



Norwegian University of
Science and Technology



Comparing two identical buildings in wood and concrete

Health and work environment for workers

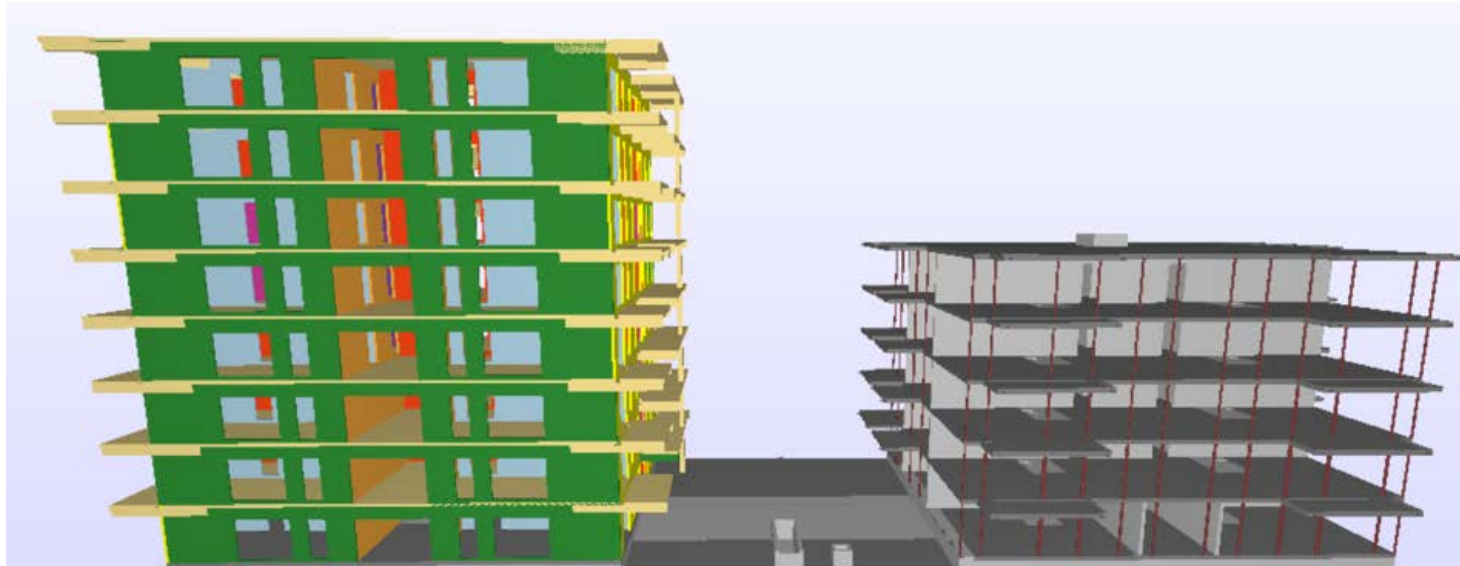
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Engineering, NTNU

MP3 and MP2, Lilleby Trondheim



Comparison

MP3	MP2
8 floors	5 floors
47 apartments	31 apartments
7 different apartment types	6 different apartment types
3790 m ² BRA	2374 m ² BRA
CLT (cross-laminated timber)	Steel and concrete



Why CLT?

- ▶ Veidekke take social responsibility due to environmental issues
- ▶ Reduce carbon footprint
 - ▶ Reduces carbon emissions from materials with 39%
 - ▶ Reduces carbon emissions from buildings energy use with 17%
 - ▶ Total reduction is about 25%
- ▶ Create a better work environment for workers?



Differences and challenges with CLT

- ▶ Norwegian Fire Regulations
- ▶ Norwegian Acoustics Regulations
- ▶ Up to 3 layers of plasterboards
- ▶ No wood visible!!



Health and work environment for workers

- ▶ Methods used to collect data:
 - ▶ Monthly satisfaction measurements for Veidekke employees
 - ▶ Registered absence from work due to illness or injuries
 - ▶ Work environment survey among subcontractors
 - ▶ Interviews of Veidekke employees and subcontractors

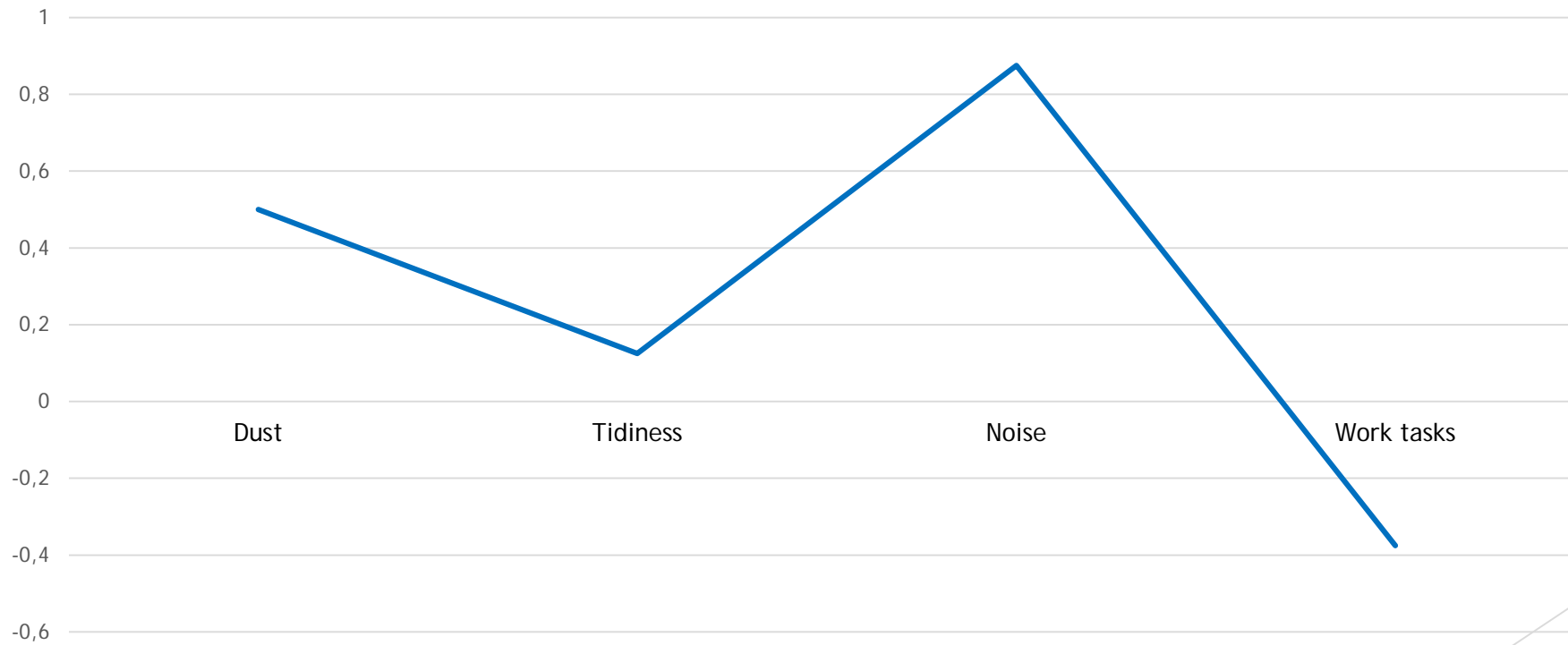
Findings from survey and interviews with subcontractors

- ▶ From interviews:
 - ▶ Less noise and dust from concrete drilling
 - ▶ Easier to work with wood
 - ▶ Wood vs. concrete floors
 - ▶ Reports on lower absence due to illness and injuries
 - ▶ Better work environment
 - ▶ Interviews confirms results from survey



Work environment survey

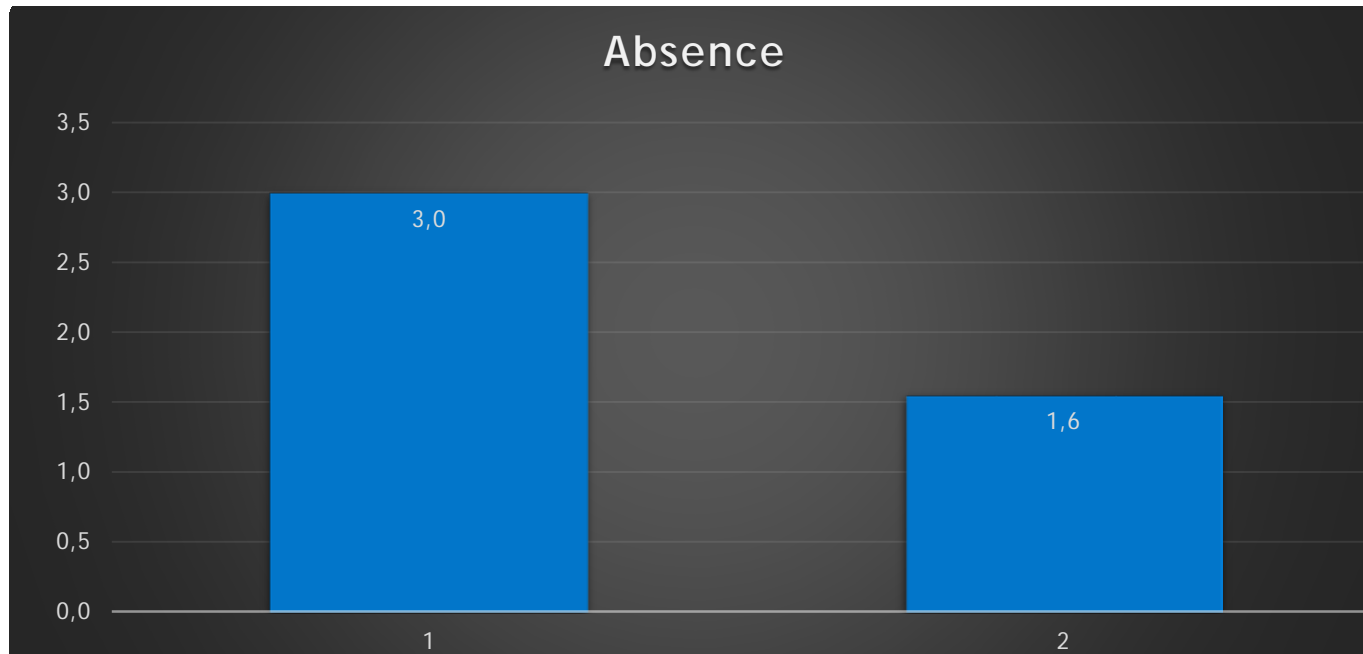
Survey subcontractors



Findings from monthly satisfaction measurements of Veidekke workers



Comparison of absence due to illness and injuries for MP2 and MP3



Findings from interviews

- ▶ Better work environment regarding to noise, dust and air quality
- ▶ Better EHS (Environment, health and safety)
- ▶ Negative: More heavy work
 - ▶ More plasterboards
 - ▶ Heavy fireproof plasterboards
 - ▶ Unfavourable work positions
 - ▶ Few opportunities for relief by other work tasks



Conclusion

- ▶ To early to conclude after one project
- ▶ Trend to a better work environment and health for workers
- ▶ Subcontractors positive
- ▶ Negative: Heavy work
- ▶ Future CLT-projects
 - ▶ From “we have built in CLT” to “we are building in CLT”
 - ▶ New work equipment and work methods is necessary



Thank you for your attention!
Petter Torås Halseth

