



- > COLAS UK
- > STOCKPORT
- > AUG - SEPT 2017

Retread Carriageway In-Situ Recycling

Retread is a cold in-situ recycling process which reconstructs the entire carriageway surface to a depth of 75mm, treating tar contaminated material without having to remove it from site. This gives a substantial cost savings.

With increasing focus on sustainable procurement, Colas' Retread process offers a low CO₂ emission alternative. By reducing the output of energy, emissions and waste, Colas are able to aid clients in significantly lowering their carbon footprint.

The Need

Following successful contracts in previous years with the use of other Colas carriageway products, Stockport Metropolitan Borough Council decided to trial the Retread process with four sites in built up areas.

Colas have previously used Retread to rejuvenate footways in this area and the client agreed to a trial of the process on carriageway sites.

Colas impressed with the reduced construction time during the works, with the client recognising the economic and environmental benefits of this process, compared to conventional surfacing processes.

The works were carried out between the end of August and the beginning of September 2017, where 7,000m² of Retread was completed over 10 working days.

Four urban roads were identified for Retread due to severe potholes and rutting throughout, caused by bad weather and heavy stress from vehicles over recent years.

Whereas many of our clients choose to surface dress the Retread sites, in this instance the sites were overlaid with 40mm of asphalt. This is common where sites see extremely heavy use.



During



After

Our Approach

Diversions were set up by the local authority to avoid as much disruption to residents and local traffic as possible.

Colas supplied the advanced warning boards prior to commencement, and roadworks signage throughout the duration of works.

Each site allowed access for residents coming in and out of their driveways and they were notified prior to the works that there might be minor delays in order to allow extra time for journeys. Emergency services had access at any time if needed.

Due to the deformation in these lanes, Retread proved to be the best process for repair due to our ability to form a durable reprofiled carriageway.

The surface was compacted and an application of binder and 14mm chippings were rolled in to close surface voids.

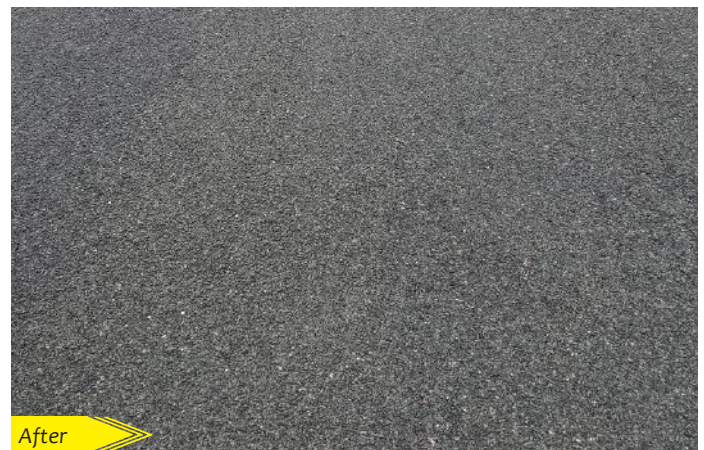
- > Stockport Metropolitan Borough Council
- > 7,000m²
- > 10 working days
- > Substantial cost savings
- > Reduced construction time
- > Minimal disruption to local community
- > 71.74% saving on total energy consumption
- > 71.43% saving on total Green House Gases used

Associated Benefits

Retread works to existing levels leaving kerbs and iron work undisturbed, thus reducing costs.

Time required on site was significantly reduced in comparison to conventional road surfacing treatments, reducing overall disruption to the public.

A double 6mm surface dressing finished the process, to which any choice of surface material can be applied if deemed necessary.



Total Energy Consumption & Green House Gas Emissions:

Carriageway Retread in Stockport 2017

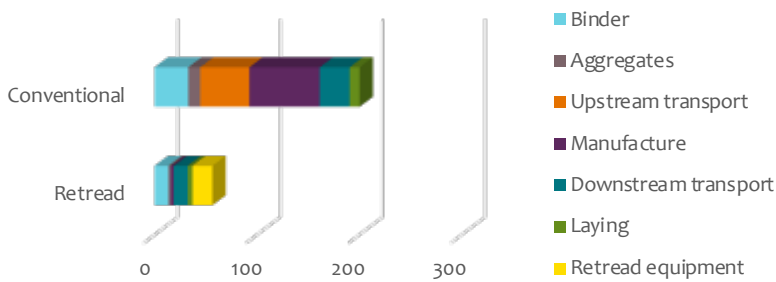
Conventional – Plane out 75 mm & replace with DBM binder course

Retread – Pulverize 75 mm & Retread

Area – 1,888m²

Comparison of Total Energy Consumption, GJ

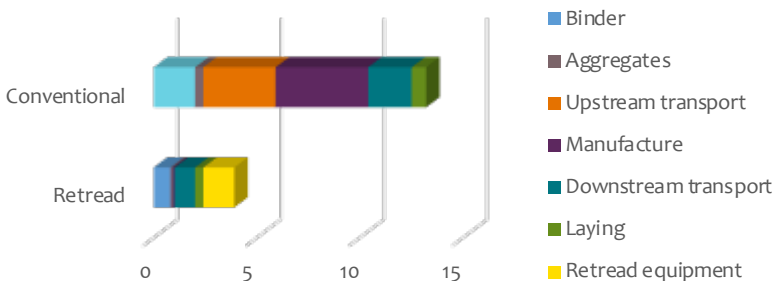
Structure	Binder	Aggregate	Upstream Transport	Manufacture	Downstream Transport	Laying	Retread Equipment	Total
Conventional	32.9	11.7	47.9	68.9	29.1	9.7	-	200.3
Retread	13.6	2.1	0.1	2.9	13.7	4.6	19.5	56.6



Using Retread, total energy consumption used was a massive **71.74%** saving compared to conventional surfacing

Comparison of GHG Emission in Equivalent CO₂ tonnes

Structure	Binder	Aggregate	Upstream Transport	Manufacture	Downstream Transport	Laying	Retread Equipment	Total
Conventional	2.0	0.4	3.5	4.5	2.1	0.7	-	13.3
Retread	0.8	0.1	0.0	0.1	1.0	0.4	1.5	3.8



Using Retread, total Green House Gases used was a massive **71.43%** saving compared to conventional surfacing