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# UNDERSTANDING OF “PERFORMANCE”

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Performance may be understood in different way depending on experience, knowledge, expectations. however people usually experience the design aspect in real life.

Therefore it is needed to find a distance to “design” reality and try to find independent description of phenomenon which is responsible for given (illuminating, light signalling etc.) function.

Transparent, comprehensive and indisputable justification should be delivered to each proposed „performance” requirement and should based on analysis and/or representative research results which are possible to independent verification.

## Example: performance base for frequency of direction indicator

Present frequency (1 to 2 Hz) is design based because for typical incandescent bulb time between switching off the voltage and decrease intensity is about [200 ms] while by switching on about [100 ms]. Higher frequency than 1 Hz might be less visible.

Present frequency of direction indicator allow for proper reaction after about 1 sec not including energising delay. It correspond to 36 m driving distance by speed of 130 km/h which is just acceptable during overtaking in motorway conditions. There is usually no problem by slower manoeuvre.

From point of view of human sight to easy recognition between flashing and constant illumination the frequency by duty cycle of 50% the highest frequency is 4 - 5 Hz. It correspond to 6 m driving distance by 130 km/h. From safety and performance point of view 4Hz frequency (+/-10%) with duty cycle [45%] - to [55 %] would be recommended.

However we are used for lower and design based frequency and probably do not imagine that higher frequency would be „performance” and more safety oriented. And proposal to increase frequency probably would be treated as „technology restrictive” in regard to classic bulbs or dynamic direction indicator.

## CONCLUSIONS

We should be very careful and aware what does „performance” mean and how we define it

There is no sense to overuse „performance” term for really design based requirements if it is no interest to have it

**Thank you for attention**



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