


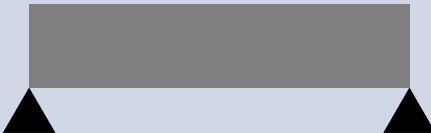
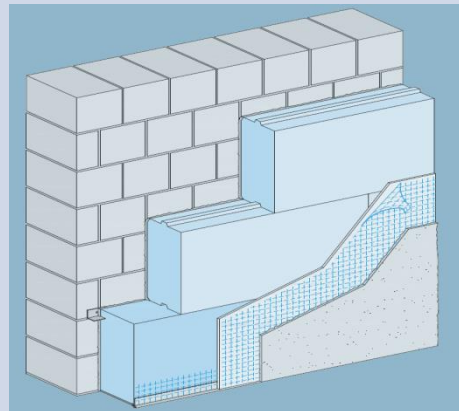

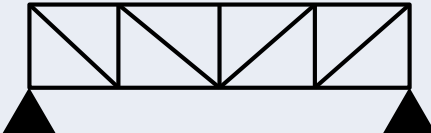
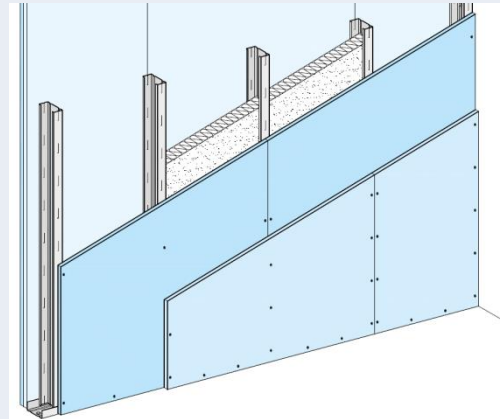
## DCEE 2016 – Rome 6<sup>th</sup> of October 2016

### Thermal and sound performance of lightweight constructions

- Definition
- Application
- Correlation
- Thermal insulation
- Sound insulation



## Definition of lightweight constructions

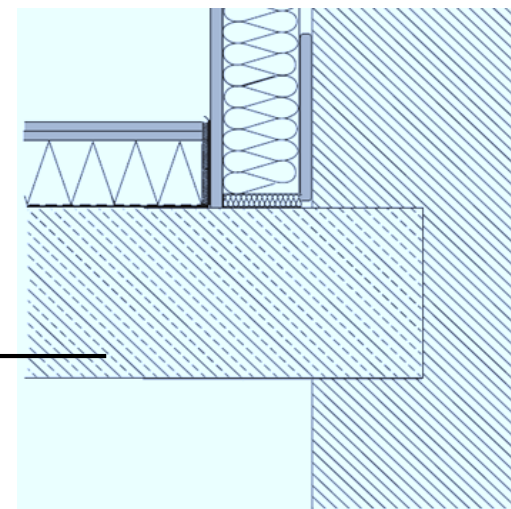
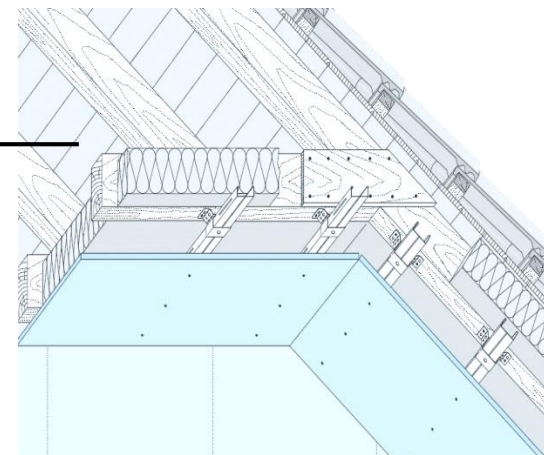
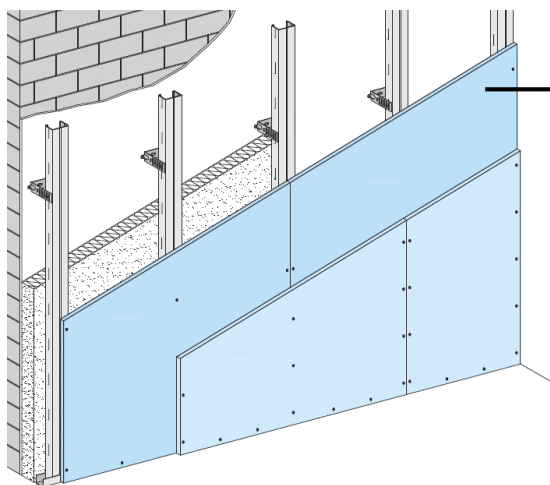
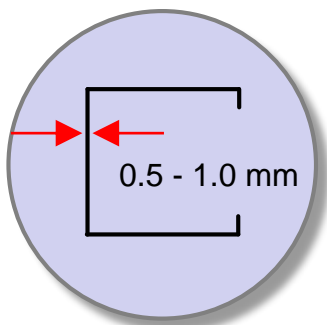
	Material	Structure	System
Heavy weight			
Light weight			

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# Thermal and sound performance of lightweight constructions



Drywall systems – Non load bearing application



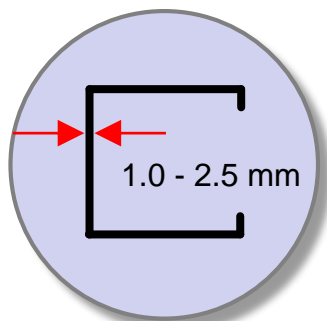


# DCEE 2016 - 6<sup>th</sup> of October

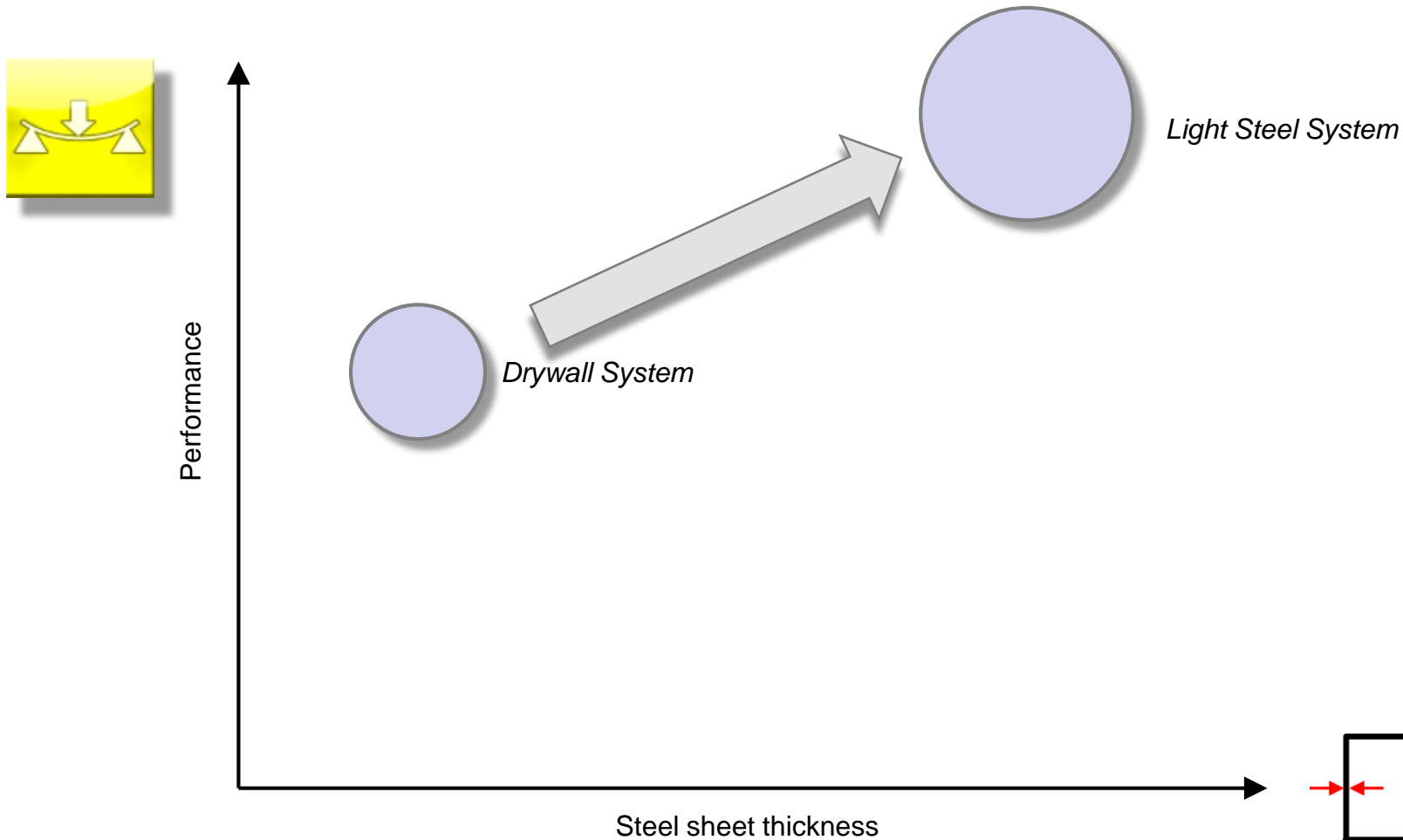
## Thermal and sound performance of lightweight constructions



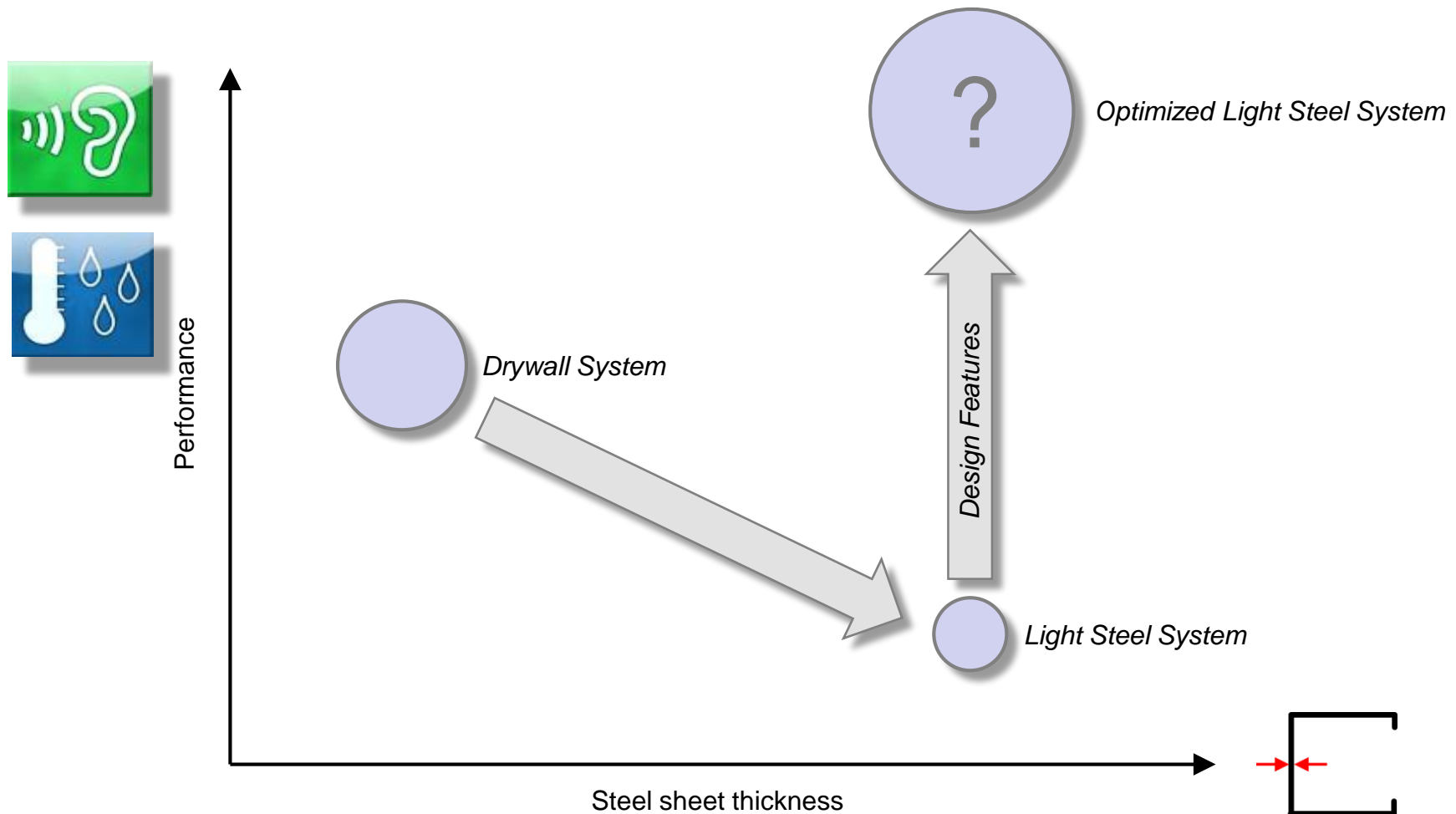
Light steel systems – Load bearing application



Correlation between structural performance and steel sheet thickness



Correlation between thermal/sound insulation performance and steel sheet thickness

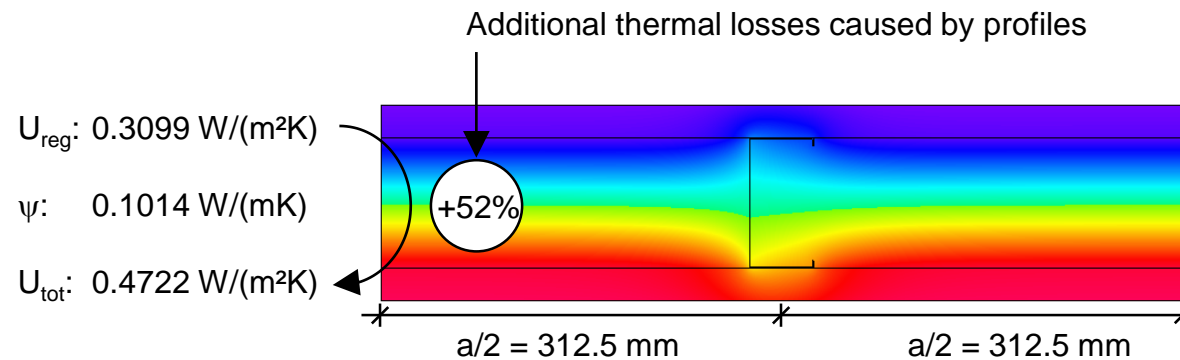
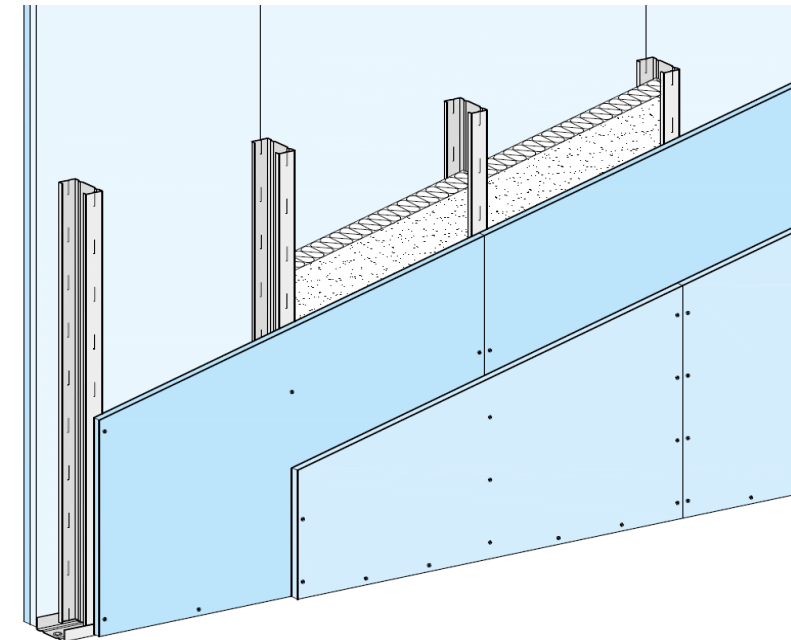
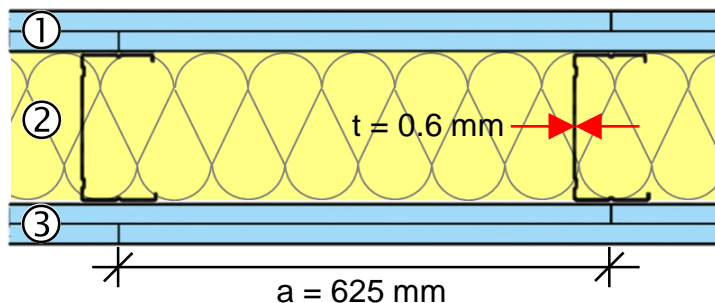






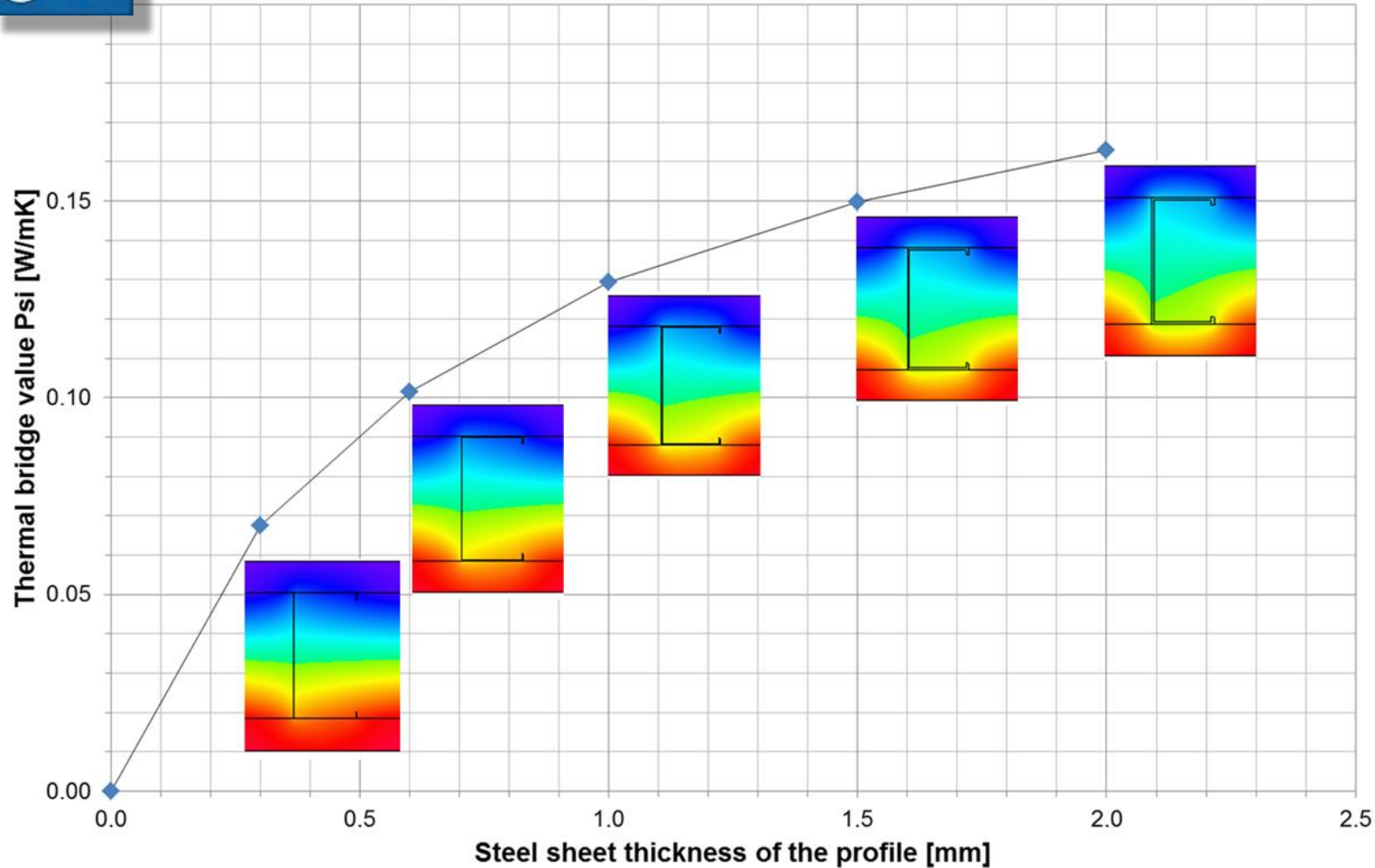
Thermal insulation

No.	Material	d [mm]	$\lambda$ [W/(mK)]
1	Gypsum board	2 x 12.5	0.25
2	Mineral wool	100	0.035
3	Gypsum board	2 x 12.5	0.25

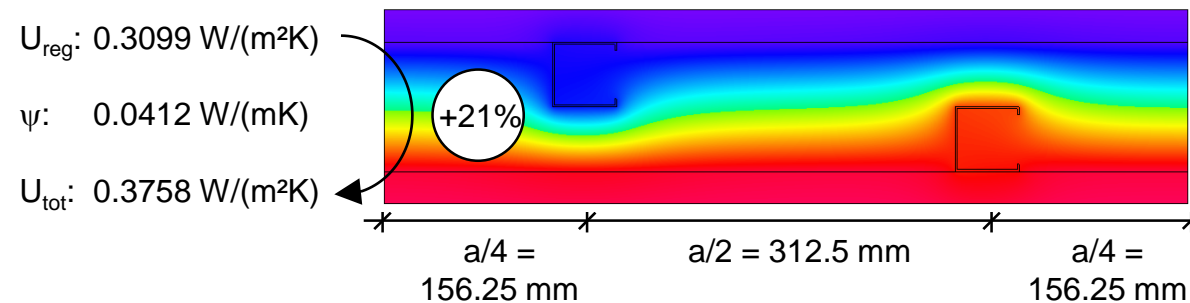
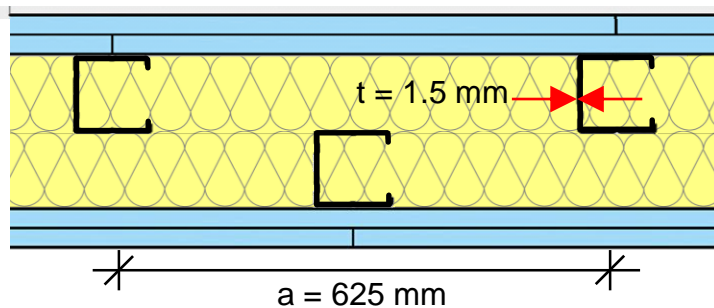
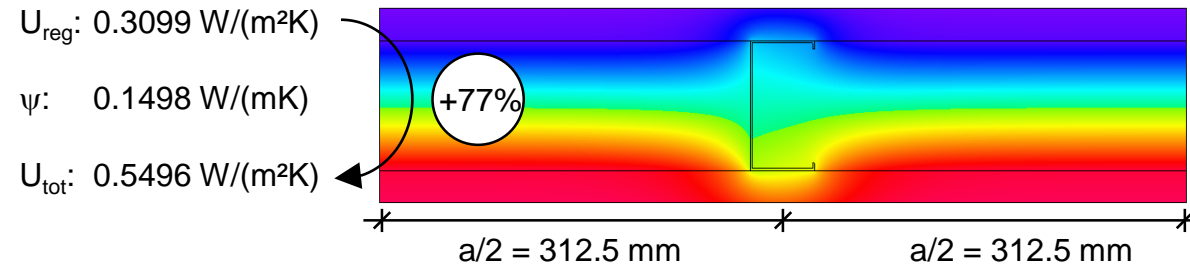
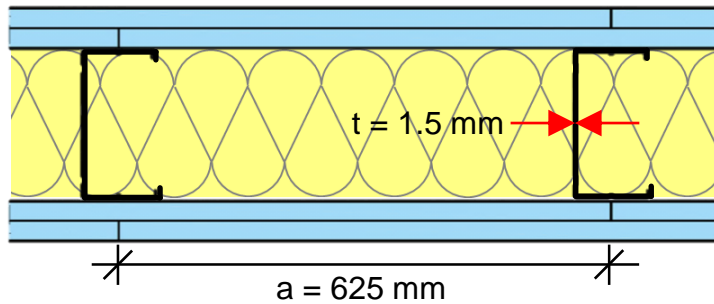
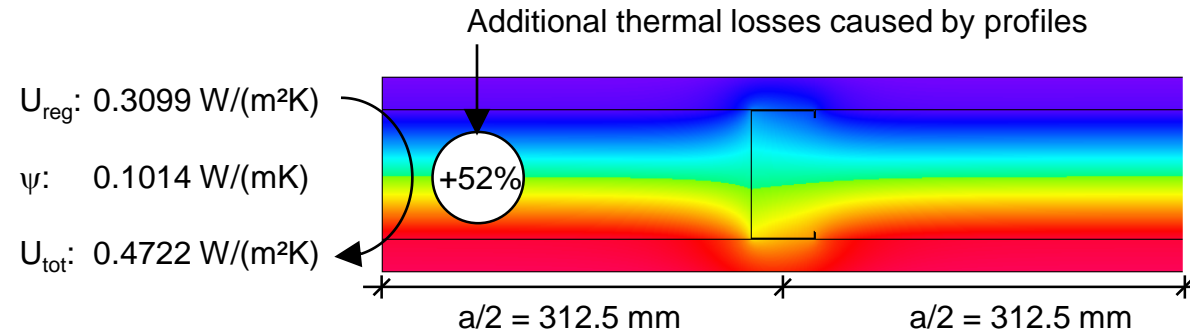
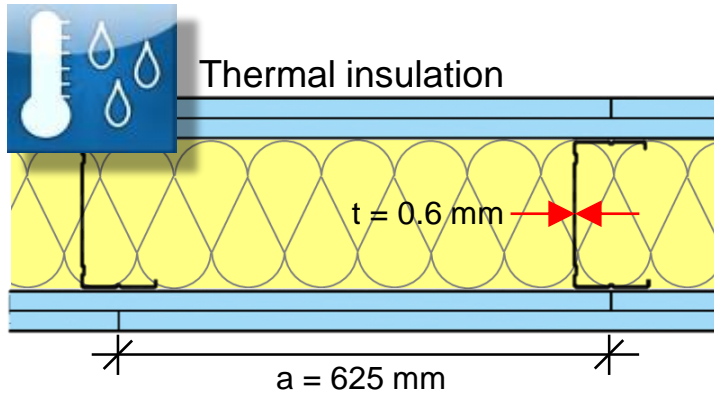




Thermal insulation

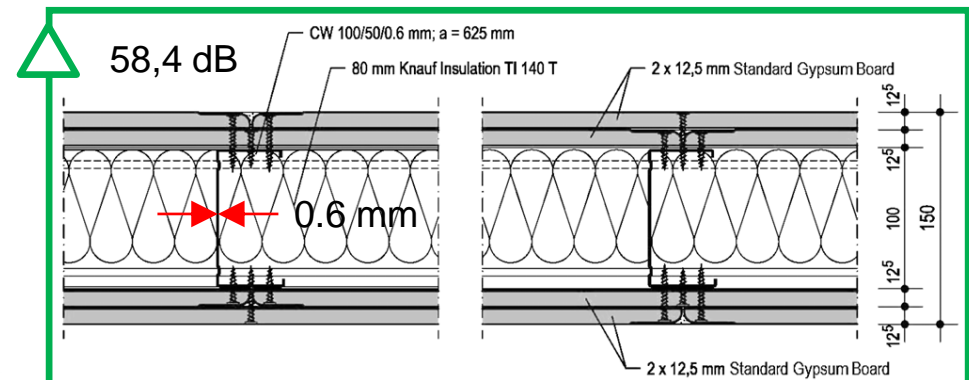
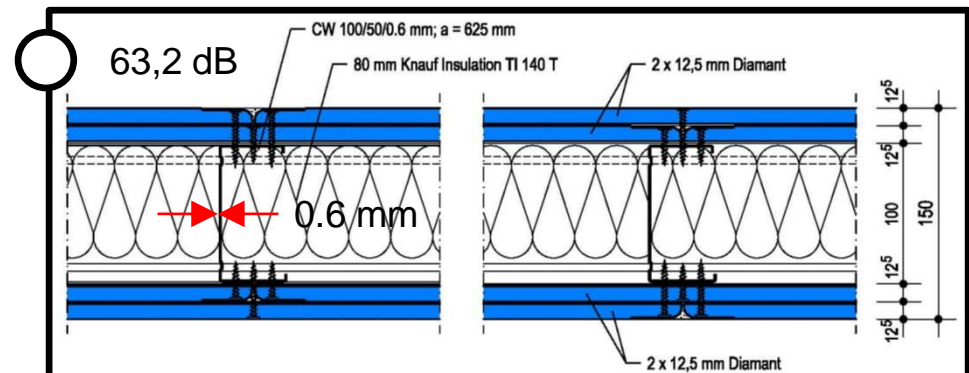
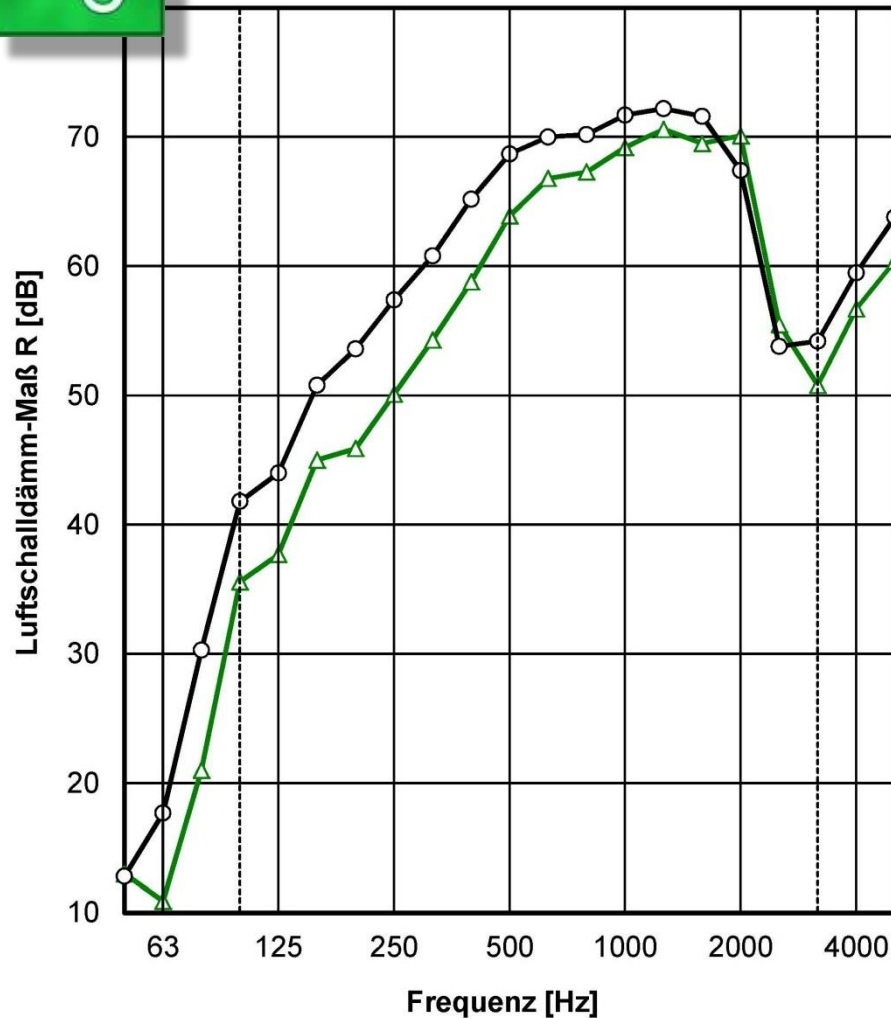






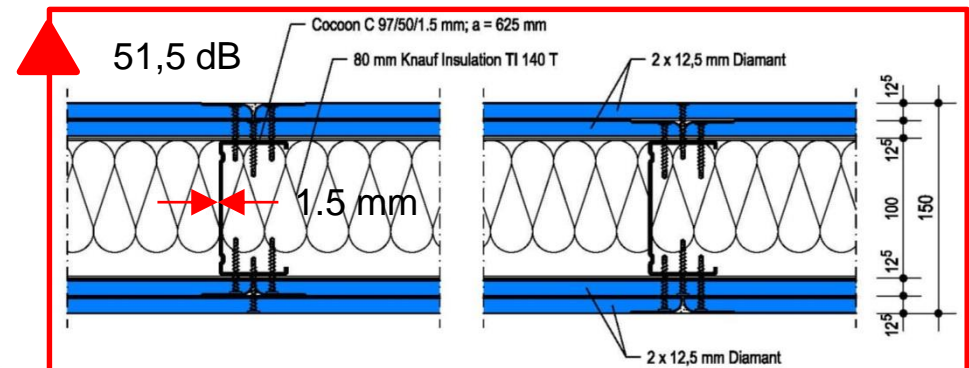
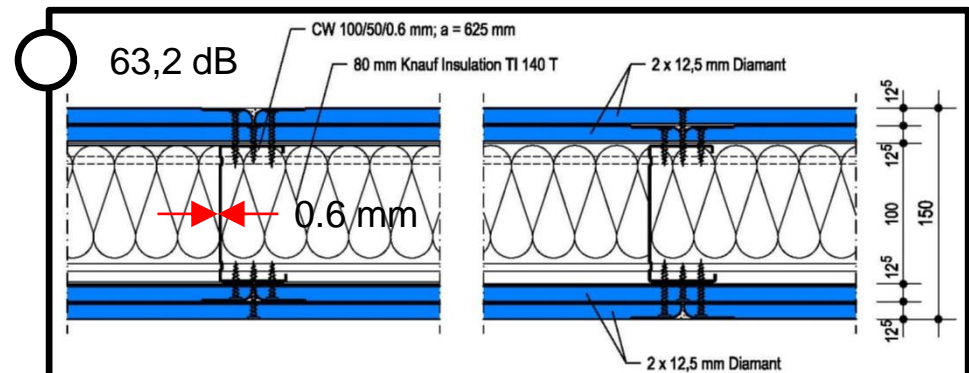
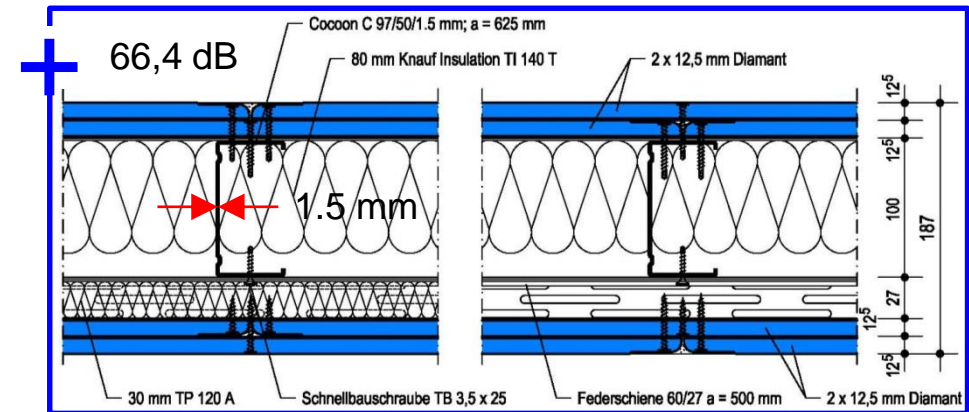
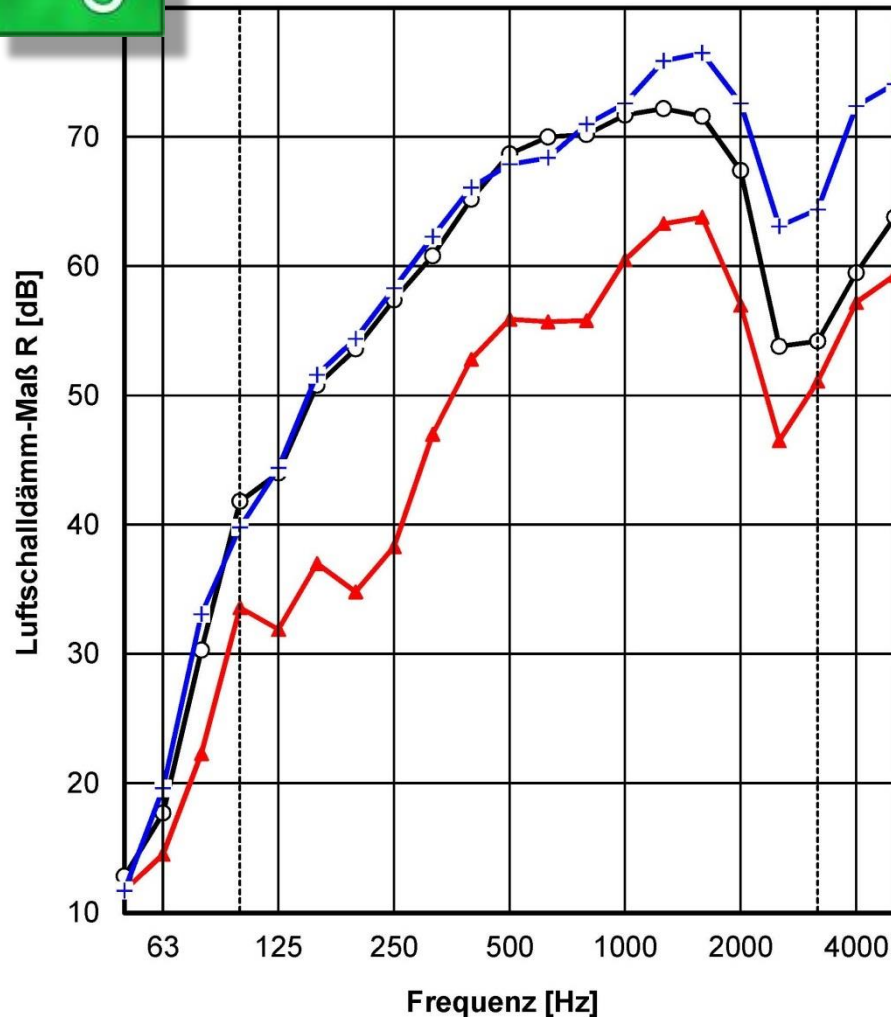


Sound insulation



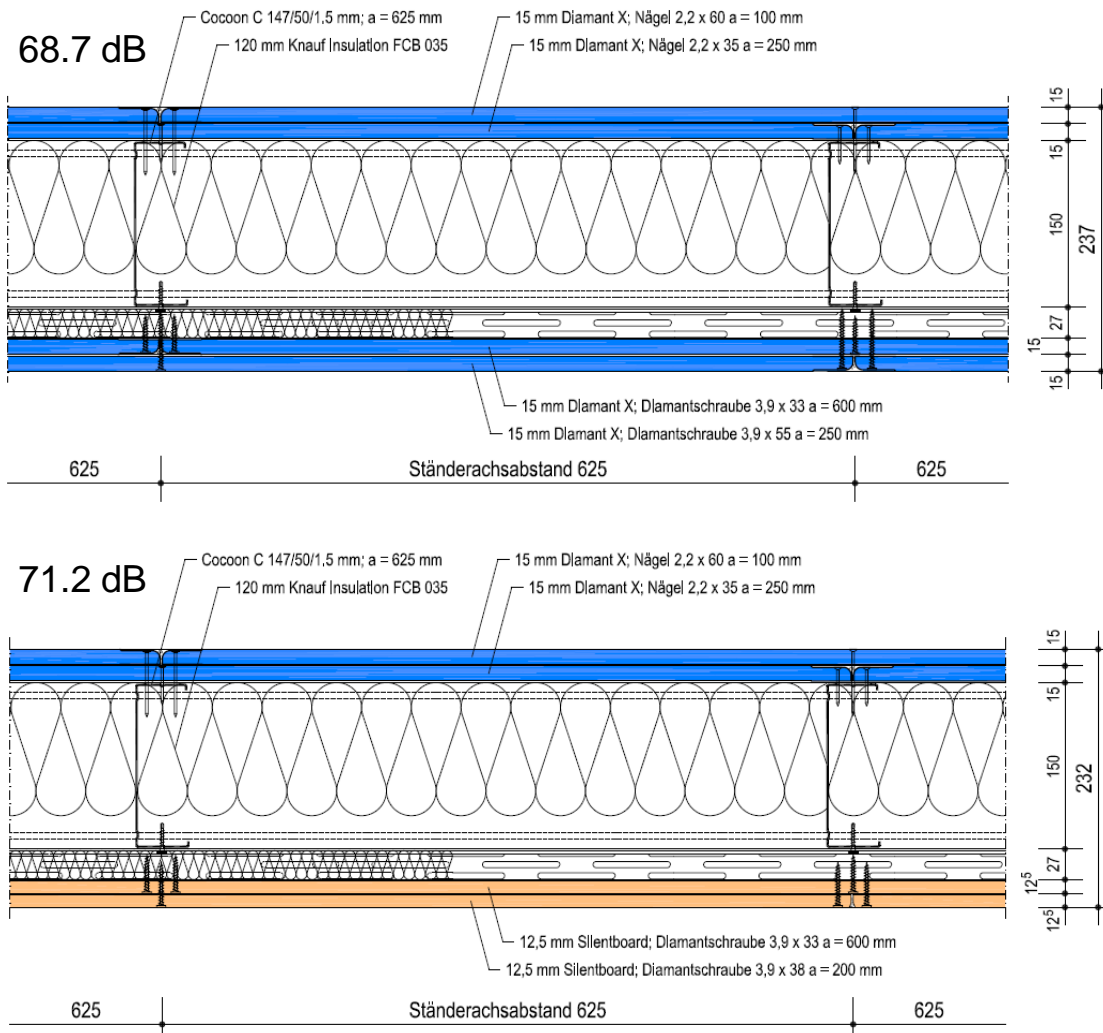


Sound insulation





Sound insulation - Optimized light steel system (internal wall) for ELISSA project





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## Thermal and sound performance of lightweight constructions



Thanks for your attention!



**Technical added value with Knauf Drywall Systems**

