

Service life of wood in outdoor above ground applications

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Project WoodExter

The recently finished European WoodWisdom-Net research project **WoodExter**, which resulted in:

The first technical Guideline in Europe for design of wooden constructions with respect to durability and service life.

Free download at www.kstr.lth.se

Focus on Use Class 3 (EN335)



Basic philosophy behind the Guideline

Exposure \leq Resistance

Mathematically expressed as: $I_{Sd} = I_{Sk} \cdot \gamma_d \leq I_{Rd}$

where:

I_{Sd} = exposure index

I_{Sk} = characteristic value of exposure index

I_{Rd} = resistance index

γ_d = factor for consequence class

I_{Sd} linked to geographical location, local conditions, sheltering, distance from ground, design detail



3

Conclusions

- The output from the design tool agrees reasonably well with experience from practice
- Quantification of exposure seems to give reasonable results
- Quantification of resistance is still difficult for many products/species
- To find the right balance of risk is a challenge due to large variability of material response as well as exposure
- More reality checks are needed to verify the tool. Please help!!!
- Free download of Guideline in pdf format and Excel tool at www.kstr.lth.se



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