

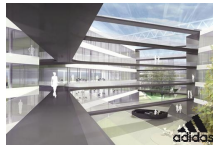


## Case Study adidas - Laces

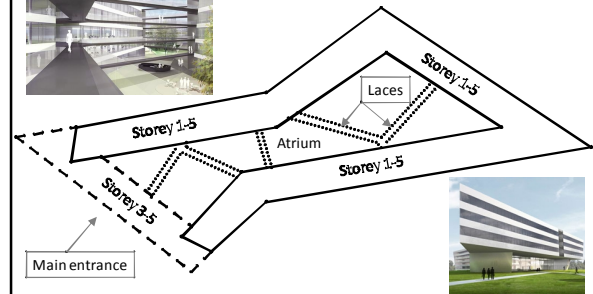
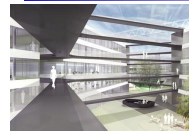
Peter Schaumann  
Thomas Kirsch



Jochen Zehfuß **hhp**berlin



## adidas - Laces



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## Trussed girder

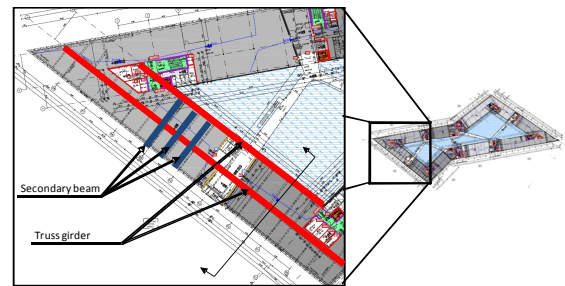


- Prescribed fire resistance class R90
- Authority allowed fire engineering approach  
→ 90 min resistance in design fire

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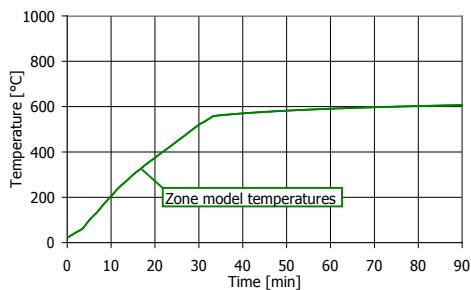
## Position of trussed girder



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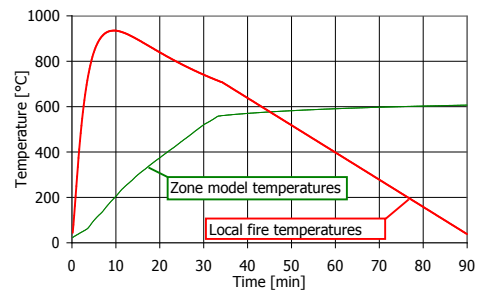
## Temperatures at secondary beams



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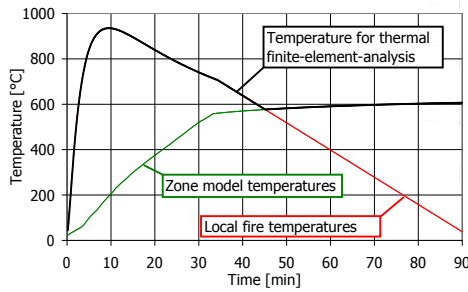
## Temperatures at secondary beams



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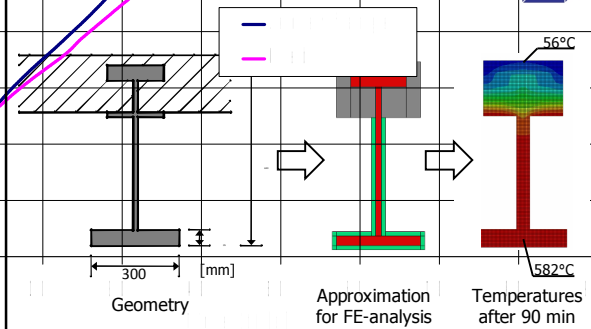
## Temperatures at secondary beams



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## Thermal answer of secondary beams



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## Summary and results

- Fire engineering approach for trussed girder and for smoke exhaust in adidas-Laces
- Fire simulation in compartment within truss using zone-model and local-fire-model
- Simulation of thermal answer of structure using FE-software, including intumescent coating
- Calculation of fire resistance time of members using level-2-methods of Eurocode 3

→ Fire protection by R30 intumescent coating instead of R90 plaster board

→ Preservation of slim appearance of truss girder

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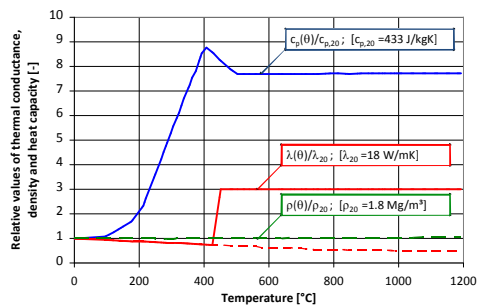
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Thank you for your attention!

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## Properties of intumescent coating



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