


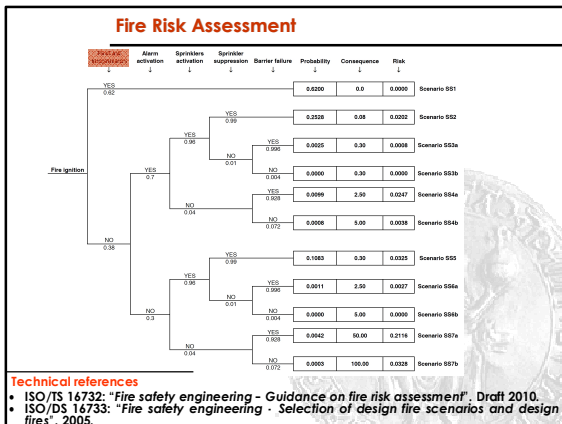
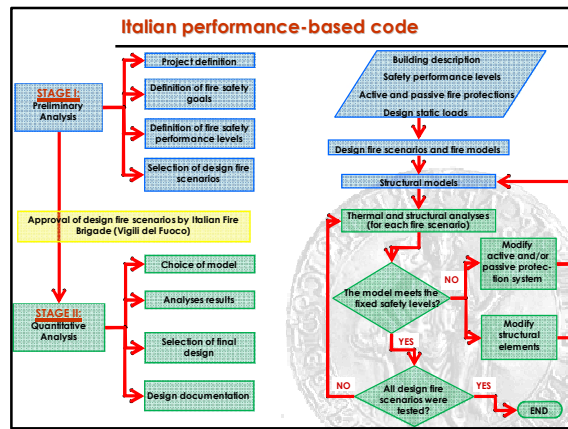
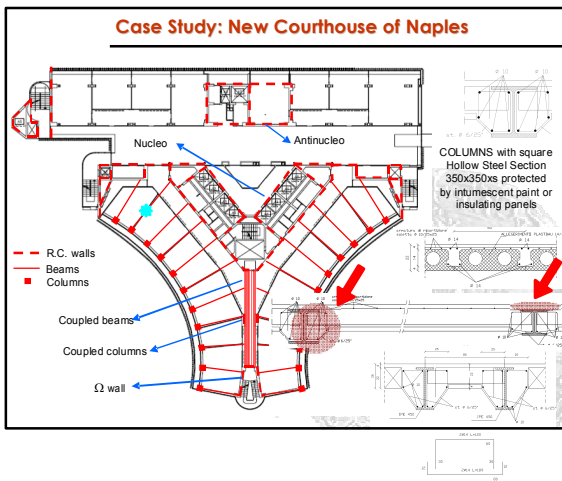
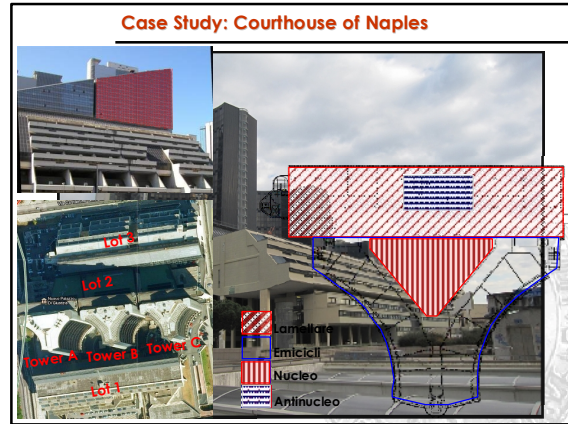
cost Integrated Fire Engineering and Response
COST action network number TU0904 in domain Transport and Urban Development
 14-15 October 2011, Chania, Greece

Application of Structural Fire Engineering to the towers of the Courthouse of Naples

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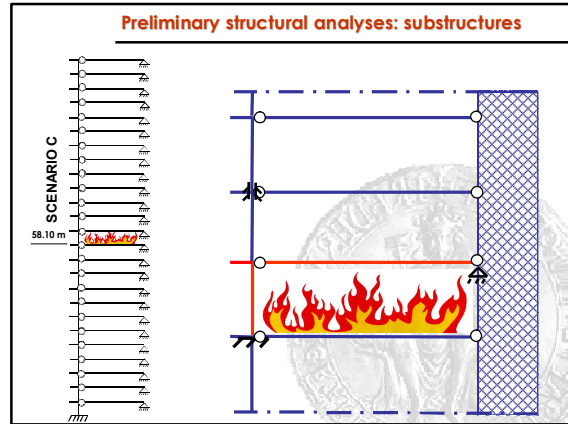
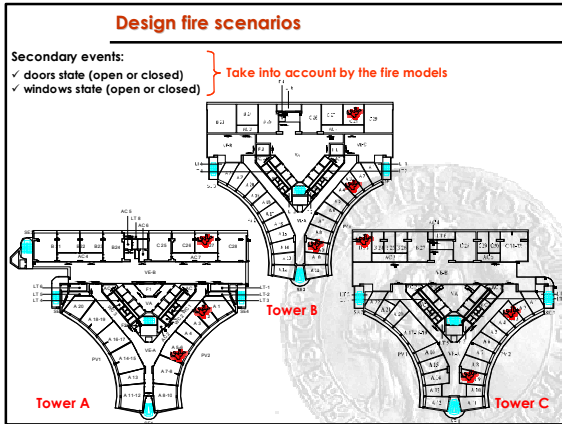
Fire Risk Assessment and Performance levels

Risk Ranking

Scenario	Probability	Consequence	Risk	Risk Ranking
Scenario S51	0.6200	0.00	0.0000	11
Scenario S52	0.2528	0.08	0.0202	5
Scenario S53a	0.0025	0.30	0.0008	8
Scenario S53b	0.0000	0.30	0.0000	10
Scenario S54a	0.0099	2.50	0.0247	4
Scenario S54b	0.0008	5.00	0.0038	6
Scenario S55	0.1083	0.30	0.0325	3
Scenario S56a	0.0011	2.50	0.0027	7
Scenario S56b	0.0000	5.00	0.0000	9
Scenario S57a	0.0042	50.00	0.2118	1
Scenario S57b	0.0003	100.00	0.0328	2

Performance level IV: limited damage

Performance level III: resistance for all fire exposure time



- ### Future developments
- ✓ The work is still in progress: we are currently **waiting for approval of the design fire scenarios by the Fire Brigade**
 - ✓ **Fire models** will be applied and the **structural analyses** will be carried out in order to evaluate, for each design fire scenario, the **safety performance level** required to the structure.
 - ✓ The **fire development** and its effects on the structure will be evaluated by softwares **O-ZONE, CFAST** and **FDS**.
 - ✓ The **structural analyses** will be carried out with reference to significant substructures by the non linear softwares **SAFIR, ABAQUS** and **STRAUS7**.

- ### Open Questions
- ✓ How to model the **infumescent paints** in the thermal analysis with natural fire curves ?
 - ✓ How to **link CFD fire model** and **structural model** ?
 - ✓?
- THANKS FOR YOUR ATTENTION**