



## COST ACTION FP1303

Technical workshop

**Designing with bio-based building materials – Challenges and opportunities**

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# THE IMPACTS OF THE CONSTRUCTION AND SURROUNDING CONDITIONS ON **BIODETERIORATION** OF **WOODEN WINDOWS**

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# 9 YEARS OLD WOODEN WINDOWS IN WELLNESS

## CASE STUDY



# DETERIORATION OF WINDOWS

## on the exterior side

- weathering of coating

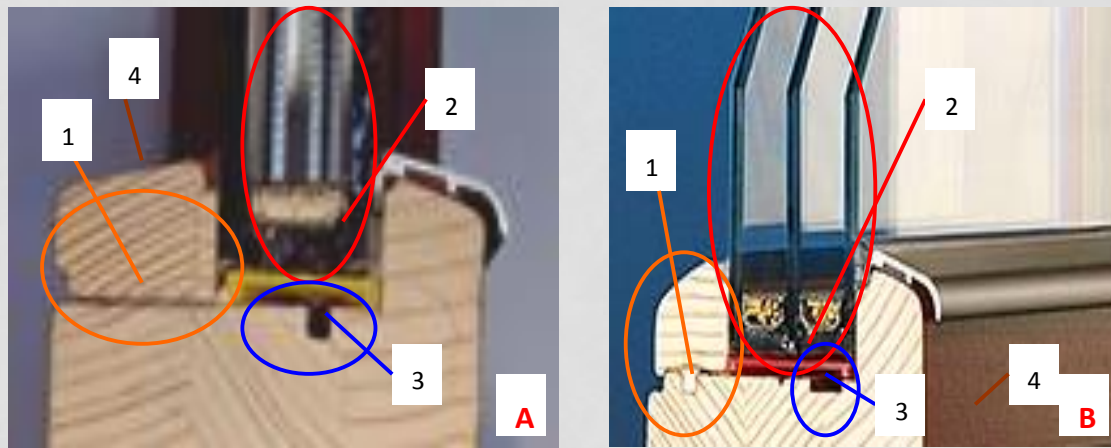


## on the interior side

- moisture condensation
- decay
- mould grow



# DESIGN ASPECTS OF WOODEN WINDOWS TO PREVENT BIOLOGICAL DAMAGE



A – incorrect B – correct

1 = it prevents flow of a hot and wet air from interior to the detail of glazing; in this case it is without a leak, so then a higher risk of a water condensation on double-glass and an increase of moisture content of wood occur

2 = triple-glazing is a better as double-glazing; in both cases, the space between glasses should be hermetically closed with an aluminium strip, with the aim that no oxygen and/or moisture needed for microorganisms will be transported here and to wood as well

3 = ventilation groove under the glazing; if it is leaking then a cold air from exterior and a warm air from interior are here mixed with a following condensation of the cooled air from interior

4 = surface coatings (other aspects, i.e., weather protection and regular maintenance)