FIBER-LOOP
INFORMATION SHEET

General

During the implementation of detection loops in the asphalt, in the eyes of Infra Sensor Solutions the operational procedure is very illogical.

When the top layer of the asphalt is installed the asphalt is rolled firmly to a nice and compact structure. After a period of cooling down this firm structure is destroyed by making grooves in the top layer to install the detection loops. After installation of the detection loops the grooves are filled up with hot or cold bitumen.

The result of this configuration is that during firm maintenance all detection loops are to be replaced. Through the years you need regular maintenance to keep the detection loops operational. Consider the polishing of the loops because of the arising of rutting profile, erode the edge structure of the asphalt, to come off of the detection loops during periods of frost, et cetera.

Infra Sensor Solutions designed a fibre optic detection loop. This detection loop is installed in the under layer of the asphalt and will remain operational during and after firm maintenance with top layer asphalt replacement. Another advantage of the properties of fibre optic is the immunity of electro magnetic interference, this means that this solution functions optimally in all circumstances. By using this clever build solution the asphalt top layer stays intact and the time between maintenance is longer. The end result is a longer availability if the lanes.

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InfraSENSOR SOLUTIONS

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The ‘FIBER LOOP’ solution of Infra Sensor Solutions

FBG | Fiber Bragg Grating

Our ‘fiber loop’ solution is based on the innovative Fibre Bragg Grating (FBG) technology. This technology introduces several unique advantages such as the high reliability, accuracy and the long life cycle.

The high sensitivity of this technology enables to install the detection loops deep under the top layer of the asphalt, without loosing any functionality.

Advantages

- 24/7 operational
- Easy to install
- No interference of external sources
- Installed under the top layer of the asphalt
- Structure of the top layer of the asphalt stays intact
- Traffic-flow measurement based on Fibre Optic
- No need of power on end location
- No maintenance
- 100% accuracy
- Very long lifecycle

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FIBER LOOP detection principle

The installed fibre optic sensor detects and records every passage. The gained information is stored to a database and the needed information can be reported to the customer. Because of the open interface it can easily be connected to any existing system.

What functionality can be offered?

- Traffic counting
- Speed
- Differentiation in vehicle classification
- Traffic flow

TCO (Total Cost of Ownership)

The availability of the road in which the 'FIBER LOOP' is installed differs complete compare to the traditional copper detection loop. Main reason is the free maintenance in our solution. Another important parameter in the TCO calculation is the lifetime of the products. We can guarantee that the lifetime of the 'FIBER LOOP' is much higher than the traditional detection loops.

Maintenance such as polishing, replacement, coming off and repairing the asphalt structure as necessary with the use of traditional configurations will be reduced to zero. This means a huge cost reduction.

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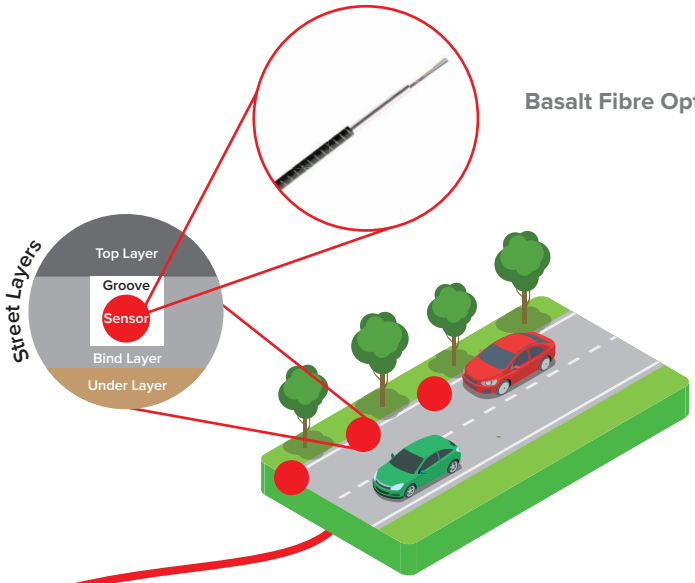
How our solution works.



Standard single mode fibres

24/7

Monitoring Service
Monitoring and alerts have access to live data

Database
Interface to existing traffic monitoring system

Web based Interface
Works with any system and web browser, pictoral representation of data

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