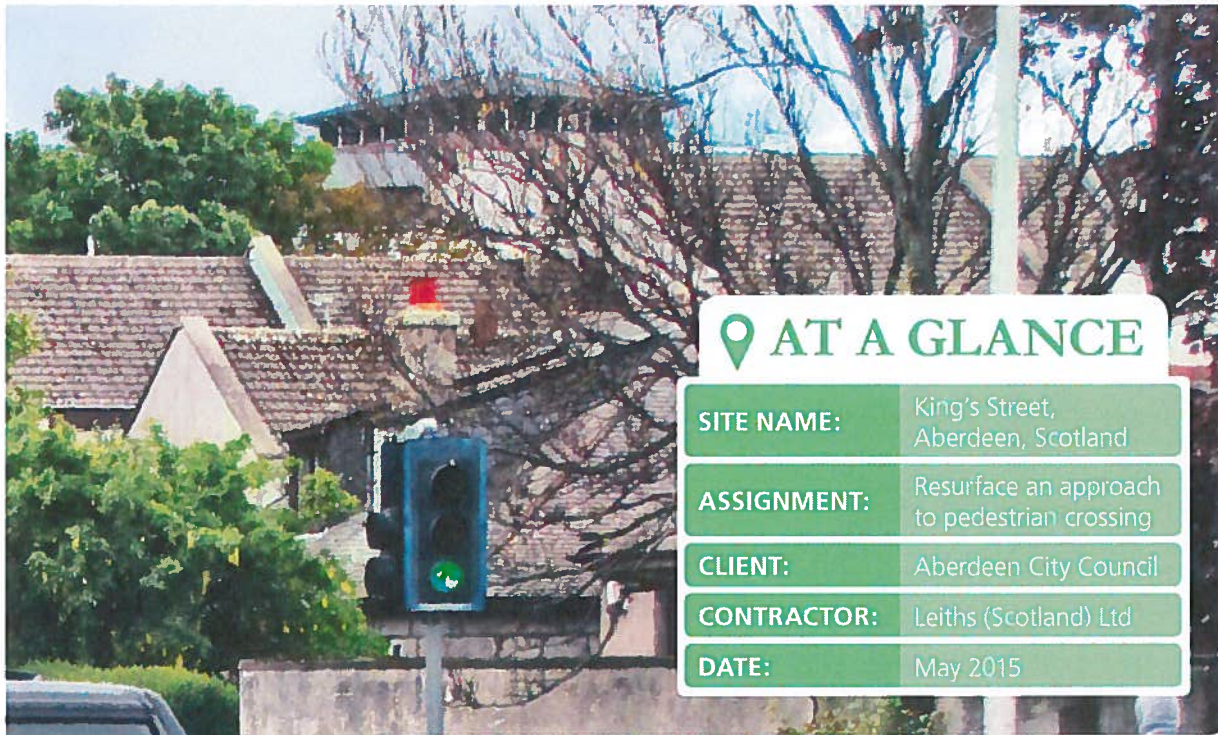




It's all in
the •
mix

A new specialist product developed by Leiths which uses a Nynas warm-mix binder enhances surface friction and provides an alternative to High Friction Surfacing (HFS)



AT A GLANCE

| | |
|--------------------|---|
| SITE NAME: | King's Street, Aberdeen, Scotland |
| ASSIGNMENT: | Resurface an approach to pedestrian crossing |
| CLIENT: | Aberdeen City Council |
| CONTRACTOR: | Leiths (Scotland) Ltd |
| DATE: | May 2015 |



by extended wear tests which have shown that the aggregate has exceptional resistance to polishing.

The innovative surfacing has been designed to meet the requirements of the Transport Scotland 2010 (TS2010) road surfacing specification and incorporates Nynas' high performance Nypol 103 binder. When the warm mix version using Nytherm PMB 103 is used, a surfacing material can be produced with extended workability. Amongst other benefits this allows

Playing it cooler

When it comes to the laying of asphalt surfaces, time and temperature are of the essence. The use of Nynas' Nytherm PMB 103 warm-mix binder helped extend the window of workability for coated materials on this high profile site. "Nytherm allows compaction and placement at lower temperatures than conventional materials can achieve," states Nigel Hardy, Nynas Area Bitumen Sales Manager, Scotland.

Road surfaces at approaches to pedestrian crossings, traffic lights and some junctions are common locations where vehicles often have to brake quickly or unexpectedly. As such, these surfaces benefit greatly from solutions that help vehicles come to a stop more effectively in order to reduce collision risks and improve road user safety.

That's why when Leiths (Scotland) Ltd was contracted by Aberdeen City Council to resurface an approach to a busy pedestrian crossing on King's Street they chose to use their newly developed Rigagrip surfacing.

Rigagrip is a material that is very much seen as a substitute for HFS. The aggregate used in the mix is from a Torrodonian sandstone quarry and boasts a good polished stone value (PSV) coupled with a low abrasion value (AAV). This is demonstrated

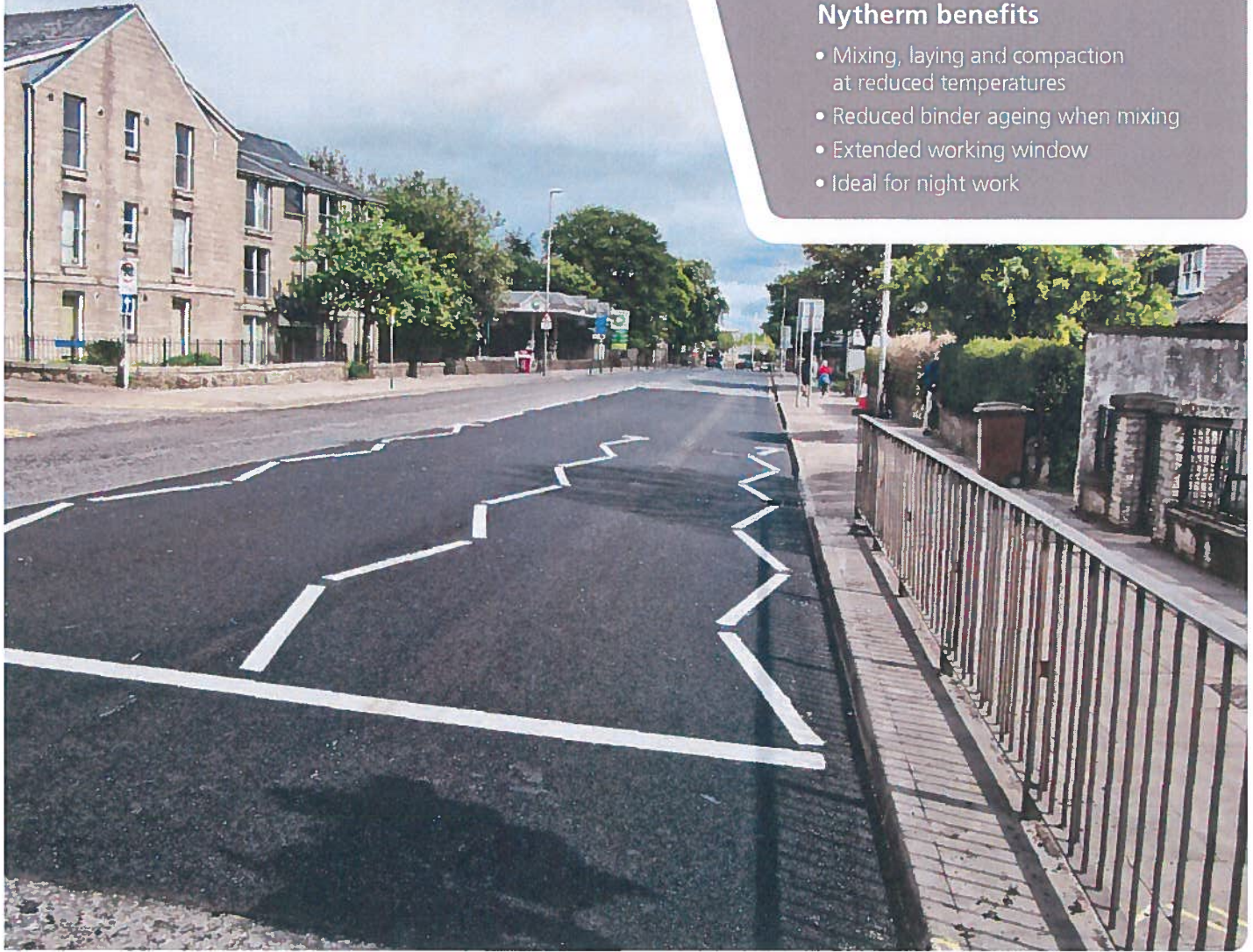
"By using Nytherm, Leiths was able to install Rigagrip quickly and the high performing PMB will facilitate durability."

Nigel Hardy
Nynas Area Bitumen Sales Manager, Scotland



better compaction in the formation of joints and of the mat. An 8 mm aggregate is used which permits a layer thicker than 30 mm to be laid. "Rigagrip compares very favourably to HFS because it will bond well with existing bituminous layers. In some instances HFS has been known to result in problems for existing surfacing, leading to cracking and premature failure of the surface. However because Rigagrip takes the place of surfacing it is therefore fully compatible with the lower bituminous layers," says Neil Anderson, Technical Director at Leiths.

Leiths' project was completed with minimal traffic disruption, thanks in no small way to Nynas' Nytherm. "We were on an arterial route through the city and so the best time to do our work with minimal disturbance was at night," Neil Anderson states. Furthermore, increased compaction efficiency equated to reduced project time for Leiths. The resurfacing was completed in just two nights, making the use of Nytherm an extremely cost-effective solution.



Nytherm benefits

- Mixing, laying and compaction at reduced temperatures
- Reduced binder ageing when mixing
- Extended working window
- Ideal for night work

Set for success

There are two trial areas in Aberdeen where Rigagrip has been laid. A number of tests have been carried out on the material and grip numbers in excess of 0.71 have been recorded. Tests have also been carried out on HFS in the Aberdeen area, and on one site two sets of values have been obtained. The site was grip tested in 2010 and an average grip number of 0.70 was recorded.

Thereafter, the HFS surfacing was replaced in the slow lane and an average Sideway-force Coefficient Routine Investigation Machine (SCRIM) value of 0.63 (grip equivalent 0.71) was recorded. These numbers compare well with grip values obtained (>0.71) from the Rigagrip sites.

Effective skid resistance, better compaction, greater density, and the durability to withstand high traffic demands, thanks in part to Nytherm PMB 103, make Leiths' new product Rigagrip a high performing alternative to traditional HFS.

For local authorities or government contracts these days, a successful asphalt system must bring value

for money, including minimal delays on installation. "By using Nytherm, Leiths was able to install Rigagrip quickly and the high performing PMB will facilitate durability," Nigel Hardy asserts.

Nytherm has certainly proven its worth in Aberdeen, and Leiths is very happy with the product, expecting to use it more widely in future projects.

The advantages of using Rigagrip compared to HFS:

- Superior durability
- Lower noise levels
- Good skid resistance, including early life
- A rut-resistant material
- Good ride quality
- Significantly reduced lifetime costs