



3rd Croatian Conference on Earthquake Engineering

3CroCEE 2025

	Criteria and maximum points			RIJEKA 1	RIJEKA 2	MOSTAR	ZAGREB 1	ZAGREB 2	OSIJEK 1	OSIJEK 2	SPLIT
First natural frequency of the initial state – comparison with numerical calculation	Criteria 1	Max.	10	4,33	1,41	5,82	5,78	5,16	4,85	5,03	4,88
Absolute value of the maximum relative roof displacement [mm] - Earthquake 1 (50 %)	Criteria 2	Max.	9	4,00	3,00	6,00	5,00	9,00	7,00	2,00	8,00
Absolute value of the maximum relative roof displacement [mm] - Earthquake 2 (100 %)	Criteria 3	Max.	9	5,00	4,00	6,00	X	9,00	8,00	X	7,00
Absolute value of the maximum absolute roof acceleration - Earthquake 1 (50 %)	Criteria 4	Max.	9	9,00	7,00	5,00	6,00	8,00	3,00	4,00	2,00
Absolute value of the maximum absolute roof acceleration - Earthquake 2 (100 %)	Criteria 5	Max.	9	5,00	9,00	8,00	X	7,00	4,00	X	6,00
Collapse of the structure - Earthquake 1 (min. 0, max. 9, and partially 4.5)	Criteria 6	Max.	9	9,00	9,00	9,00	9,00	9,00	9,00	4,50	9,00
Collapse of the structure - Earthquake 2 (min. 0, max. 9, and partially 4.5)	Criteria 7	Max.	9	9,00	4,50	9,00	0,00	9,00	9,00	0,00	9,00
First natural frequency after the 1st earthquake – comparison with numerical calculation	Criteria 8	Max.	8	3,32	3,11	5,46	4,58	4,32	3,88	2,65	3,90
First natural frequency after the 2nd earthquake – comparison with numerical calculation	Criteria 9	Max.	8	2,93	6,34	5,94	X	4,17	3,85	X	3,84
Change in stiffness after Earthquake 1 (50 %)	Criteria 10	Max.	7	6,72	6,07	7,00	6,94	7,00	7,00	4,61	6,99
Change in stiffness after Earthquake 2 (100 %)	Criteria 11	Max.	7	5,91	4,55	5,32	X	6,33	6,95	X	6,88
Usable floor area	Criteria 12	Max.	3	2,00	3,00	2,00	1,00	1,00	3,00	2,00	1,00
Aesthetics and overall impression, scored by independent judges (subjectively and impartially)	Criteria 13	Max.	3	3,00	2,11	2,19	1,95	2,76	2,51	2,43	1,95
Total				69,21	63,09	76,73	40,25	81,74	72,04	27,22	70,45
Violation of the rules				0	0	2,5	10	10	10	10	10
Total points				69,21	63,09	74,23	30,25	71,74	62,04	17,22	60,45

Bodovanje:



Kriterij	Opis kriterija	Min.	Max.
1	First natural frequency of the initial state – comparison with numerical calculation	0	10
2	Absolute value of the maximum relative roof displacement [mm] - Earthquake 1 (50 %)	1	9
3	Absolute value of the maximum relative roof displacement [mm] - Earthquake 2 (100 %)	1	9
4	Absolute value of the maximum absolute roof acceleration - Earthquake 1 (50 %)	1	9
5	Absolute value of the maximum absolute roof acceleration - Earthquake 2 (100 %)	1	9
6	Collapse of the structure - Earthquake 1 (min. 0, max. 9, and partially 4.5)	0	9
7	Collapse of the structure - Earthquake 2 (min. 0, max. 9, and partially 4.5)	0	9
8	First natural frequency after the 1st earthquake – comparison with numerical calculation	1	8
9	First natural frequency after the 2nd earthquake – comparison with numerical calculation	1	8
10	Change in stiffness after Earthquake 1 (50 %)	1	7
11	Change in stiffness after Earthquake 2 (100 %)	1	7
12	Usable floor area	1	3
13	Aesthetics and overall impression, scored by independent judges (subjectively and impartially)	1	3
		10	100

kriterij 1	Predviđeno - numerički rezultati	3,4724	3,4383	4,2067	3,7026	4,2129	3,9254	3,3369	4,0197
	Izmjereno	8,02	1,85	7,23	6,411	8,17	8,093	6,64	8,23
	Odnos numeričkog rezultata s izmjerenim	0,567	0,859	0,418	0,422	0,484	0,515	0,497	0,512
Bodovi za kriterij 1	U odnosu na max moguće bodove	4,33	1,41	5,82	5,78	5,16	4,85	5,03	4,88
kriterij 2	izmjereno	21,5289	22,801	18,9054	20,3754	13,177	17,3431	32,7903	16,4162
	min/max/range	13,177	32,790	19,613					
	proporcionalno veličini pomaka	5,59	5,07	6,66	6,06	9,00	7,30		7,68
Bodovi za kriterij 2	prema poretku timova	4	3	6	5	9	7	2	8
kriterij 3	izmjereno	41,5662	98,8211	40,1215		27,5372	31,1284		32,5847
	min/max/range	27,5372	98,8211	71,2839					
	proporcionalno veličini pomaka	7,43		7,59		9,00	8,60		8,43
Bodovi za kriterij 3	prema poretku timova	5	4	6	X	9	8	X	7
kriterij 4	izmjereno	1,0071	1,2543	1,3607	1,2827	1,2181	1,5325	1,4148	1,6953
	min/max/range	1,0071	1,6953	0,6882					
	proporcionalno veličini	9,00	6,13	4,89	5,80	6,55	2,89		1,00
Bodovi za kriterij 4	prema poretku timova	9	7	5	6	8	3	4	2
kriterij 5	izmjereno	2,4995	1,1768	2,253		2,3145	3,1042		2,3857
	min/max/range	1,1768	3,1042	1,9274					
	proporcionalno veličini	3,51		4,53		4,28	1,00		3,98
Bodovi za kriterij 5	prema poretku timova	5	9	8	X	7	4	X	6
kriterij 6	Collapse of the structure - Earthquake 1	9	9	9	9	9	9	4,5	9
Bodovi za kriterij 6	(min. 0, max. 9, and partially 4.5)								
kriterij 7	Collapse of the structure - Earthquake 1	9	4,50	9	0	9	9	0	9
Bodovi za kriterij 7	(min. 0, max. 9, and partially 4.5)								
kriterij 8	Predviđeno - numerički rezultati	8,02	1,85	6,16	6,411	7,8	8,093	6,64	8,23
	Izmjereno	3,3330	2,9799	4,2067	3,6713	4,2129	3,9254	2,1999	4,0135
	Odnos numeričkog rezultata s izmjerenim	0,58	0,61	0,32	0,43	0,46	0,51	0,67	0,51
Bodovi za kriterij 8	U odnosu na max moguće bodove	3,32	3,11	5,46	4,58	4,32	3,88	2,65	3,90
kriterij 9		8,02	1,85	4,31	2,727	7,3	8,093	6,29	8,23

	izmjereno	2,933	2,2349	3,1993	X	3,8094	3,8967	X	3,9529
	Odnos numeričkog rezultata s izmjerenim	0,63	0,21	0,26		0,48	0,52		0,52
Bodovi za kriterij 9	U odnosu na max moguće bodove	2,93	6,34	5,94	0	4,17	3,85	0	3,84
kriterij 10	Promjena krutosti nakon 1. potresa	0,96	0,87	1,00	0,99	1,00	1,00	0,66	1,00
Bodovi za kriterij 10	U odnosu na max moguće bodove	6,72	6,07	7,00	6,94	7,00	7,00	4,61	6,99
kriterij 11	Promjena krutosti nakon 2.. potresa	0,84	0,65	0,76	X	0,90	0,99	X	0,98
Bodovi za kriterij 11	U odnosu na max moguće bodove	5,91	4,55	5,32	0	6,33	6,95	0	6,88
kriterij 12	Usable floor area								
Bodovi za kriterij 12	U odnosu na max moguće bodove	2	3	2	1	1	3	2	1
kriterij 13	Aesthetics and overall impression, scored by independent judges (subjectively and impartially)								
Bodovi za kriterij 13	U odnosu na max moguće bodove	3	2,11	2,19	1,95	2,76	2,51	2,43	1,95
Violation of the rules - penalties									
	Deducted points (stronger ground floor - semifloor or similar)	0	0	0	10	10	0	0	10
	Deducted points (stronger diagonal elements)	0	0	0	0	0	10	10	0
	Deducted points (additional strenghtening of vertical connections)	0	0	2,5	0	0	0	0	0
		0	0	2,5	10	10	10	10	10