

COOL  
& LOW NOISE  
ASPHALT LIFE PROJECT



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# The first results are there... And they are good!

The LIFE COOL & LOW NOISE ASPHALT project foresees evaluation measures throughout the project in order to assess the impact of pavement surfaces on **noise reduction** and **thermal performance**. These measurements make it possible to compare the performance of the coatings with the benchmark (control zone), but also to evaluate their evolution over time, as well as the real cost of the solutions and their mechanical durability. Beyond these measures, a social analysis to improve the quality of life is carried out periodically via a satisfaction survey. **A first wave of acoustic measurements is presented to you in this leaflet.**

**DISCOVER THE RESULTS BY TURNING THE PAGE**



# ACOUSTIC MEASUREMENTS

**Two types of acoustic measurements are carried out.** The first aims to compare the sound levels on the facade of a building, between innovative and benchmark coatings. This is an annual, continuous wave of measurements. The second relates directly to the noise of the tire on the roadway (also called “CPX measurements”). It is an acoustic acquisition system installed on an electric car. These are ad hoc measurements carried out once a year, during the night. Their main objective is to follow the evolution of the products over several years, in order to study the durability of their performance. These first results show a significant decrease in sound levels at 2 of the 3 pilot sites<sup>1</sup>, both from the point of view of acoustic measurements and the social survey.

<sup>1</sup> For the 3rd pilot site, the lack of reduction can be explained by a reference that is not representative of reality (the reference was redone in summer 2020). Results will be available soon.

## Rolling noise:

this is the noise created by the contact of the tires with the roadway, measured at the tire-pavement contact and at the level of the building facade

## Compared to the benchmark:

this is the measure against a «classic» coating installed at the same time as the innovative, to maintain a consistent comparison in terms of surface wear characteristics

## Compared to the initial state:

this is the measurement relative to the existing coating before the work carried out for the experiment

## NOTEWORTHY

The reduction in noise levels is greatest at night when passing isolated vehicles, at higher speeds and other reduced noise sources (work, human activity, etc.).

Acoustic performance measurements 2020	Rolling noise on the buildings front <sup>2</sup>		Rolling noise at pavement level (CPX) <sup>3</sup>	
	Compared to the reference	Compared to the existing	Compared to the reference	Compared to the existing
LIFE goals in dB(A)	≤ -1	≤ -2	-2	-3
rue Frémicourt (SMaphon)	-1.2	-2.9	-2.2	-2.3
rue de Courcelles (BBphon+)	-2.4	-2.1	-1.5	-2.4
rue Lecourbe (PUMA)	--	-1.1	--	--

<sup>2</sup> Deviations observed Δ LA10 10 pm-6am (all days combined).

<sup>3</sup> Results of CPX measurements carried out in August and September 2020 for coatings after 22 to 23 months of age.

## SATISFACTION SURVEY<sup>4</sup>

Since the change of the road surface in the last quarter of 2018

**63%** of those questioned noted a **reduction in road noise.**

### AMONG THEM

**32%** consider this reduction weak  
**44%** consider it moderate  
**23%** consider it important

**82%** attribute this reduction to the component «rolling noise»  
**6%** attribute it to the «engine noise»

<sup>4</sup> A satisfaction survey on the perception of road noise was implemented in situ in October 2019 among users and residents of rue Frémicourt. The questionnaire is available on the website.

## BENEFITS AND FEELING

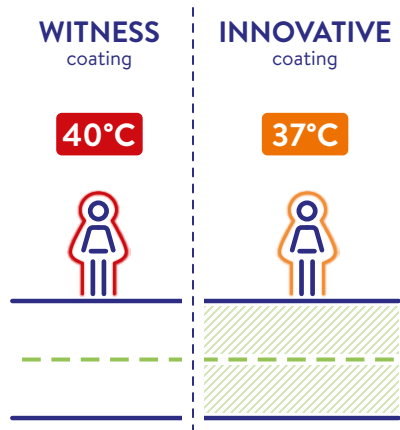
**- 3 decibels**

is equivalent to

dividing road traffic **by 2**

# THERMAL MEASUREMENTS

The thermal measurements are not yet consolidated at this stage of the experiment and will be the subject of a future publication. As a reminder, the objective of the project is to obtain a perceived temperature drop of around  $-3^{\circ}\text{C}$ , for a cooler Paris.



**UTCI** : The Universal Thermal Climate Index calculates the thermal stress experienced by humans. The index scale is divided into several levels corresponding to different temperature intervals:

UTCI scale ( $^{\circ}\text{C}$ )	Heat stress level
above + 46	Extreme
+ 38 to + 46	Very high
+ 32 to + 38	High
+ 26 to + 32	Moderate
+ 9 to + 26	No stress

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Find the details of the measures  
and all the news of the project on

[life-asphalt.eu](http://life-asphalt.eu)



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