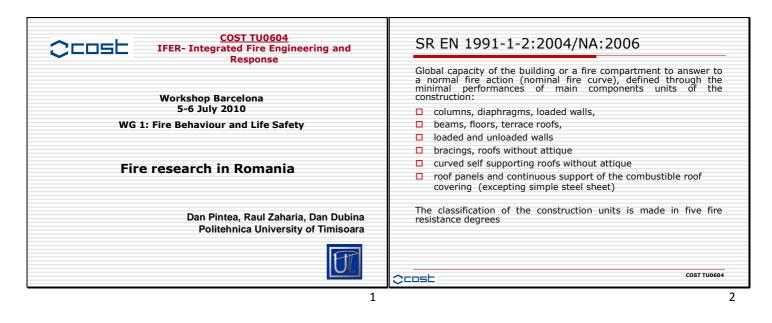
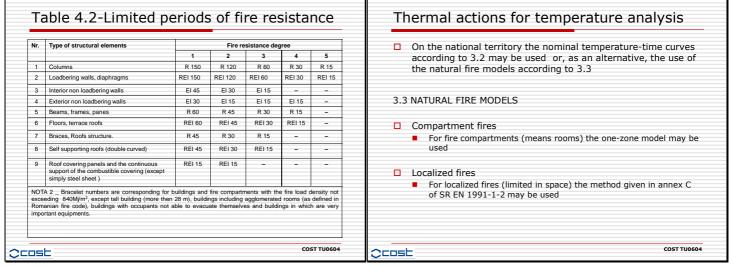
1.10 Fire research in Romania

Pintea D., Romania



		Type of structural elements	Fire resistance degree				
When structural members analysis is based on data presented in			1	I		IV	v
tables NA.2.4.1.1 și NA 2.4.1.2 or other simplified rules, referring	1	Columns	R 150	R 120	R 60	R 30	-
to the nominal temperature-time curve, the temperature analysis	2	Loadbering walls, diaphragms	REI 150	REI 120	REI 60	REI 30	-
s made only for the heating phase (without any cooling phase);	3	Interior non loadbering walls	EI 30	EI 30	EI 15	-	-
	4	Exterior non loadbering walls	EI 15	El 15	EI 15	EI 15	-
	5	Beams, frames, panes	R 60	R 45 (R 30)	R 45 (R 30)	R 15	-
	6	Floors, terrace roofs	REI 60	REI 45 (REI 30)	REI 45 (REI 30)	REI 15	-
	7	Braces, Roofs	R 45 (R 30)	R 30 (R 15)	R 15	-	-
	8	Self supporting roofs (double curved)	REI 45 (REI 30)	REI 30 (REI 15)	REI 15	-	-
	9	Roof covering panels and the continuous support of the combustible covering (except simply steel sheet)	REI 15	-	-	-	-
	exc Ror	A 2 _ Bracelet numbers are corresponding for b seding 840M/m ² , except tall building (more then a nanian fire code), buildings with occupants not al ortant equipments.	28 m), building:	s including agglo	merated roon	ns (as defin	ed in very



Thermal actions for temperature analysis(cont)	Combination Rules for Actions
ADVANCED FIRE MODELS	For the representative variable action Q1 the quasi-permanent
One of the following models should be used:	value $\psi_{2,1}Q_1$ shall be used .
 one-zone models assuming a uniform, time dependent temperature distribution in the compartment; 	
two-zone models assuming an upper hot layer with time dependent thickness and with time dependent uniform temperature,	
Computational Fluid Dynamic models giving the temperatu evolution in the compartment (means room) in a complete time dependent and space dependent manner	

	Annex A – Parametric temperature-time curves
0	Annex B – Thermal actions for external members - Simplified calculation method
	Annex C – Localized fires
	Annex D – Advanced fire models
	Annex E – Fire load densities
	Annex F – Equivalent time of fire exposure
	Annex G – Configuration factor
All	annexes informative except Annex E
be par a c the	nex A (informative) - Parametric temperature-time curves may used based on a validated computer model. The choice of the rametric temperature-time curves to be used, must be based on ompetent fire expert analysis. The results will be compared with results of the simplified calculation method using nominal fire ve; the most unfavorable result will be used

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