Acoustic road markings reduce the risk of accidents

Road authorities all over the world are looking for ways to reduce the number of accidents. Driving off the road as a consequence of fatigue, lack of attention or distraction is one of the main causes of accidents. Since nodding off at the wheel is one of the most frequent hazards in traffic, many road authorities and planners take these risky situations into account and initiate specific measures during the renovation or new construction of roads to warn drivers who are veering off the road due to fatigue or distraction.

To improve road safety, the New Zealand Transport Agency (NZTA) uses so-called “audio tactile profiled road markings” (ATP) to mark the shoulder areas of their roads. These road markings comprise of raised bars that are applied in a transverse direction to the direction of travel and are raised from the pavement. When these raised bars are driven over, they alert the driver of the risky situation with a tactile and audible warning to ensure a timely response. Since numerous studies have documented the safety benefits of ATP roadmarkings (e.g. NZ Transport Agency; Research Report 365), such markings are also incorporated into the new Waikato Expressway in northwestern New Zealand. Further details can be found in our interview.

Dear Readers,

More stringent traffic safety regulations are being enforced all over the world, and New Zealand is no exception. In the midst of a unique natural landscape, this island state in the South Pacific is known as a world of possibilities and is often referred to as the “green adventure playground” for good reason. Considering its relatively small population, New Zealand has a well-developed transport infrastructure. In addition to coastal shipping and air traffic, roads are the most important transport routes in the country. However, the main overland highways frequently only have one lane in each direction and the less traveled sections of these routes are unpaved, which repeatedly causes serious traffic accidents. To increase road safety, the government of New Zealand in turn launched the “Safer Journeys” concept in 2010 with the goal of significantly reducing the number of accidents by 2020 with an improved road network. This newsletter explains the role that the DEGAROUTE® team and its partners are playing in this project.

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The Waikato Expressway project is part of the New Zealand government’s national infrastructure plan. The two-lane expressway will extend from Bombay Hills to the south of Cambridge. Several sections have already been completed and the entire highway is to be finished by 2019. To guarantee greater safety for drivers, a durable ATP cold plastic MMA marking is used on the shoulder of the road. Formulated by the road marking manufacturer Ennis-Flint Traffic Safety Solutions on the basis of DEGAROUTE®, the material is applied on the pavement with marking equipment by Hofmann Roadmarking Systems.

What is the significance of the new expressway for the Waikato region?

Ian Cocoran (Ennis-Flint): “The Waikato Expressway is one of the seven largest road construction projects in New Zealand. With a traffic volume of around 10,000 vehicles a day, its purpose is to improve the flow of traffic and road safety in central New Zealand. The new expressway will not only ensure a faster traffic connection from the south of the Waikato region to the business hub of Auckland, but the application of ATP cold plastic MMA markings on the shoulder of the road will also drastically decrease the accident risk.”

What have been your experiences with ATP cold plastic MMA markings so far?

Cocoran: “The New Zealand Transport Authority (NZTA) has found ATP cold plastic MMA markings very effective for reducing accidents caused by veering off the road. In addition, our markings are highly visible at night and in wet conditions because rain water quickly drains through the raised bars.”

Which marking equipment was used in the project?

Torsten Pape (Hofmann): So far, two of our H18 roadmarking machines are being used in New Zealand. These are compact, narrow, versatile and highly durable machines with the “Made in Germany” quality seal. Members of our service team, which supports our customers on a global scale, now maintain this equipment locally.

What is so special about the equipment in relation to the current risk situation?

Pape: H18 marking machines are particularly suitable for the application of extruded cold plastic MMA and, in this case, ATP markings. Drivers moving over the raised bars feel the vibration and hear the noise as warning signals—even drivers of heavy multi-ton trucks can sense the effect. Our equipment is able to apply smooth as well as structured (agglomerate) and spot-flex profile markings.”

How do customers benefit from the cooperation of Evonik, Ennis-Flint, and Hofmann?

Biju Nair (Evonik): Bundling our experience, competencies and expertise as leading roadmarking experts enables us to position ourselves as system providers to offer the full service scope of road markings from production to road application. Three strong partners joining forces, so to speak, for greater road safety.”