction time of 2 days certainly contributed to this successful scheme and North Somerset have already created a program for more works to be carried out.

- Balfour Beatty on behalf of North Somerset County Council
- 2,500m² of residential carriageway covered
- 2 days
- No waste material removed from site
- £60,000 saved using Retread process
- 64.3% saving on total energy consumption
- 63.16% saving on total Green House Gases used


During


After


After

"Retread has been used in North Somerset previously but not in a residential location. The Retread process was chosen for Grenville Avenue as the existing road surface contained a high percentage of tar bound material.

Traditional planing and disposal to appropriately registered landfill sites would have more than doubled the cost of the scheme.

Colas worked alongside our term maintenance contractor, Balfour Beatty, to deliver this scheme with minimal disruption to the residents and road users.

The aftercare requirements were quite stringent due to the schemes proximity to the local amenities, details of the process were widely circulated and to date we have received no negative feedback concerning the scheme either during its construction phase or post completion of the work.

North Somerset Council considers Grenville Avenue to be a huge success."

Phil Bush
Street Scene Manager
North Somerset Council

Colas Limited
01342 711 000
colas@colas.co.uk
www.colas.co.uk

COLAS
UNITED KINGDOM

Total Energy Consumption & Green House Gas Emissions:

Carriageway Retread, Grenville Avenue, Somerset 2013

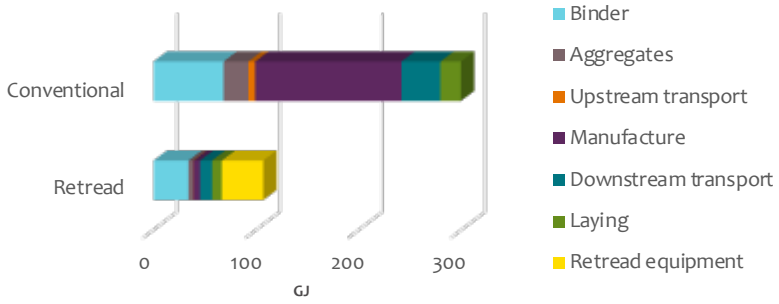
Conventional – Plane out 75 mm & replace with DBM binder course

Retread – Pulverize 75 mm & Retread

Area – 2,457m²

Comparison of Total Energy Consumption, GJ

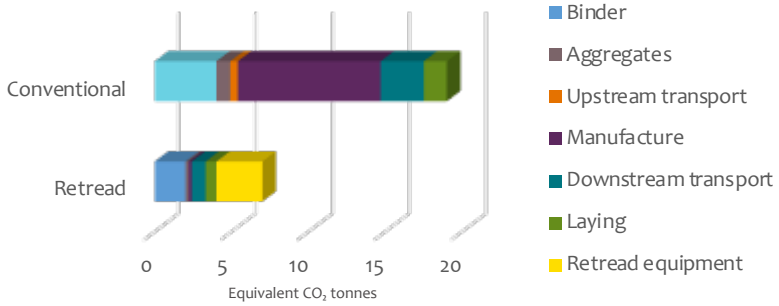
Structure	Binder	Aggregate	Upstream Transport	Manufacture	Downstream Transport	Laying	Retread Equipment	Total
Conventional	68.0	24.3	6.6	142.6	37.7	20.0	-	299.2
Retread	33.9	4.3	0.4	6.7	11.6	9.6	40.3	106.8



Using Retread, total energy consumption used was a massive 64.3% saving compared to conventional surfacing

Comparison of GHG Emission in Equivalent CO_2 tonnes

Structure	Binder	Aggregate	Upstream Transport	Manufacture	Downstream Transport	Laying	Retread Equipment	Total
Conventional	4	0.9	0.5	9.3	2.8	1.5	-	19
Retread	2	0.2	0.0	0.2	0.9	0.7	3	7



Using Retread, total Green House Gases used was a massive 63.16% saving compared to conventional surfacing

Colas Limited

01342 711 000

colas@colas.co.uk

www.colas.co.uk

COLAS

UNITED KINGDOM