

Considerations for next LEDr categories

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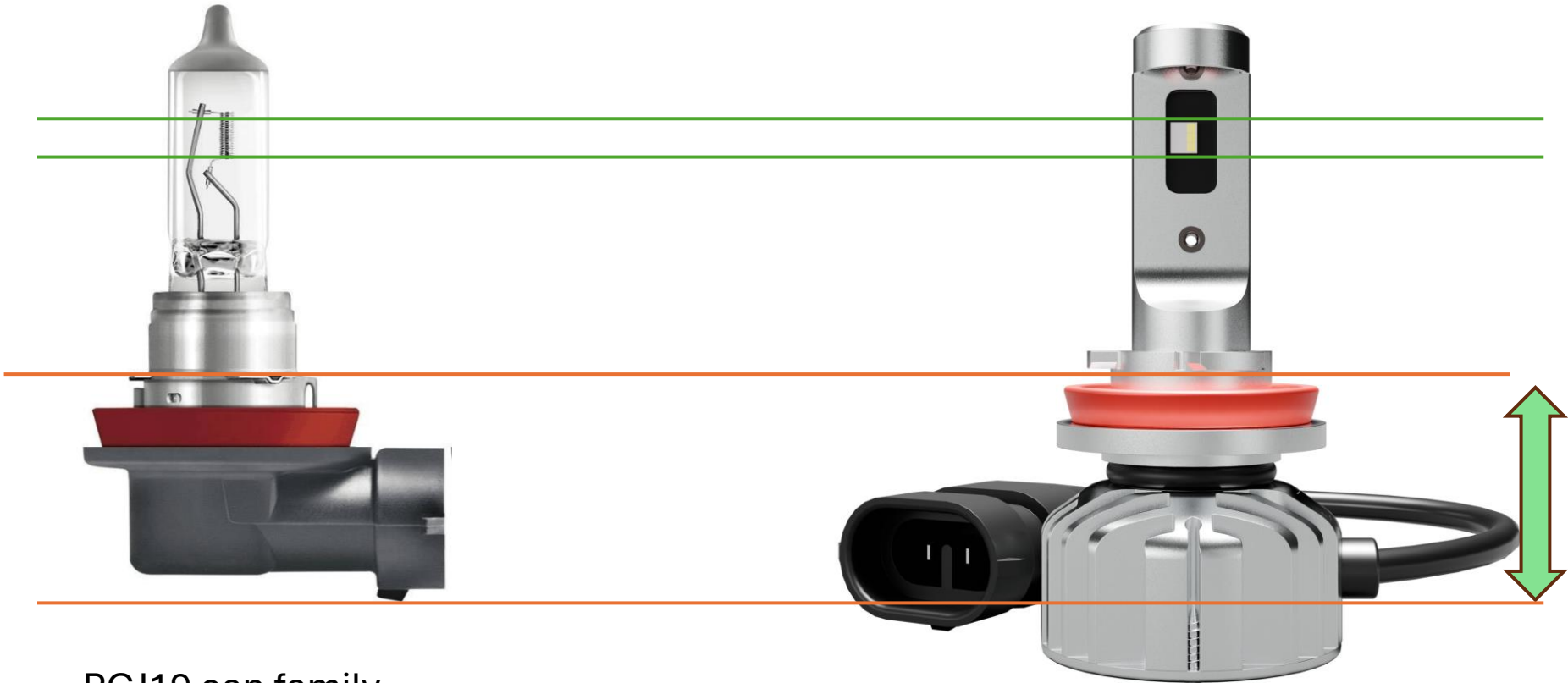
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Content

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



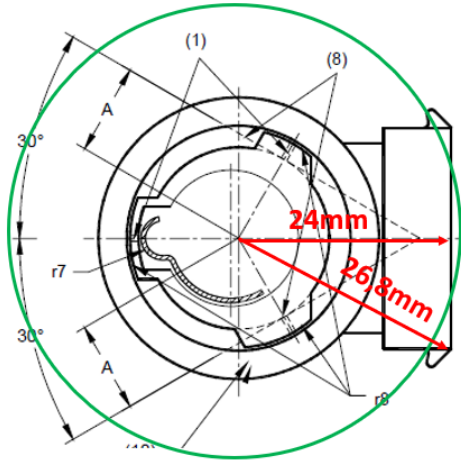
Cap size : Halogen and LEDr H11 for comparison



Almost same size
See next page

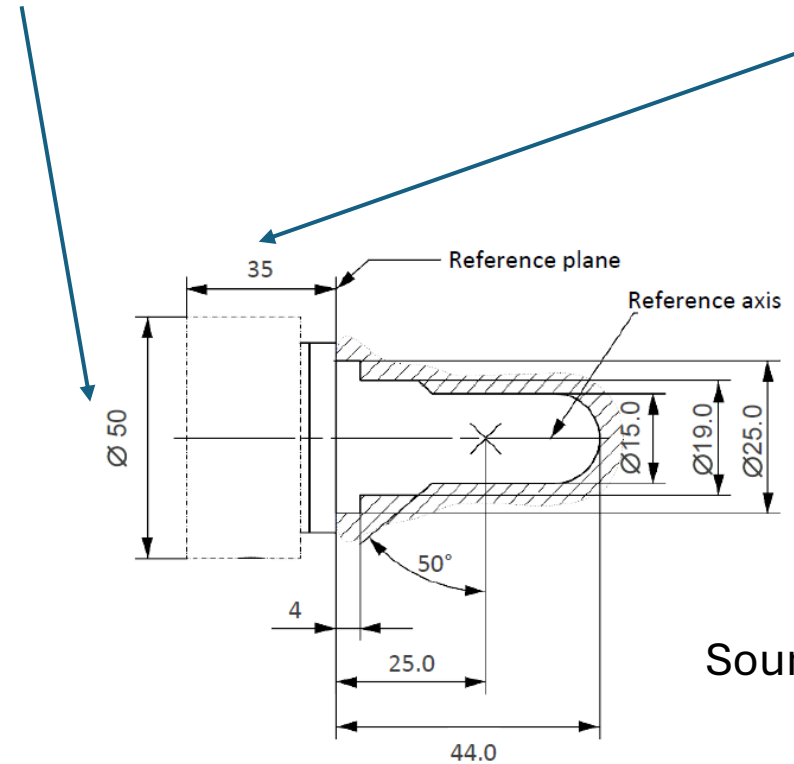
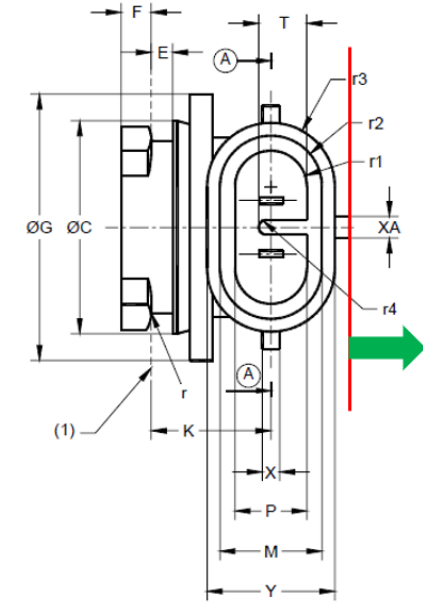
PGJ19 cap family
Sealed, „plastic base“

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
H11 (H11B)	Sealed, plastic PGJ19-2	1350		Front fog
H8 (H8B)	Sealed, plastic PGJ19-1	800	Same cap family as H11, less flux	Front fog
H16	Sealed, plastic PGJ19-3	500	Same cap family as H11, less flux, very compact filament box	Front fog
HB4 (HB4A)	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
H11 (H11B)	Sealed, plastic PGJ19-2	1350		Front fog
H9 (H9B)	Sealed, plastic PGJ19-5	2100	Same cap family as H11, significantly more flux	high beam
HB3 (HB3A)	Sealed, plastic P20d	1860	Similar cap family as H11, more flux	high beam, (low beam projector)
HIR2	Sealed, plastic PX22d	1875	Similar cap family as H11, more flux	Low beam and high beam (bi-projector)

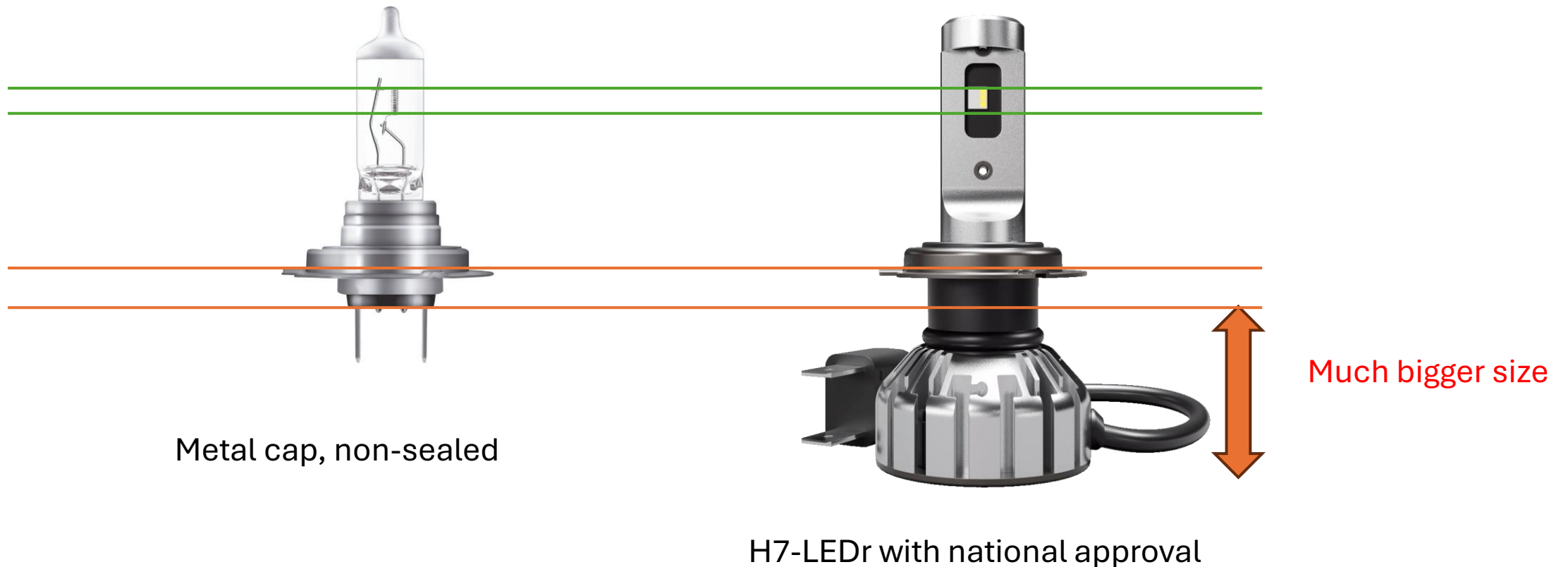
Biggest challenge:

- 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
H11	Sealed, plastic PGJ19-2	1350		Front fog (low beam)
H1	P14.5s	1550	Much smaller cap	High beam
H3	PK22s	1450	Much smaller cap	High beam
H4	P43t	1650 / 1000	Smaller cap, dual-function	High beam + low beam
H7	PX26d	1500	Much smaller cap	Low beam, high beam
H18	PY26d-1	1700	Much smaller cap, higher flux	Low beam
H19	PU43t-3	1750 / 1200	Smaller cap, dual-function	High beam + low beam
H15	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

