

# Our global technology for your local needs

**AkzoNobel** 

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# A worldwide partner to the road industry

AkzoNobel Asphalt Applications is the world's leading company in its field, serving the road industry since the beginning of the 1940s. We deliver adhesion promoters, emulsifiers, warm mix additives and technology for the road construction and maintenance industry all over the world.

AkzoNobel Asphalt Applications specializes in applying advanced chemistry for all applications used by the asphalt paving industry. Our business philosophy is to develop sustainable chemistry and technology which improves the performance and durability of asphalt pavements.

Asphalt Applications is a part of AkzoNobel, a global fortune 500 company leading in chemicals and coatings with a turnover of 14,6 billion Euro and about 55,000 Employees.

We are consistently ranked as one of the leaders in the area of sustainability.

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**A total commitment to  
asphalt paving technology  
is our philosophy**





## Technical service centres and R&D

**We have seven laboratories worldwide with two based in Europe, one in the USA, one in Brazil and three in Asia.**

Our laboratories are there to provide technical support to our customers, to develop formulations and for problem solving using local bitumen and aggregate raw materials. Our two R&D Centres, one in Sweden and one in the USA, specialize in developing new products and technology.



We conduct training seminars and provide training for our customers, road authorities and other relevant agencies both in our own laboratories and on-site at our clients' premises. Our seminars and training sessions are focused on technology transfer and are conducted by our research chemists, lab engineers and application experts.

# Redicote® emulsifiers

Bitumen emulsion is a versatile material that can be used in a wide range of applications for road construction and maintenance. These applications are recognised as being cost effective, consume less energy and have lower impact on the environment. Our wide range of emulsifiers enables our clients to fully utilise the advantages of these applications.



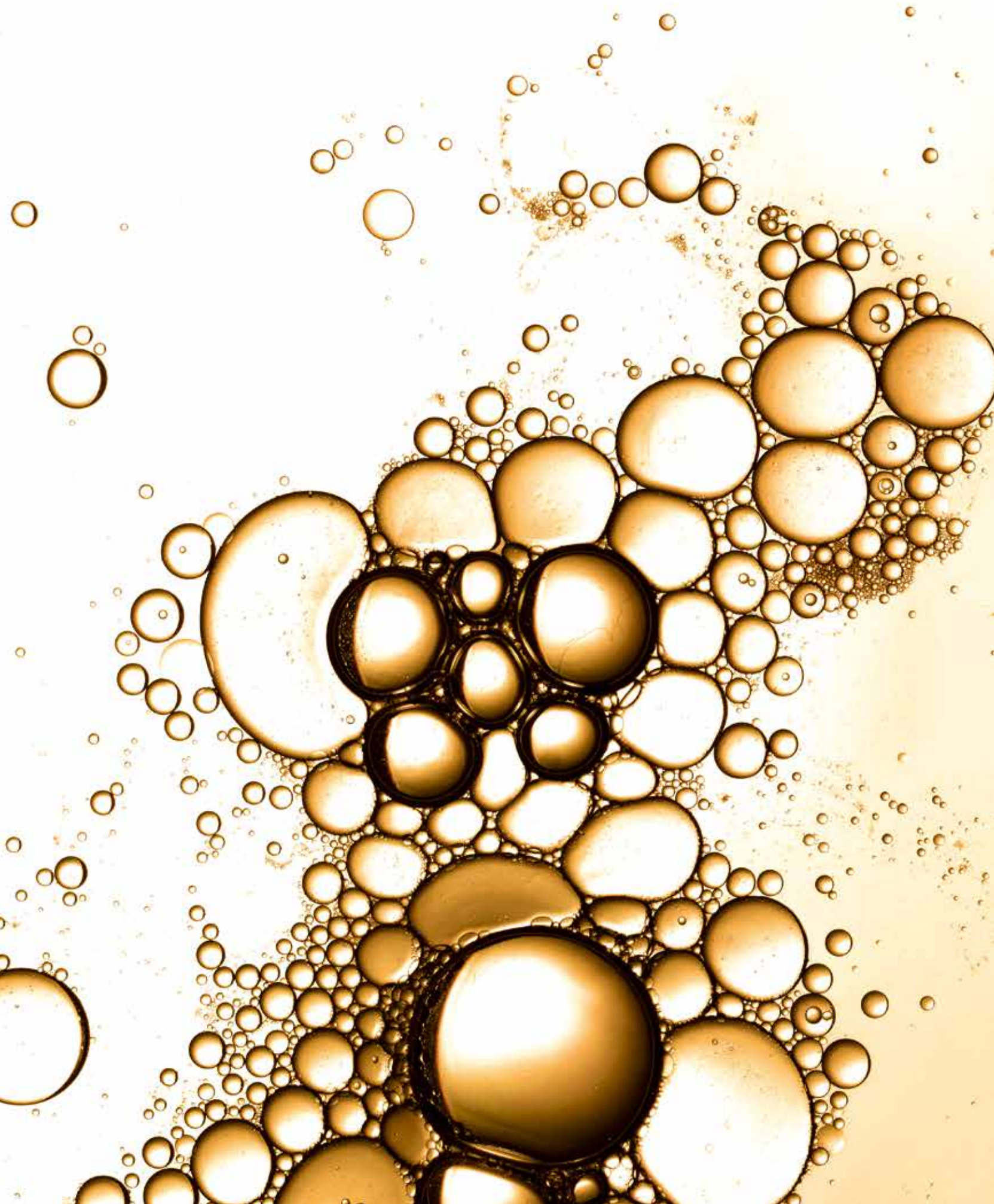
With our comprehensive range of **Redicote®** emulsifiers, emulsions can be customised to suit your local requirements using local raw materials. Our emulsifiers are used globally and have been proven to work with many different kinds of aggregates and bitumen used under all types of climatic conditions.

Selecting the right type of emulsifier to develop suitable emulsion formulations is a highly specialised field requiring a combination of experience and local knowledge. Hence, we have dedicated laboratories in each territory where we can develop emulsion formulations using your raw materials, to comply with local specifications and with the desired properties.

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A wider range to suit  
your needs





# Adhesion promoters

In developed countries, road maintenance or reconstruction and rehabilitation represent the main road paving activities. In developing countries the focus is more on construction of road networks. In both cases, the durability and life expectancy of the asphalt pavement is of prime importance.

**The fact that roads and highways are susceptible to water damage is well known.**

The symptoms of water damage include rutting and shoving, loss of chippings from surface dressings (chip seals), bleeding, washing out of fines and ravelling of surface layers leading to potholes. This type of deterioration is accelerated when the pavement undergoes freeze-thaw cycles. But the underlying problem on a molecular scale is loss of adhesion between the binder and the aggregate in the presence of water. This is often referred to as stripping.



**Wetfix<sup>®</sup>, Redicote<sup>®</sup>, Kling Beta<sup>®</sup>, Magnabond<sup>™</sup>** and **PermaTac<sup>®</sup>** adhesion promoters create a strong chemical bond between bitumen and aggregate and these bonds are resistant to the action of water which extends the durability of the pavement.

The dosage level of adhesion promoters in asphalt pavement is very low. The additional cost of adding **Wetfix<sup>®</sup>, Redicote<sup>®</sup>, Kling Beta<sup>®</sup>, Magnabond<sup>™</sup>** and **PermaTac<sup>®</sup>** is small compared to the total cost of constructing the pavement and the extended service life of the asphalt pavement provides big savings in the long run.

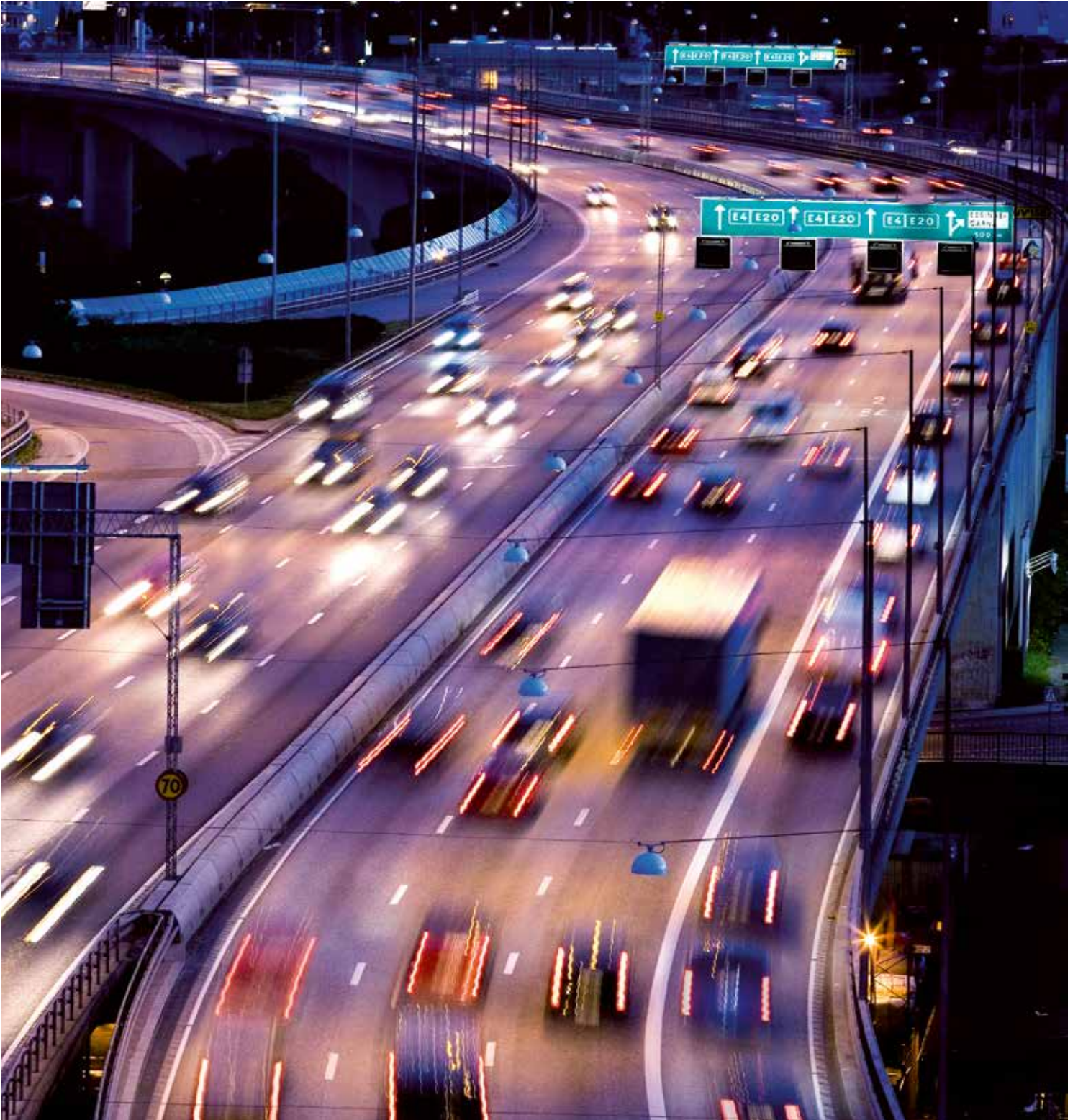
**Wetfix<sup>®</sup>, Redicote<sup>®</sup>, Kling Beta<sup>®</sup>, Magnabond<sup>™</sup>** and **PermaTac<sup>®</sup>** products protect asphalt pavements from moisture damage especially when exposed to frequent rain and freeze thaw cycles, thereby lowering maintenance costs.

In several countries, due to extensive testing, trialing and experience, it is mandatory to add adhesion promoters to asphalt mixes.

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Creating a bond  
for the future





In recent years, the Asphalt Industry has been diligently looking at ways to reduce the impact of road construction and maintenance on the environment. The development of reduced temperature asphalt or "Warm Mix Asphalt" technology has been the cornerstone. Reduction of emissions during mix production and paving at lower temperatures not only reduces the carbon footprint of asphalt but also helps to reduce the amount of expensive fuel needed. In addition, it greatly reduces vapours and aerosols behind the paver which provide a much better working environment for the paving crew.

# Rediset® warm mix additive

There are several ways to lower the impact of infrastructure on the environment. One way is to reduce emissions and fumes during production and paving by lowering the temperature of the mix. Major progress can also be made by building longer lasting roads using good quality materials, good construction practices and through the use of adhesion promoters to prevent premature moisture damage.

The use of recycled and locally sourced materials greatly reduces the energy required to transport large quantities of aggregate which also reduces the impact on the environment.

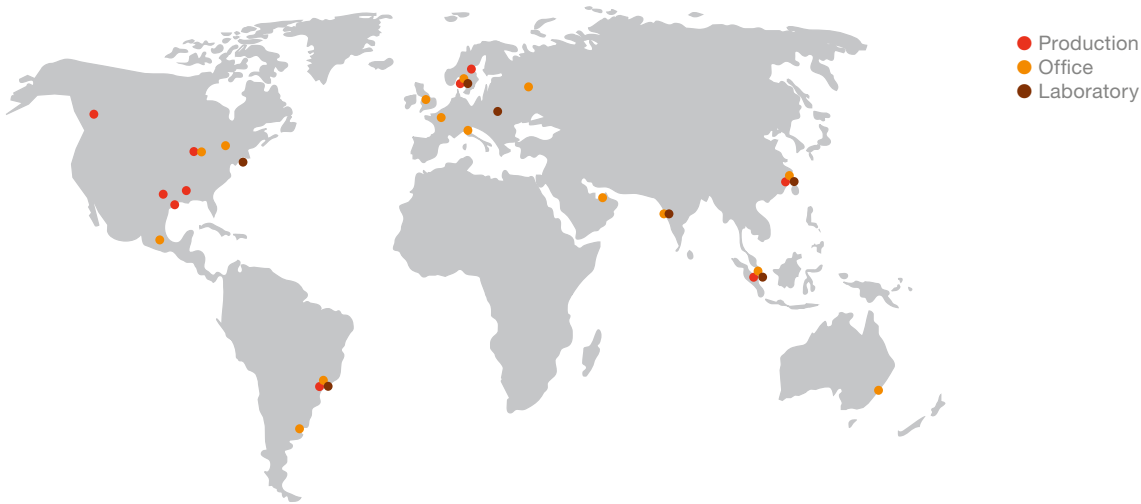
AkzoNobel additives are designed to work with local materials that may be prone to stripping and there are additives specially designed to work with RAP (Reclaimed Asphalt Pavements).

**Rediset® WMX** and **LQ** warm mix additives provide certain unique benefits in addition to the general properties of lowering mixing and compaction temperatures. **Rediset®** additives provide superior compaction and improved moisture resistance properties thereby resulting in longer lasting roads.









# Global support

The strength of our organization is our ability to provide a wide range of application solutions to our customers worldwide. We have the ability to help customers deal with complex challenges related to bitumen, aggregate, chemical additives and equipment.

**We have application experts in Europe, the Americas and Asia who work closely with our customers solving their problems and thereby providing the best technical support to our customers globally.**

## **Production**

Our chemical production facilities are located in Europe, USA, South America and Asia. Our production sites are ISO certified and guarantee consistent quality.

To support our customers and provide quick deliveries we maintain stock either at central locations in the region or at our local distributors' premises. We are close to you wherever you are!

## **Sales**

Our head office is located in Chicago, USA, with regional offices in Sweden and Shanghai. We are represented in most countries by either local agents, distributors or with our own sales offices. For detailed information regarding your closest representative please visit our web-site: [www.surfactants.akzonobel.com/asphalt](http://www.surfactants.akzonobel.com/asphalt).

Our experienced sales force can provide you with recommendations on products and technical advice to most problems and support from our technical service centres is there for you when needed.



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AkzoNobel is a leading global paints and coatings company and a major producer of specialty chemicals. We supply industries and consumers worldwide with innovative products and are passionate about developing sustainable answers for our customers. Our portfolio includes well-known brands such as Dulux, Sikkens, International and Eka. Headquartered in Amsterdam, the Netherlands, we are consistently ranked as one of the leaders in the area of sustainability. With operations in more than 80 countries, our 50,000 people around the world are committed to delivering leading products and technologies to meet the growing demands of our fast-changing world.

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