

# Performance based specification

Dr. Ed Suttie BRE

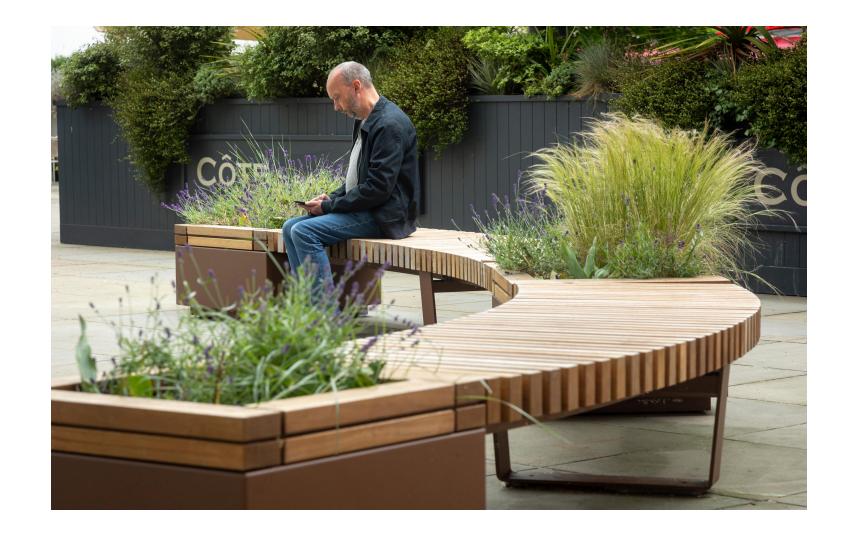
Durable wood construction in the public realm





## Public realm

Urban rethink
Car less streets
Active travel
Connection to nature
Improved air quality

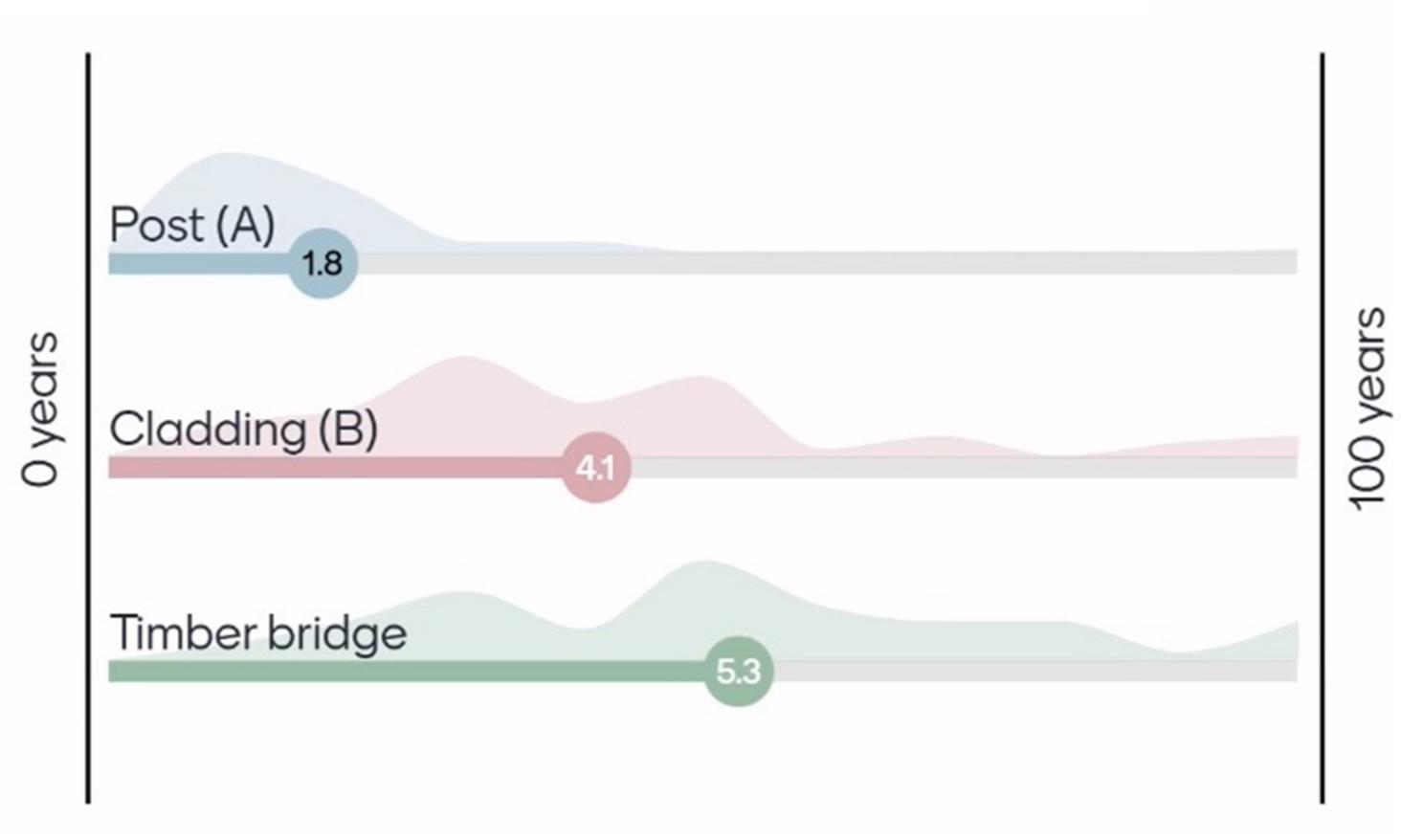






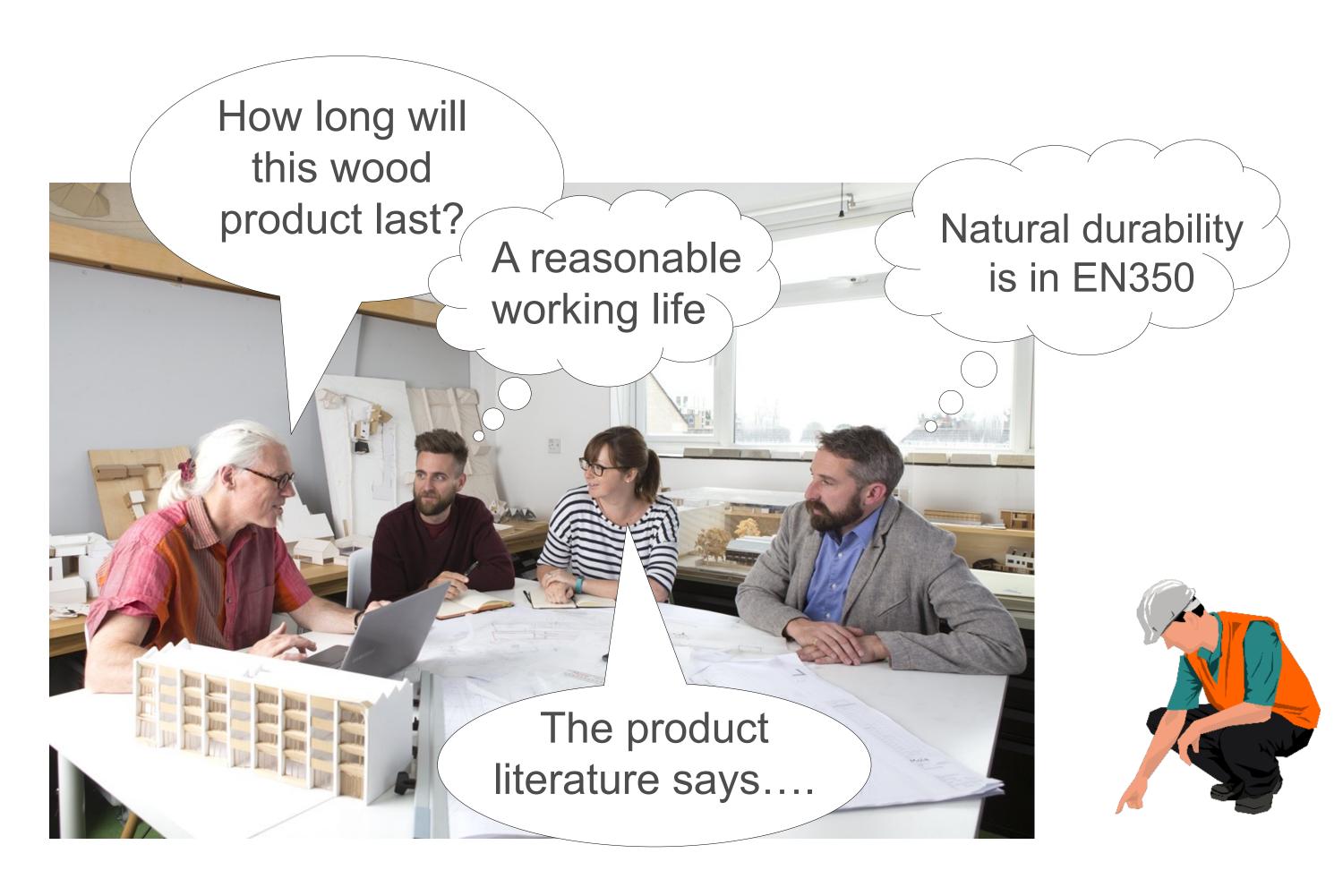
## User expectations of service life







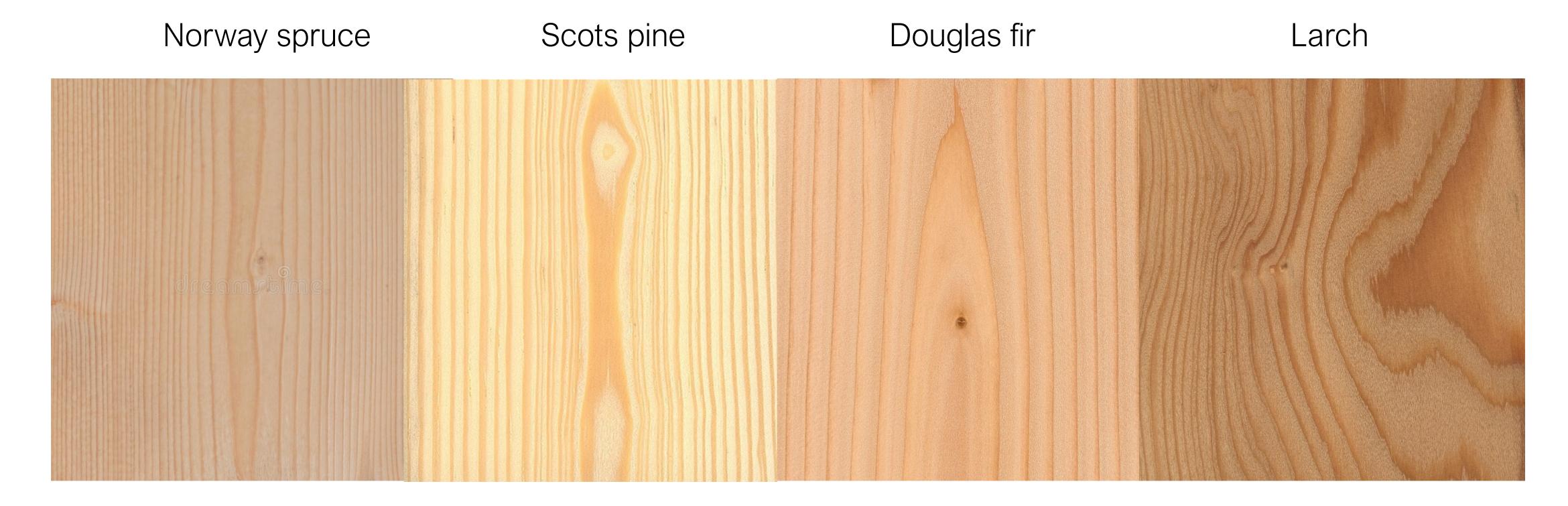
## Performance based specification



- Complex to answer questions about durability and performance of wood products
- Disadvantage for timber compared to steel, aluminium, plastic and concrete
- Wrong product, wrong place
- Misses vital technical specifications detail in LCA
- Enable performance specification for wood



## European softwood species





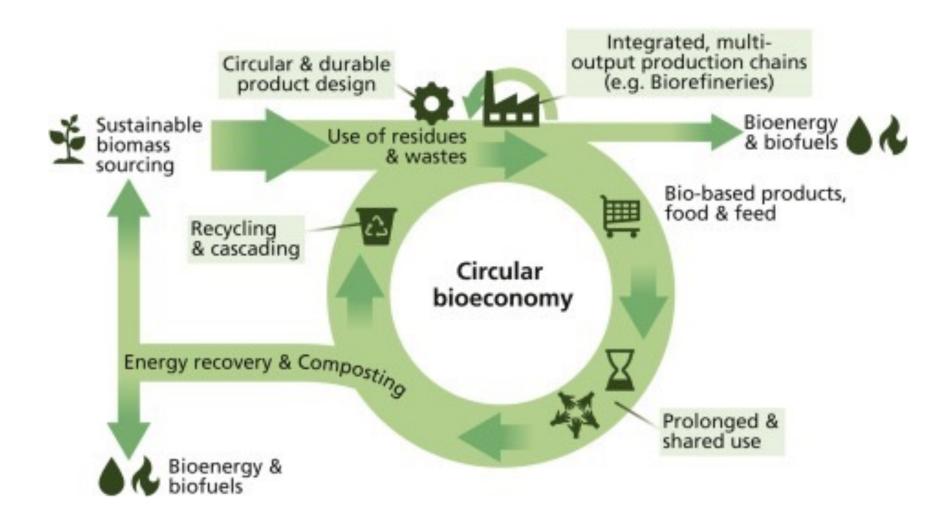
## Circular bio-economy

#### **Waste hierarchy**



#### Overarching CBE principles

Resource-efficiency, Optimizing value of biomass over time, Sustainability



Reliable, predictable performance

Identify, deconstruct, stewardship - first life product

Process and return - second life product

**Energy recovery** 

Incineration or landfill



#### Reliable, predictable performance

## Service life information

#### **Material dose**



Increase the resistance of the material

#### **Exposure dose**



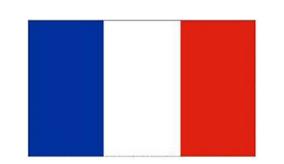


Minimise the risk of moisture being present in the product

## BS 8417



FD P 20-651



TVBK-3066



DIN 68800



## Performance class







#### Reliable, predictable performance

# EN460 (2023) Durability of wood and wood-based products — Guidance on performance

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2023

ICS 79,040

Supersedes EN 460:1994

English Version

Durability of wood and wood-based products - Guidance on performance

Durabilité du bois et des matériaux à base de boisGuide pour déterminer la performance

Dauerhaftigkeit von Holz und Holzprodukten Leitfaden zur Bestimmung der Leistungsfähigkeit

This European Standard was approved by CEN on 2 January 2023.

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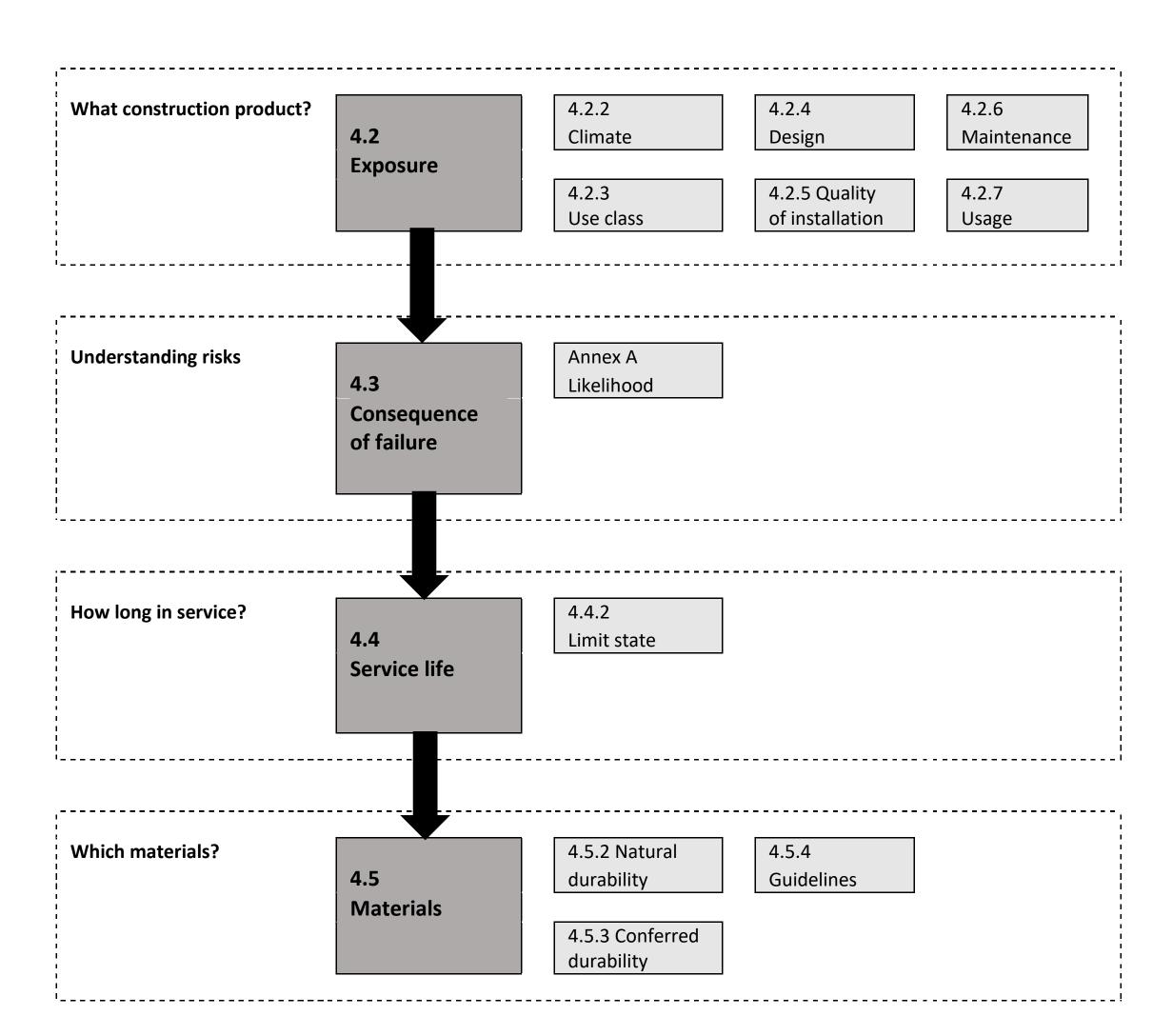


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Ref. No. EN 460:2023 E

Figure 1. Schematic illustration of a decision process for performance specification linked to clauses in this standard.



#### Reliable, predictable performance









https://jklewski.github.io/CLICKdesign/



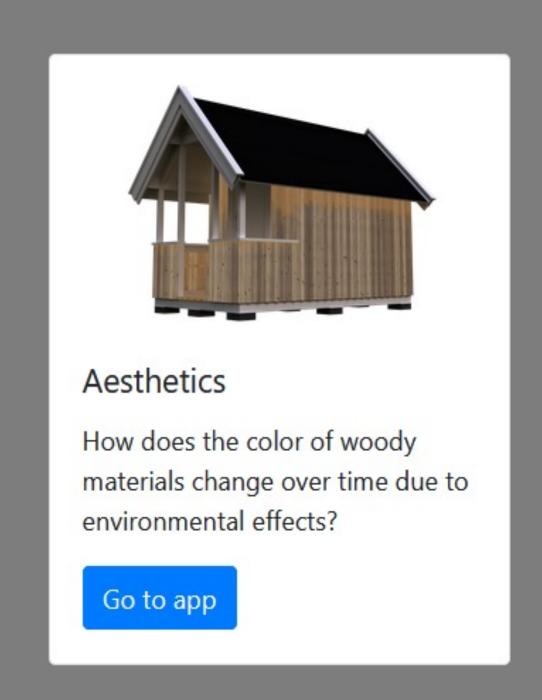
### CLICK design resources

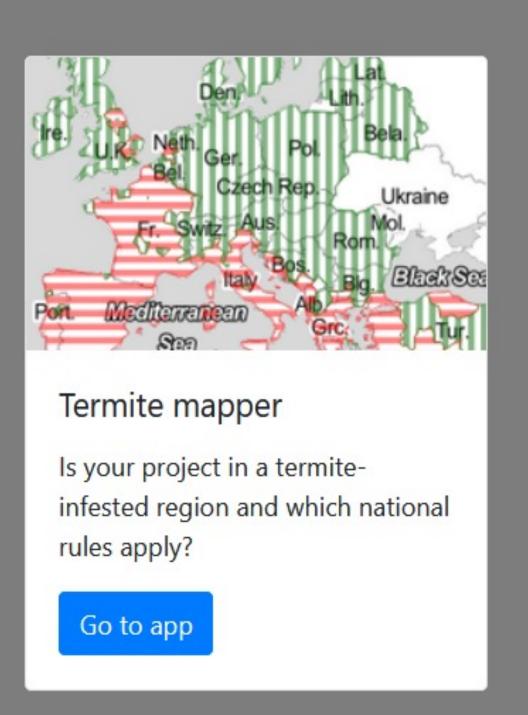


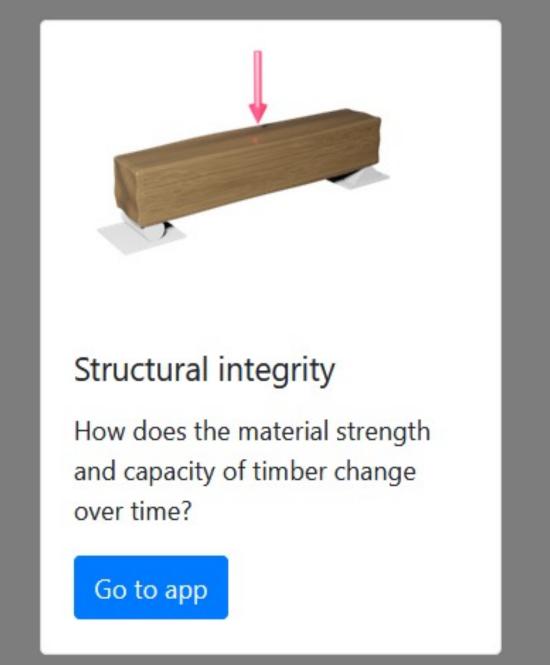
#### Fungal decay

How does woody materials perform under different environmental conditions?

Go to app











## Summary

Durable wood construction in the public realm

The performance of wood should be specified

- EN460 available (in some cases national guidance)
- Specification tools available
- Product data delivering to build confidence

Timber treatment upgrades European softwood durability

Lifecycle benefits – reliability, social, responsible sourcing



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