

The Yellow Circus Surface Dressing in Northumberland

A personal view by J Michael Taylor MBE

Surface dressing is an essential low cost method of maintaining roads in a safe, usable manner in rural counties such as Northumberland.

Michael describes some of the work he undertook in the industry, giving an insight into the daily problems and decisions of a highways' maintenance engineer.

And if you never thought you'd hear a song dedicated to the shovel and pick welders keeping our roads safe in all weather, then stand by for the 'Yellow Circus'.



One of the best training courses I ever attended was about surface dressing as it convinced me this relatively inexpensive way of sealing a road surface and restoring skid resistance had merit.

In essence, surface dressing is the spraying of bitumen material onto a road surface with chippings rolled into it. In north Northumberland the chippings used to come from a quarry once owned by the County Council near the River Breamish at Powburn. Their distinctive colour gave the area's roads a pleasant light brown appearance, of which I was particularly fond. However the skid resistance (to aid braking) of the chippings fell below the modern standards usually required. Together with the increasing dust content of the Breamish gravel samples, their use sadly declined.

Chippings used in the south and the west of the county tended to be of the indigenous grey limestone which is won from the many quarries on the Whin Sill. Better skid resistance than Breamish but to my eye far less pleasing.

A particularly interesting visit was to the Bitumen Plant at Warrington to see the manufacturing process. The viscosity of bitumen is an important factor in the success of surface dressing and this is measured in a laboratory test measuring penetration of a standard weight at standard temperature.

Bitumen used in surface dressing becomes soft on a sunny summer day but can get brittle during winter. This is measured as a 'pen' number, with a higher number meaning a softer mix of bitumen. The "200 pen" bitumen was less prone to brittle failure in cold winters, but it was also prone to bleeding in above average hot summers similar to those of the late 1980s.



It was around that time manufacturers stopped producing the softer “200 pen” bitumen, perhaps more suited to the cooler Northumberland and Scottish summers, in favour of stiffer “150 pen” variety. The increasingly hot summers were a factor in the switch but one could ask if the more brittle material could have contributed to many roads losing surface chippings during recent harsh winters.

During manufacturing the bitumen goes through a process to mix it with a small amount of water to enable it to be sprayed onto the road surface. This evaporates as part of the curing process. However given the fickle nature of the UK climate, spring and summer rain showers can have a detrimental effect on the process. Fortunately that happened rarely during my time employed in Northumberland, but I do remember vividly a couple of occasions when unexpected rain rendered the recently sprayed road unusable, necessitating an expensive clean up.

There is no doubt the public tend to be adverse to any sort of “road works” but surface dressing can be especially disliked by the road user due to chippings or tar damaging paintwork. Despite efforts in recent years to minimise the problem through advisory speed limits on newly surface dressed roads, complaints are still received.

Overall, however, the process is used extensively in Northumberland, with a great deal of success, resulting in the labour force building up a substantial expertise in the field. Few residents cannot have failed to be impressed on seeing the speed and efficiency of the surface dressing.

Northumberland folk singer, composer and highway department employee, Terry Conway, wrote a song which, I think, sums up the variety of work, including surface dressing, carried out by the direct labour force. It's a rather tongue-in-cheek, self deprecating view of a highly skilled and sometimes undervalued workforce.

Thanks to J Michael Taylor MBE, CEng, MICE, FICHT, for preparing this article.

All opinions in this article are the author's own.

'The Yellow Circus' © Terry Conway. Reproduced with kind permission.

THE YELLOW CIRCUS



In the winter of the year
Gallant men, who know not fear,
Sing in happy chorus

“Up the workers”

Like a merry little imp,
With a shuffle and a limp,
Down the highway goes’
The Yellow Circus

[Off to earn their daily bread,
And eager for promotion:
What’s to dae, and Where’s
Tae gan,]
There’s not the faintest notion,
Like a merry little imp,
With a shuffle and a limp,
Down the highway goes’



The Yellow Circus

When the Spring is in the air,
Porteuts of the coming year,
From the winter’s hibernation
Jerk us

April showers please the best,
Hear the cry “Mae rain, mae rest!”
That the motto of
The Yellow Circus

[Off to earn their daily bread,
And eager for promotion:
What’s to dae, and Where’s
Tae gan,]

April showers please the best,
Hear the cry “Mae rain, mae rest!”
That the motto of
The Yellow Circus

When the sun is overhead,
Darkie-brown and beetroot red,
Don’t believe them when they say
We’re shirkers
Waving shovels, wielding picks,
Going topless, just for kicks,
Bronzed Apollo’s of the yellow circus

[Off to earn their daily bread,
And eager for promotion:
What’s to dae, and Where’s
Tae gan,]
Waving shovels, wielding picks,
Going topless, just for kicks,
Bronzed Apollo’s of the yellow circus

Autumn leaves fall thick and fast,
The fighting spirit wanes at last,
All the bosses try to over-work us
Autumn is a cruel beast
When that wind comes from the east
Up the armpit of the
Yellow Circus

[Off to earn their daily bread,
And eager for promotion:
What’s to dae, and Where’s
Tae gan,]
Autumn is a cruel beast
When that wind comes from the east
Up the armpit of the
Yellow Circus

When the snow lies on the ground
None of us can e’er be found,
Up the quiet lay-bys hide
The Lurkers
Snow-bound traffic in the Wars
But salt’ll fix your motor-cars
Had your gobs, you’ll wake the
Yellow Circus

[Off to earn their daily bread,
And eager for promotion:
What’s to dae, and Where’s
Tae gan,]
Snow-bound traffic in the Wars
But salt’ll fix your motor-cars
Had your gobs, you’ll wake the
Yellow Circus

