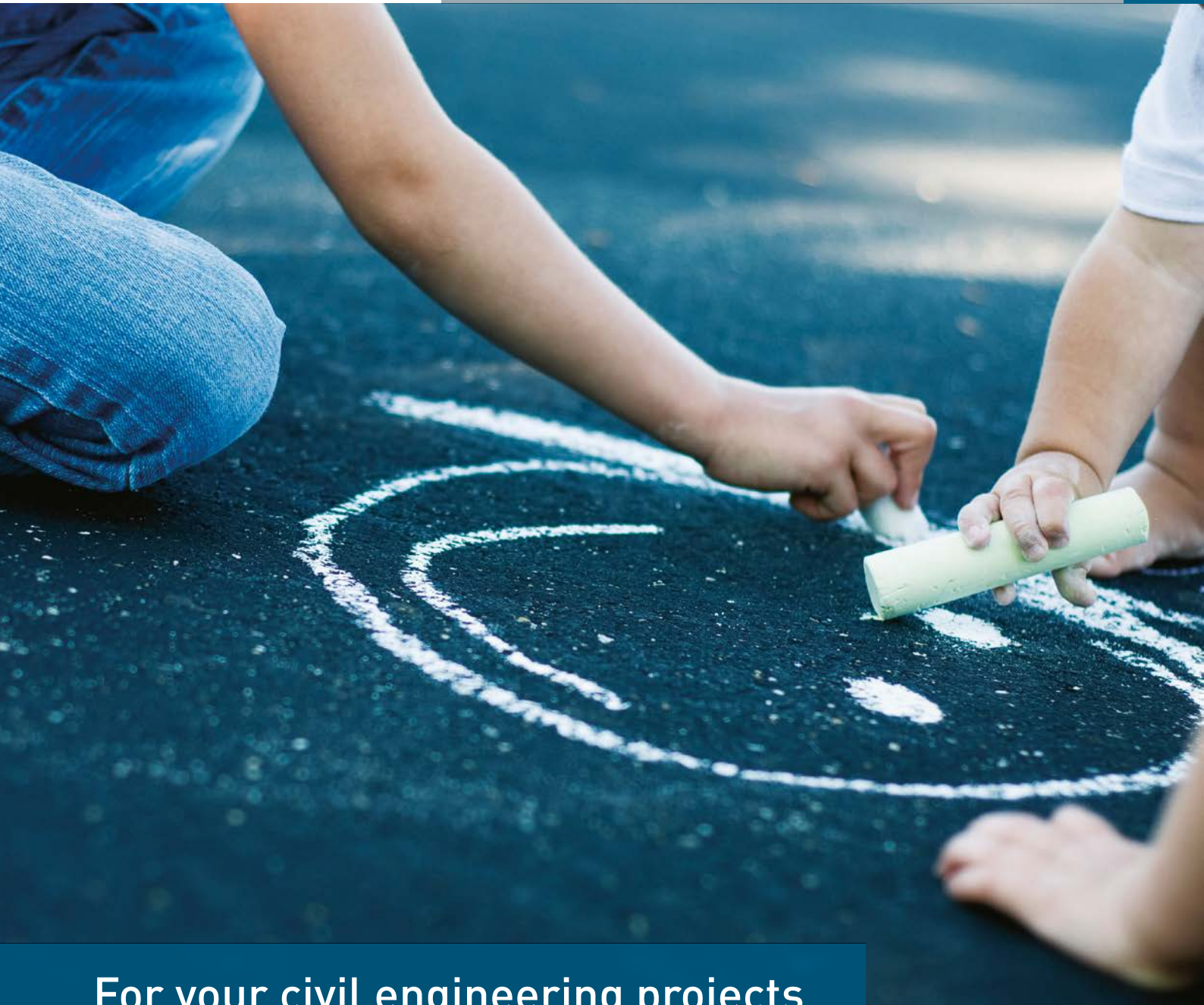




Asphacal[®], the solution for longer-lasting roads



For your civil engineering projects



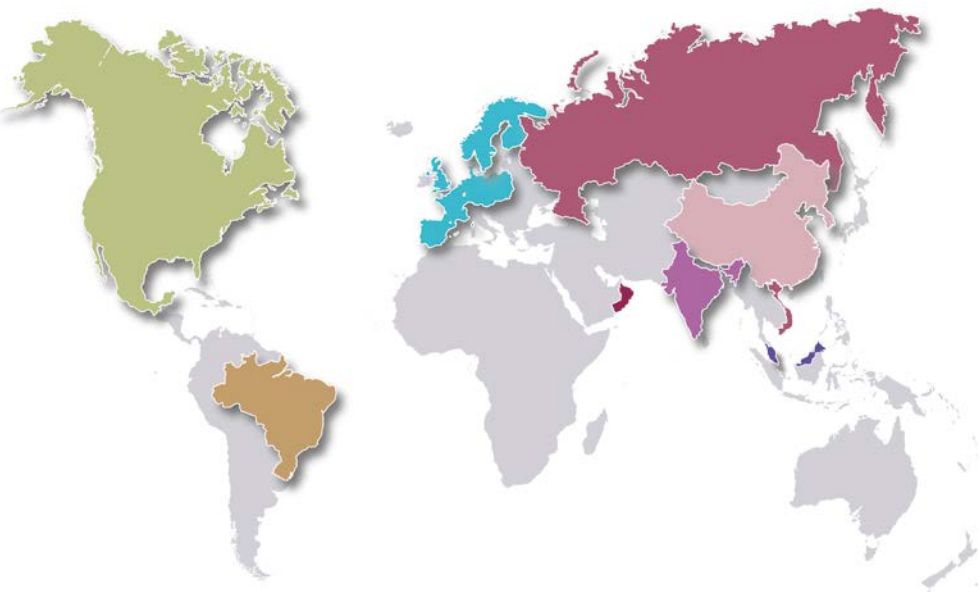
Additional solutions

- ❖ **Asphacal[®] H** increases the lifetime of your surface courses
- ❖ **Asphacal[®] TC** protects your tack coats

The Lhoist range to improve the durability of asphalt.



Lhoist, an industrial group and a partner for civil engineering



The Lhoist Group meets its clients' needs on a daily basis through its capacity for innovation founded on the expertise of its employees, its grasp of technologies and the exceptional quality of its deposits.

Its knowledge of processes, the diversity of properties in the product range and its establishments throughout the world make it a privileged partner in many activity sectors (steel, paper, environment, agriculture, building & construction, etc.).

The Lhoist Group has, in particular, vigorously invested in the development of innovative products, at the meeting point between requirements in the areas of technical reliability, environmental quality and cost optimisation.

In civil engineering, spirit of enterprise and responsiveness are the essential assets that allow the Lhoist Group to fully play its role as a partner and to provide solutions for the realisation of projects of all types and sizes.

Asphacal® H Durable pavements



TECHNICAL ADVANTAGES

The use of hydrated lime in asphalt has been proven successful over more than 50 years. Asphacal® H gives you the advantages of hydrated lime in active filler form.

- Improving the resistance to moisture damage of the hot asphalt mixes
- Limiting the age-hardening of the asphalt
- Improving the mechanical properties of the mixes
- Storage and incorporation identical to that of an inert filler



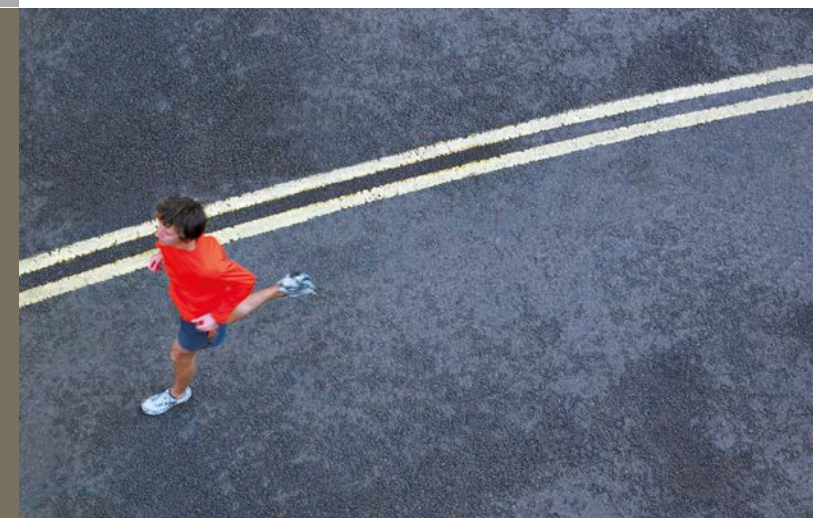
Asphacal® H
25%
more durability*

* ACCORDING TO FEEDBACK FROM PROJECT OWNERS AS C. RAYNAUD, "THE ADDITION OF HYDRATED LIME TO ASPHALT MIXES", BTP MATÉRIAUX NO. 22, PP.42-43, OCT. 2009 (DL) / R. G. HICKS AND T. V. SCHOLZ, LIFE CYCLE COSTS FOR LIME IN HOT MIX ASPHALT, 3 VOL., ARLINGTON (VIRGINIA, USA): NATIONAL LIME ASSOCIATION, 2003

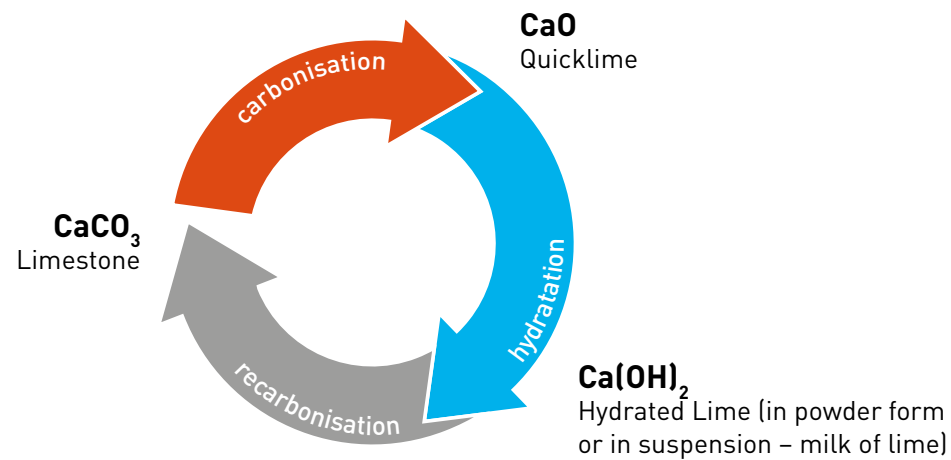


ENVIRONMENTAL ADVANTAGES

- Reduction of project environmental footprint
- Reduction of the impact of work sites on users and local residents



The lime cycle



ECONOMICAL ADVANTAGES

- Reduced maintenance costs
- Reduced traffic disruption consequential losses

Numerous applications on motorways, airports and local roads in many countries worldwide.



Asphacal® TC

Protected tack coats



TECHNICAL ADVANTAGES

With over 10 million m² of tack coats already treated, high performance Asphacal® TC milk of lime has proven its reliability.

- Elimination of damage to tack coats subjected to site traffic (tracks, tyres, etc.)
- Preservation of the bond quality and performance between the layers of mixes
- Ease of spreading using brine or emulsion spreaders

ENVIRONMENTAL ADVANTAGES

- Absence of bitumen residues trafficked beyond the work site
- Preservation of road markings on access routes
- Cleanliness of site mobile machinery and lorries



1 m³ of Asphacal® TC protects up to 50 000 m² of tack coats



REFERENCES

France

Motorway network:

- Société des Autoroutes du Nord et de l'Est de la France (SANEF): **A4, A26, A1, A29, A2**
- Société des Autoroutes Paris Normandie (SAPN): **A13, A29, A131**
- Autoroutes du Sud de la France (ASF): **A11, A9, A7, A837**

- Autoroutes Paris-Rhin-Rhône (APRR): **A5**

National roads:

- RN104 (Etiolles, 91)

Local roads:

- Ring Havre
- Lille Urban Community

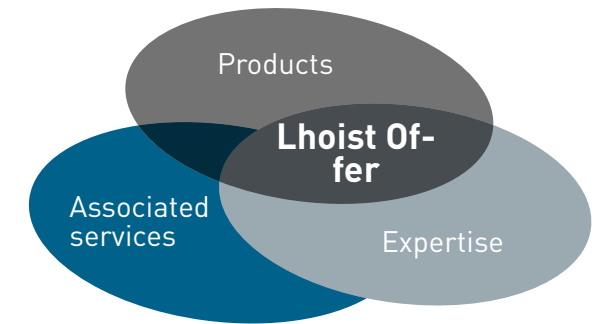
Belgium

National roads:

- N25

Lhoist provides:

- Asphacal® **products**
- **Associated services** for the optimum use of our products
- The necessary **expertise** in order to transform your needs into a longer-lasting solution



LOGISTICS

The Lhoist Group offers you its logistic services which determine the solution that is best suited to your needs and ensures the delivery of its products to your storage units.



TECHNICAL ASSISTANCE

The engineers and technicians of Lhoist Engineering & Lime Applications provide you with their expertise of Lhoist products and their knowledge of industrial processes. They advise you on the best use of the products and support you in the implementation of a technical solution that is suited to your industrial facilities.

R&D

Thanks to a modern R&D centre which gathers together over 40 engineers and technicians, the Lhoist Group is ready to meet the specific needs of its clients. Whether it is a question of carrying out studies or developing new products, the Lhoist Group is able to develop a tailor-made solution with you.

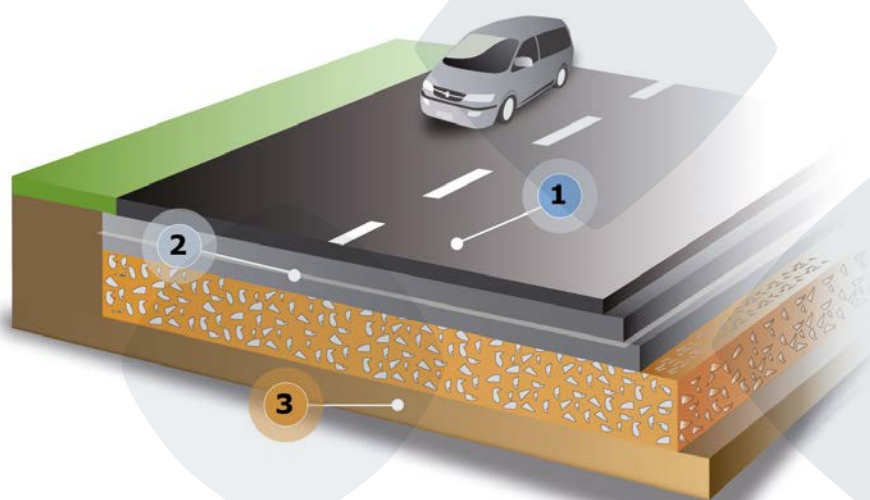


ON-SITE TRIALS

The Lhoist Group has developed an offer for the provision of mobile storage facilities with industrial capacity which thereby allow their customers, who so wish, to equip themselves with an additional storage capacity that is specific to Lhoist products.



Asphacal® H, BK and TC
are products of the Asphacal® range,
developed by Lhoist for Civil Engineering.



- ① **Asphacal® H:** To improve the durability of surface courses
- ① **Asphacal® BK:** To control the breaking of your emulsion technologies
- ② **Asphacal® TC:** To increase the efficiency of tack coats
- ③ **Proviacal®:** To treat soils and other clayey materials

For more information
Please visit: www.asphacal.com



www.lhoist.com