

# Considerations for next LEDr categories

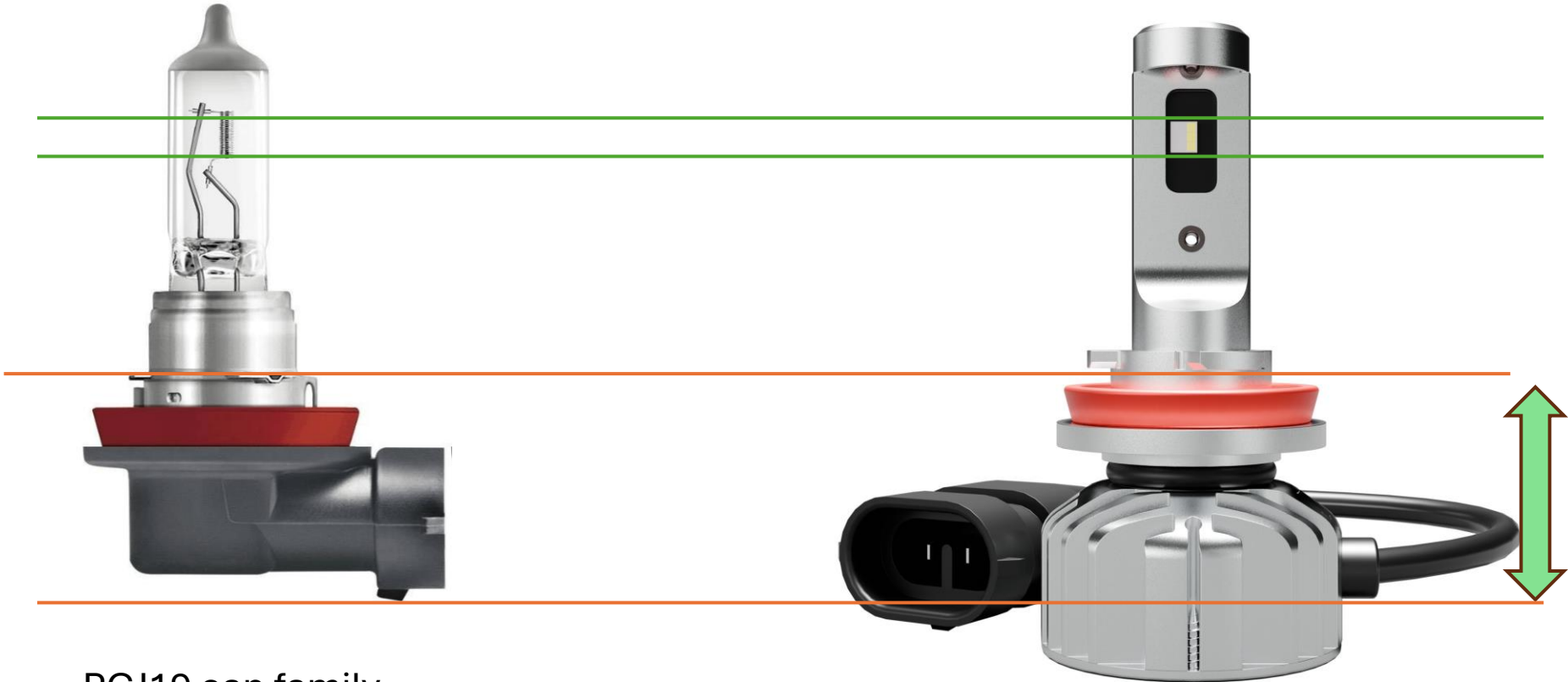
Edited in the TFSR meeting 2024-10-08

# Content

- Cap size of ECE solutions
- Product examples with National approvals
- Accessories



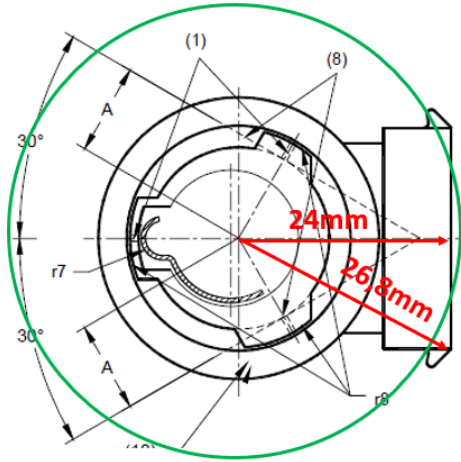
# Cap size : Halogen and LEDr H11 for comparison



Almost same size  
See next page

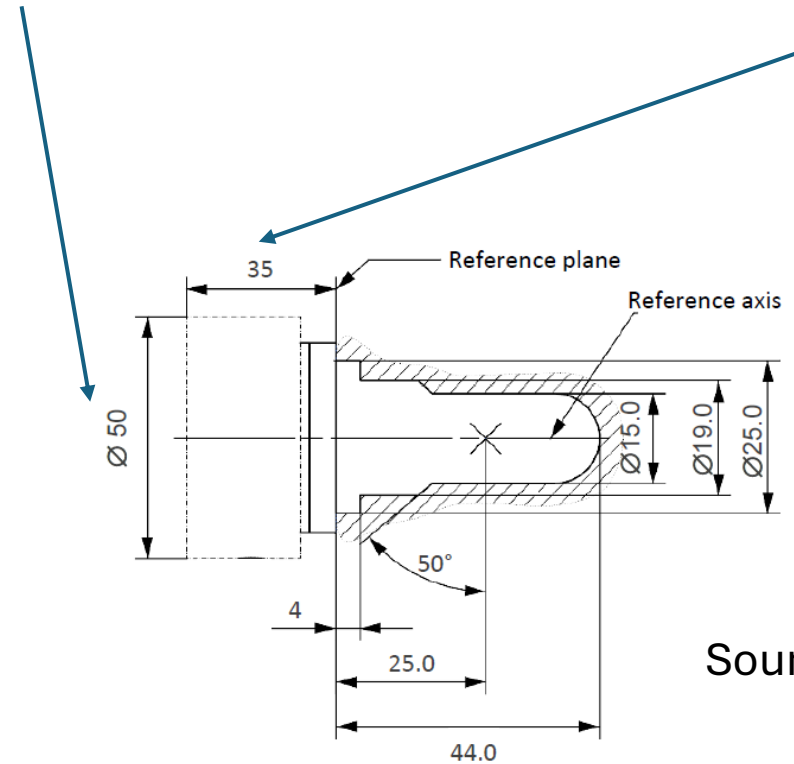
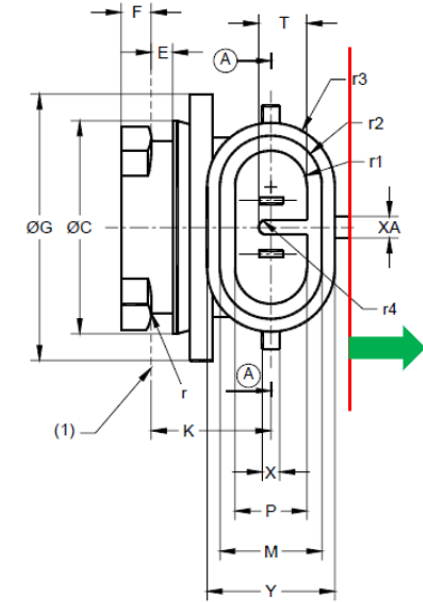
PGJ19 cap family  
Sealed, „plastic base“

# H11 cap comparison: HAL and LEDr



max. dimensions of:  
H11 filament: 24.0mm resp. 26.8mm  
H11/LED: 25.0mm

max. dimensions of:  
H11/LED: filament + 10.6mm



Source: H11 LEDr category sheet (R.E.5)

# Light sources with similar cap concept as H11 (single filament lamps, sealed, plastic) Part 1/2

	Cap family	Luminous Flux	Comment / difference to H11	Main application
<b>H11</b> <b>(H11B)</b>	Sealed, plastic PGJ19-2	1350		Front fog
<b>H8</b> <b>(H8B)</b>	Sealed, plastic PGJ19-1	800	Same cap family as H11, less flux	Front fog
<b>H16</b>	Sealed, plastic PGJ19-3	500	Same cap family as H11, less flux, very compact filament box	Front fog
<b>HB4</b> <b>(HB4A)</b>	Sealed, plastic P22d	1095	Similar cap family as H11, similar flux	front fog, low beam

# Light sources with similar cap concept as H11 (single filament lamps, sealed, plastic) Part 2/2

	Cap family	Luminous Flux	Comment / difference to H11	Main application
<b>H11</b> <b>(H11B)</b>	Sealed, plastic PGJ19-2	1350		Front fog
<b>H9</b> <b>(H9B)</b>	Sealed, plastic PGJ19-5	2100	Same cap family as H11, significantly more flux	high beam
<b>HB3</b> <b>(HB3A)</b>	Sealed, plastic P20d	1860	Similar cap family as H11, more flux	high beam, (low beam projector)
<b>HIR2</b>	Sealed, plastic PX22d	1875	Similar cap family as H11, more flux	Low beam and high beam (bi-projector)

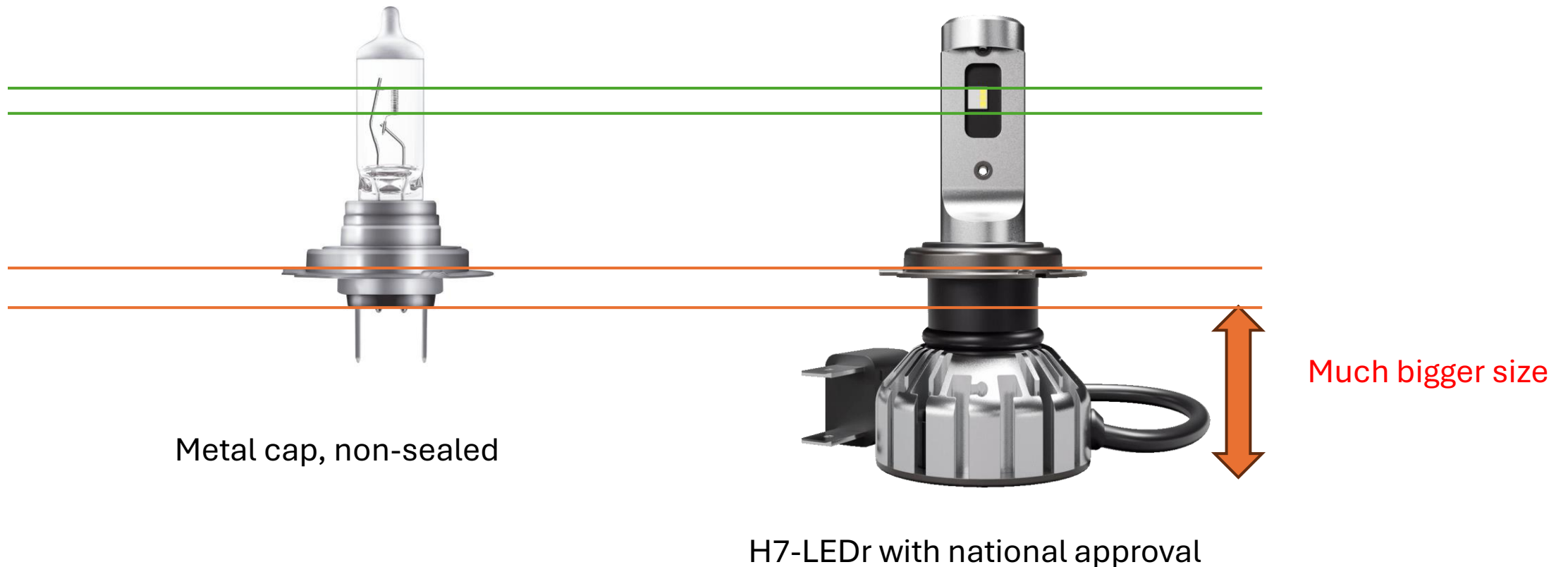
Biggest challenge:

- High flux level

# Cap size : Halogen and LEDr H7 analysis



- Today (=national approvals) the cap-size of the H7-LEDr is much bigger than the halogen cap



# H7 analysis – two-part solutions



Due to the larger size of the LEDr cap, a removable reference ring is needed in order to address all fixation solutions used in the market, linked to a positive list



Halogen

H7 LEDr with national approval



LEDr body

+

Reference ring

**Such a two-part solution is not the target for UNECE**





# H7 analysis - complexity with accessories

- Several accessories are necessary, making the use complex



Such complexity is not the target for UNECE

# Light sources with significantly different cap concept as H11 (non-sealed, metal base)

	HAL Base	Luminous Flux	Comment / difference to H11	Main application
<b>H11</b>	Sealed, plastic PGJ19-2	1350		Front fog (low beam)
<b>H1</b>	P14.5s	1550	Much smaller cap	High beam
<b>H3</b>	PK22s	1450	Much smaller cap	High beam
<b>H4</b>	P43t	1650 / 1000	Smaller cap, dual-function	High beam + low beam
<b>H7</b>	PX26d	1500	Much smaller cap	Low beam, high beam
<b>H18</b>	PY26d-1	1700	Much smaller cap, higher flux	Low beam
<b>H19</b>	PU43t-3	1750 / 1200	Smaller cap, dual-function	High beam + low beam
<b>H15</b>	PGJ23t-1	260 / 1350	Smaller cap, dual function	DRL + high beam

Biggest challenges:

- Compact caps
- High flux level
- Dual-functionality

# Conclusion: Proposed way forward for LEDr category sheets

