

# Fire Safety Strategy For Timber Buildings

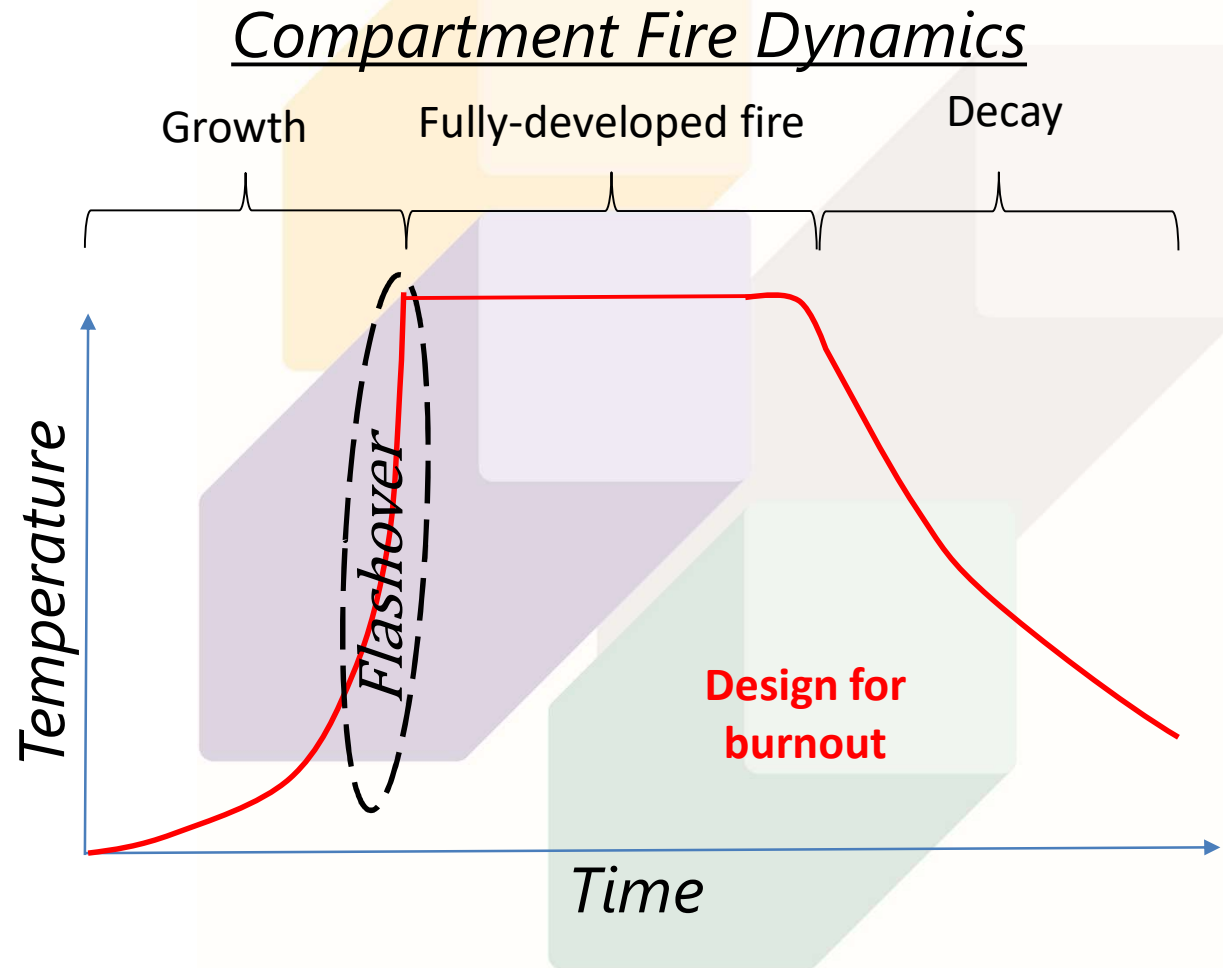
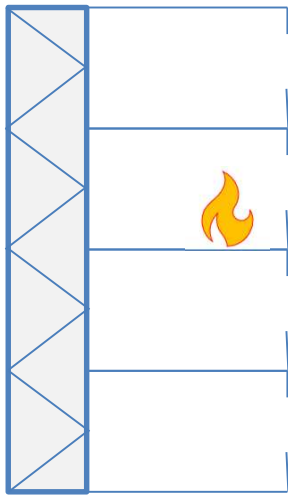
*Dr. Carmen Gorska – Stora Enso*

# Content

- Compartmentation
  - *Compartment fire dynamics*
- Regulations approach
- **TIMBER** compartment fire dynamics



# Compartmentation



# Content

- Compartmentation
  - *Compartment fire dynamics*
- Regulations approach
- TIMBER compartment fire dynamics



# Regulations approach

## Guidance

*Approved Document B*

*Eurocode 5*

*Fire resistance*

Scope of applicability

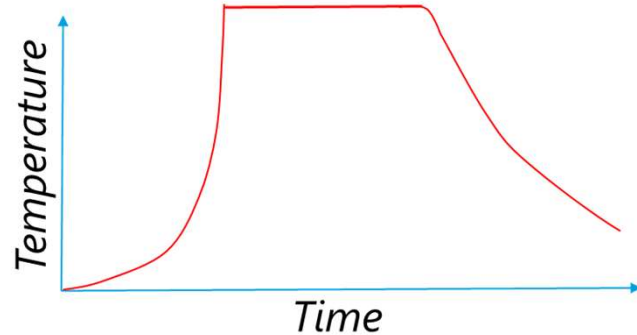
## Performance-Based Design

*Fire Performance*

*Timber high-rise buildings*

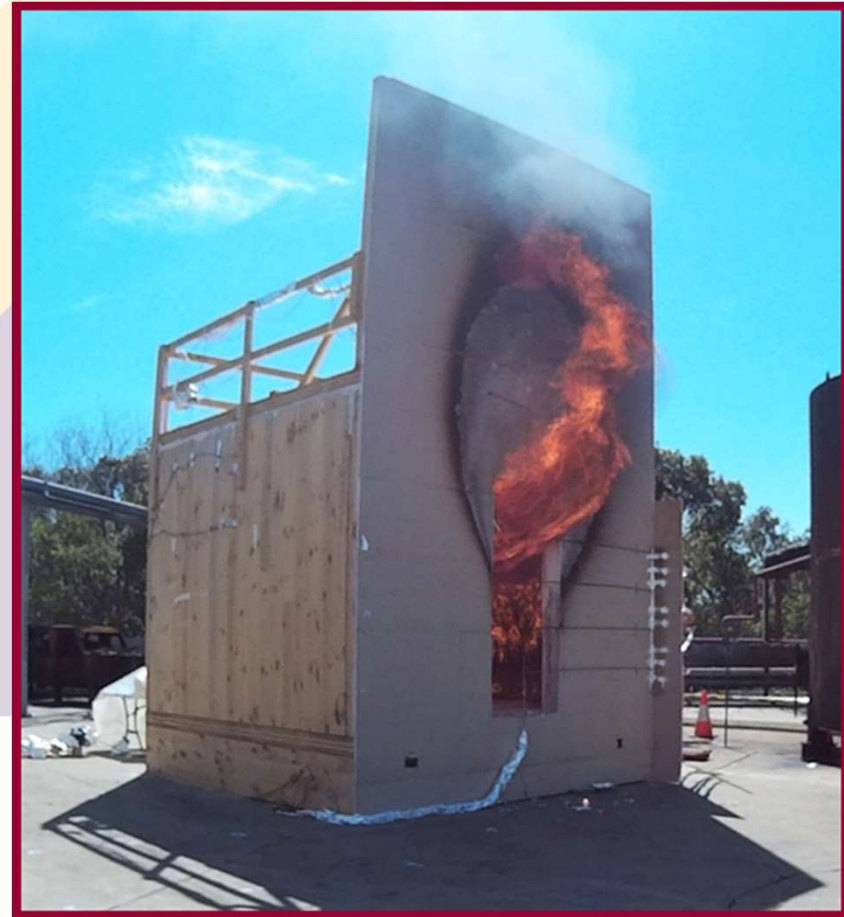
*More exposed timber than allowed in the codes*

*Novel architectural expressions*



# Content

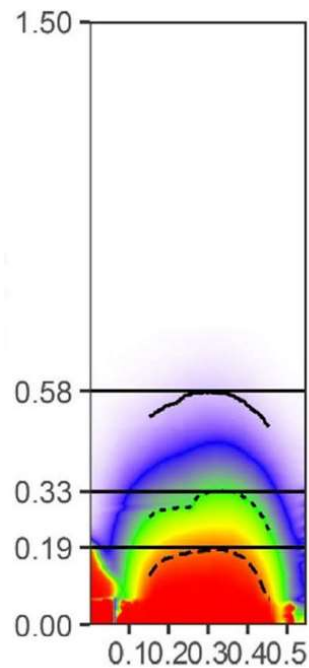
- Compartmentation
  - *Compartment fire dynamics*
- Regulations approach
- TIMBER compartment fire dynamics
  - *Performance-based design*
  - *External flaming*
  - *Charring rates, delamination*
  - *Self-extinguishment*



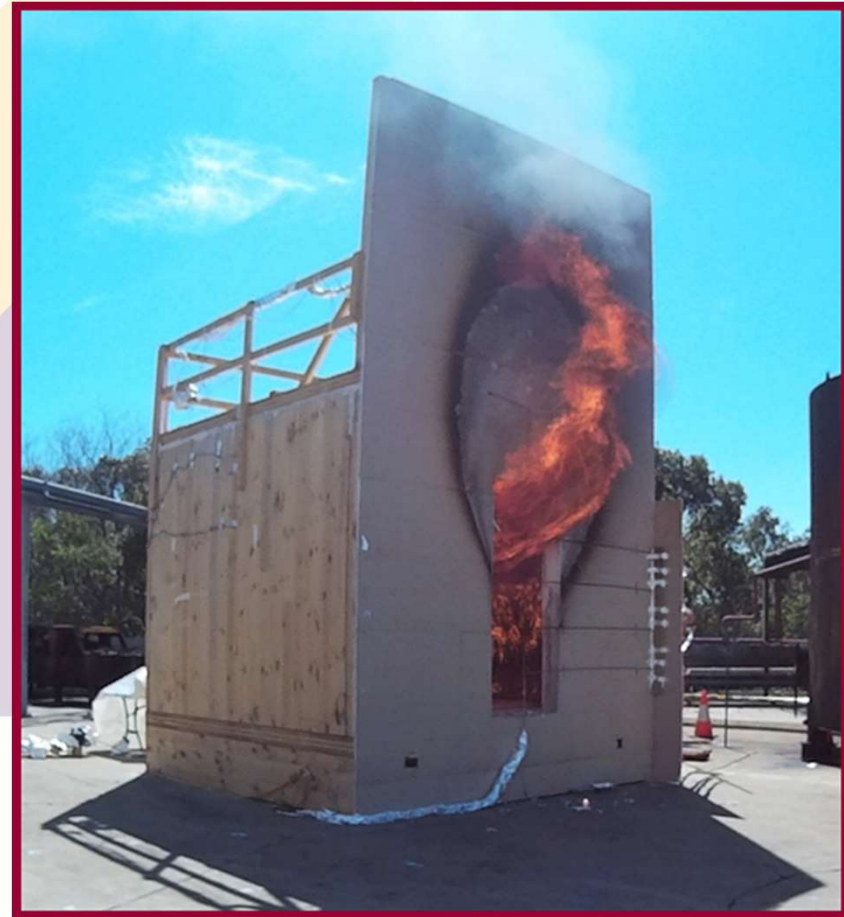
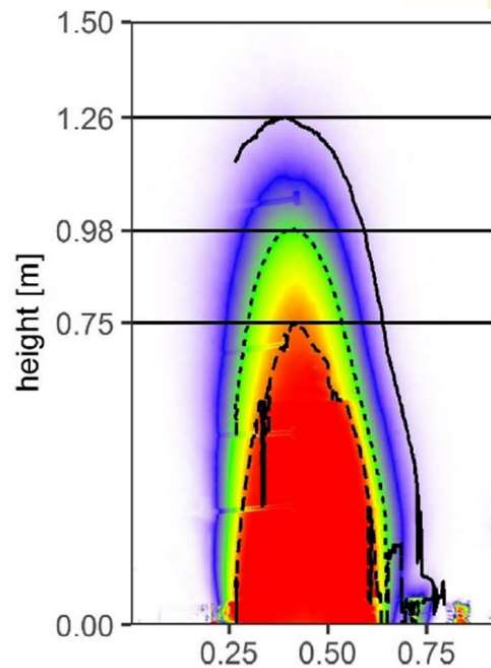


# Timber compartment fire dynamics – external flaming

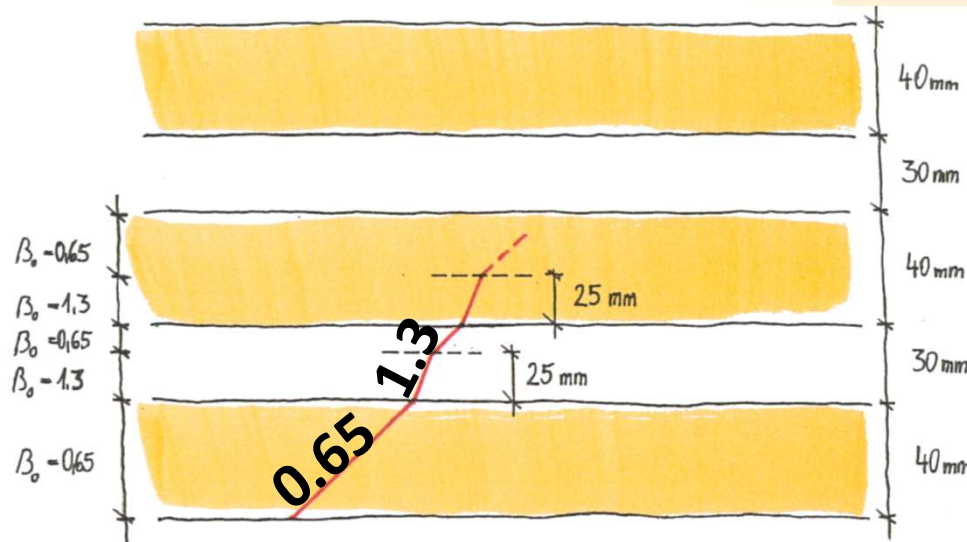
0% Exposed Timber



70% Exposed Timber

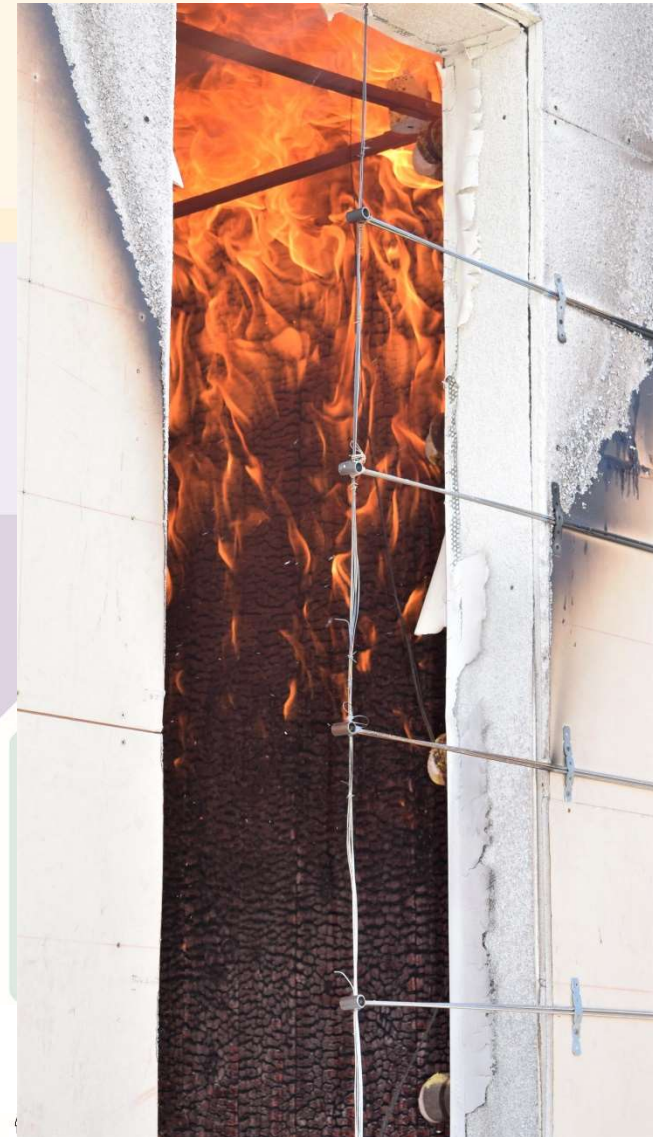
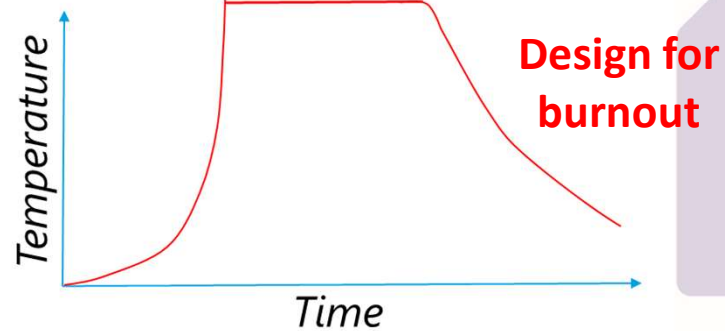


# Timber compartment fire dynamics - charring

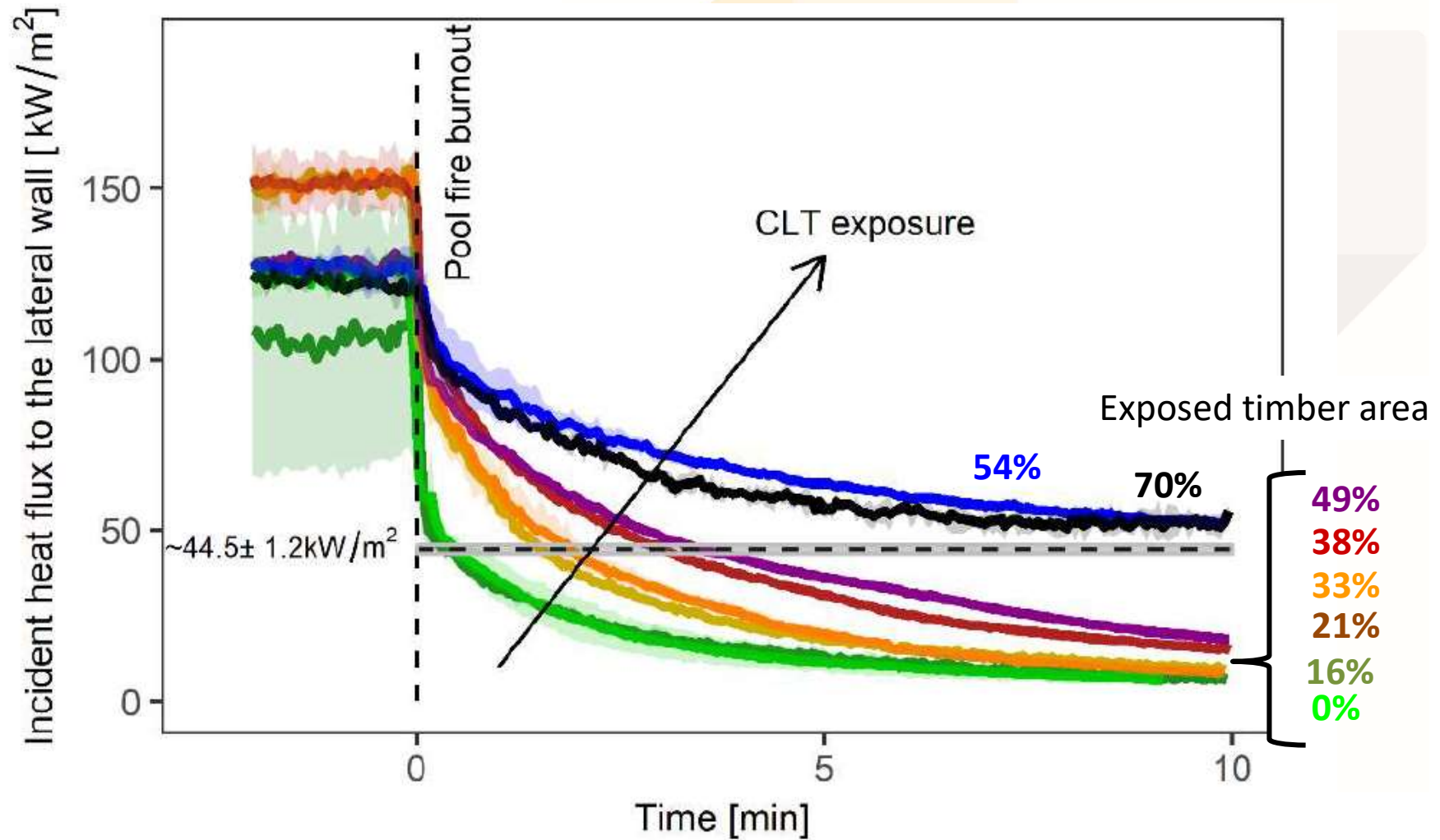




# Timber compartment fire dynamics – self-extinction



# Timber compartment fire dynamics – self-extinction

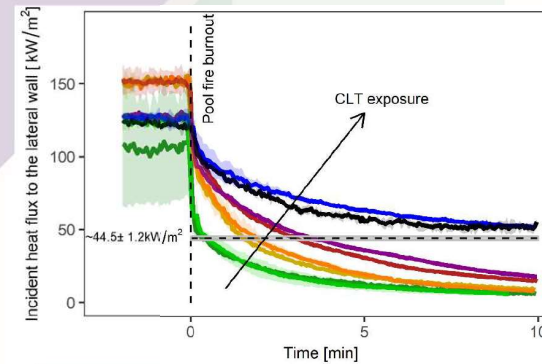
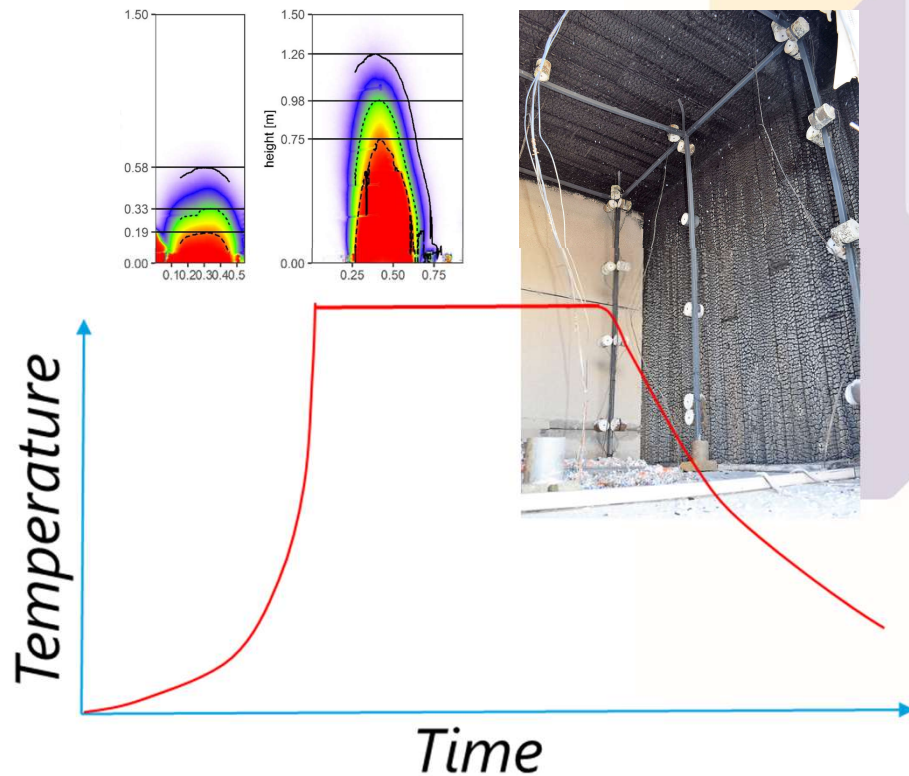


# Summary

Regulations approach

Guidance *Scope of applicability*

Performance-Based Design



Thank you!



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