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Supplementary Material

Parametric evaluation of heat transfer mechanisms in a WUI fire scenario

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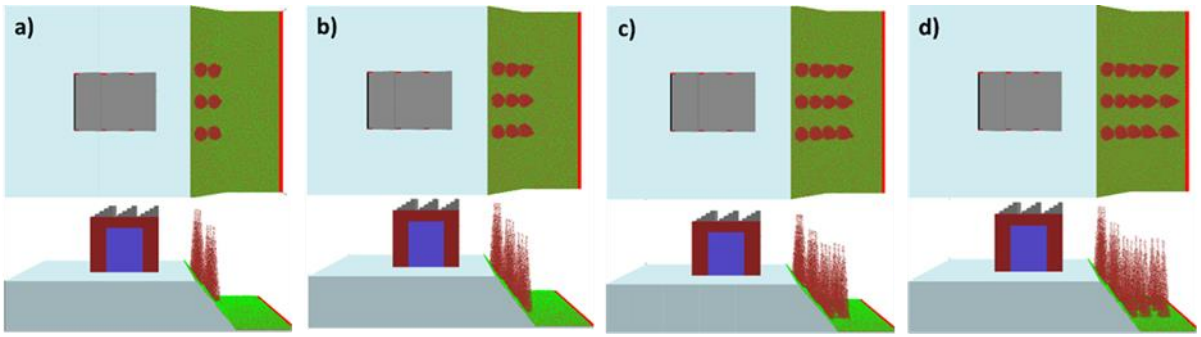
SUPPL. MAT 1a: List of factors used for each case of the full factorial design analysis.

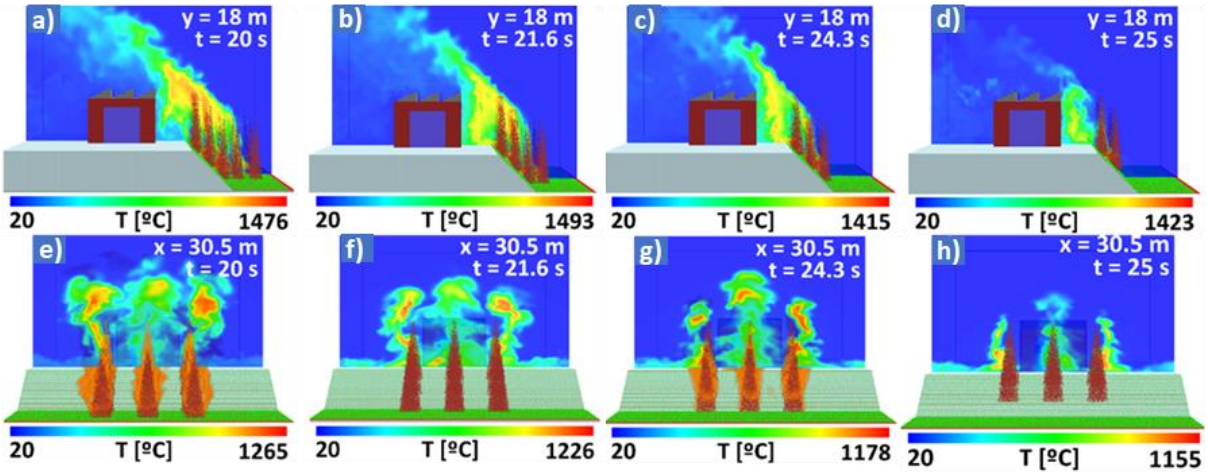
(1)	(2)	(3)	(4)	(5)
RUN	**FL**	**SL**	**WV**	**MC**
	[nº trees]	**[º]**	**[m/s]**	**[%]**
1	9	16	5.0	13
2	15	16	5.0	13
3	9	46	5.0	13
4	15	46	5.0	13
5	9	16	6.7	13
6	15	16	6.7	13
7	9	46	6.7	13
8	15	46	6.7	13
9	9	16	5.0	56
10	15	16	5.0	56
11	9	46	5.0	56
12	15	46	5.0	56
13	9	16	6.7	56
14	15	16	6.7	56
15	9	46	6.7	56
16	15	46	6.7	56

SUPPL. MAT 1b: List of factors used for each case of the one factor at a time (OFAT) design.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
RUN	**FL**	**WD**	**WV**	**SL**	**DIST**	**MC**
	[nº trees]	**[º]**	**[m/s]**	**[º]**	**[m]**	**[%]**
1	9	90	5.0	46	9	26
2	6	90	5.0	46	9	26
3	12	90	5.0	46	9	26
4	15	90	5.0	46	9	26
5	9	67.5	5.0	46	9	26
6	9	112.5	5.0	46	9	26
7	9	135	5.0	46	9	26
8	9	90	4.15	46	9	26
9	9	90	5.85	46	9	26
10	9	90	6.70	46	9	26
11	9	90	5	16	9	26
12	9	90	5	30	9	26
13	9	90	5	38	9	26
14	9	90	5	46	12	26
15	9	90	5	46	15	26
16	9	90	5	46	18	26
17	9	90	5	46	9	13
18	9	90	5	46	9	39
19	9	90	5	46	9	52

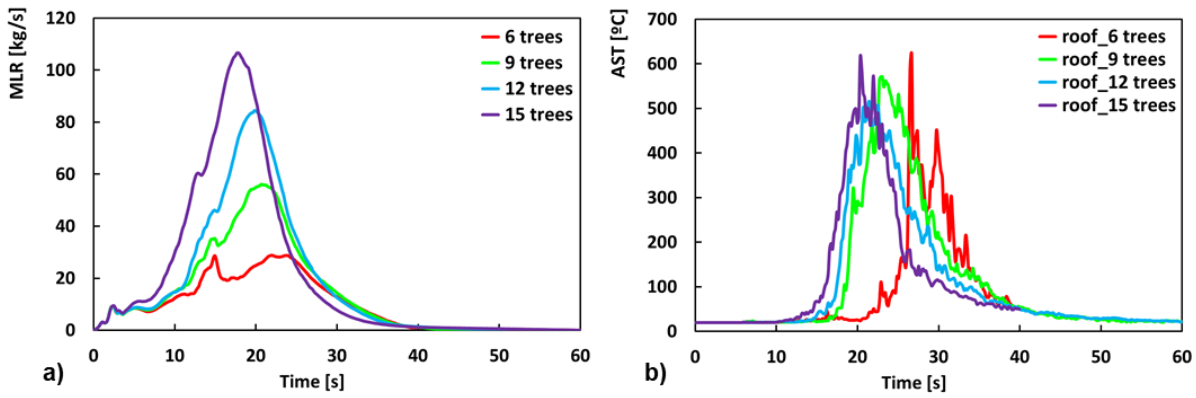


SUPPL. MAT 2: Top view and lateral view for a) 6 trees; b) 9 trees; c) 12 trees; d) 15 trees.

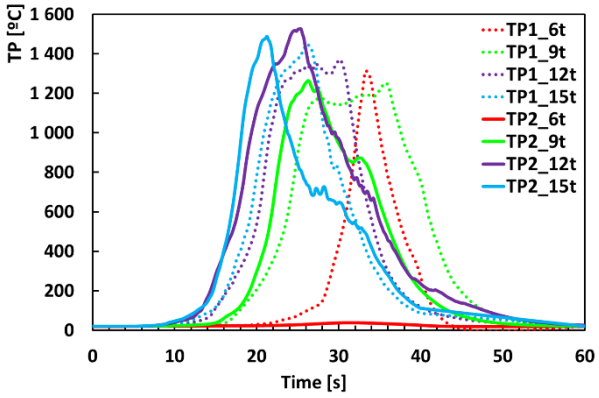


SUPPL. MAT 3: Slice Temperature for y=18m (a) 15 trees; (b) 12 trees; (c) 9 trees; (d) 6 trees.

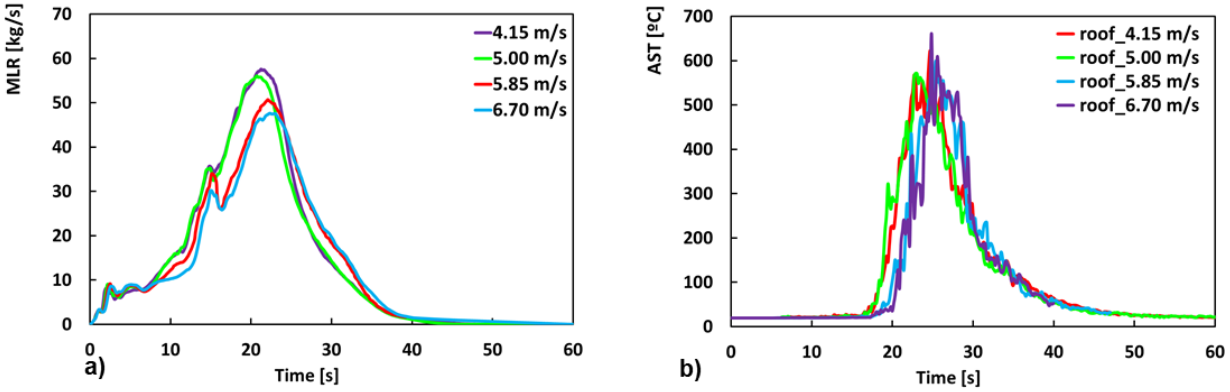
Slice Temperature for x=30m (e) 15 trees; (f) 12 trees; (g) 9 trees; (h) 6 trees.



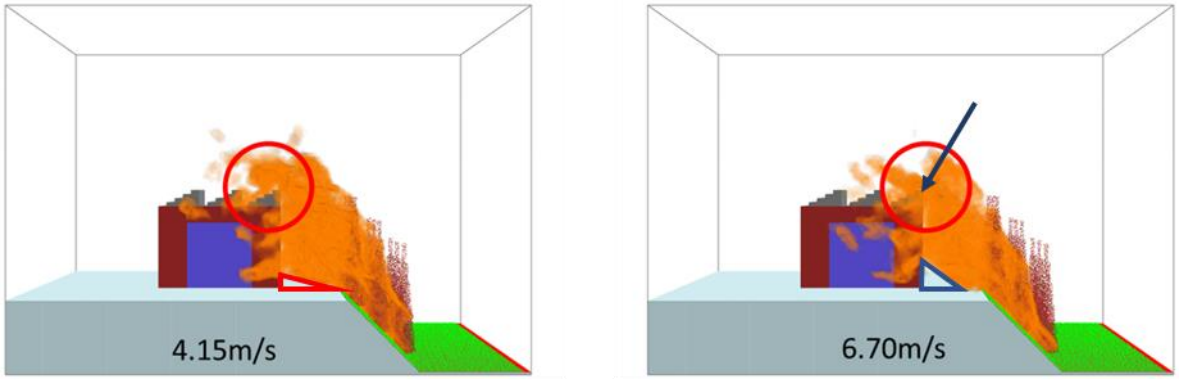
SUPPL. MAT 4: Evolution of MLR and AST roof as a function of time for the fire load. a) MLR; b) AST in the roof.



SUPPL. MAT 5: Gas temperature measured by the thermocouples.



SUPPL. MAT 6: Evolution of MLR and AST roof as a function of time. a) MLR; b) AST in the roof.



SUPPL. MAT 7: Flame behavior under different wind velocities.

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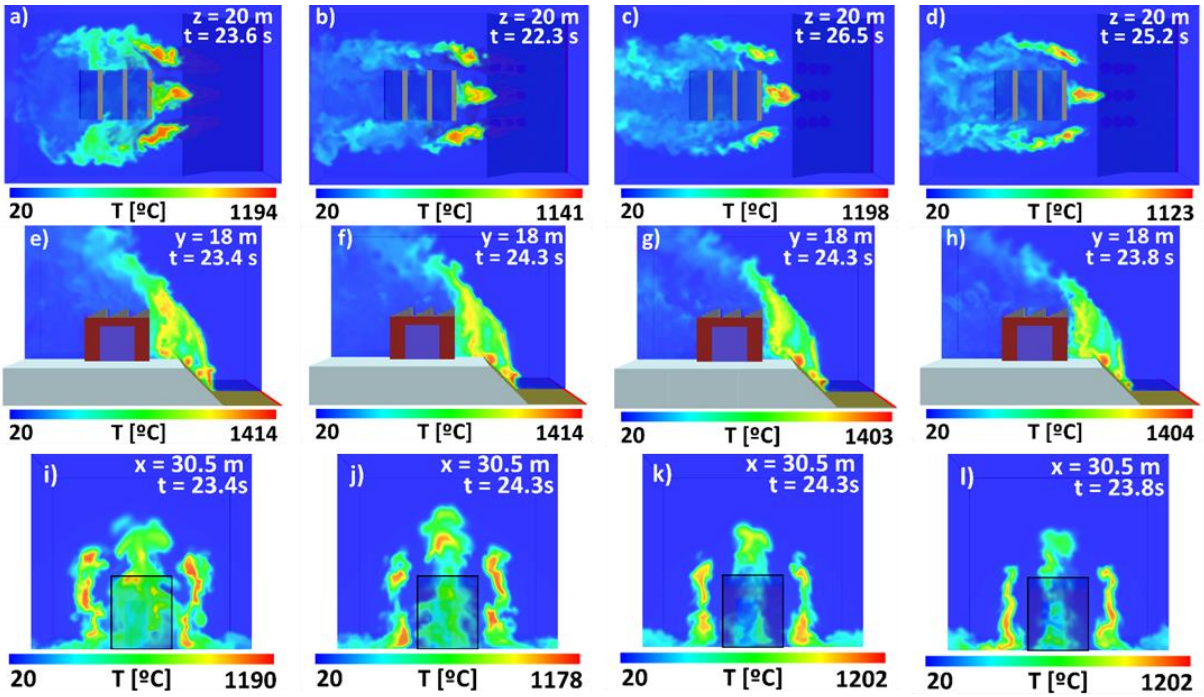
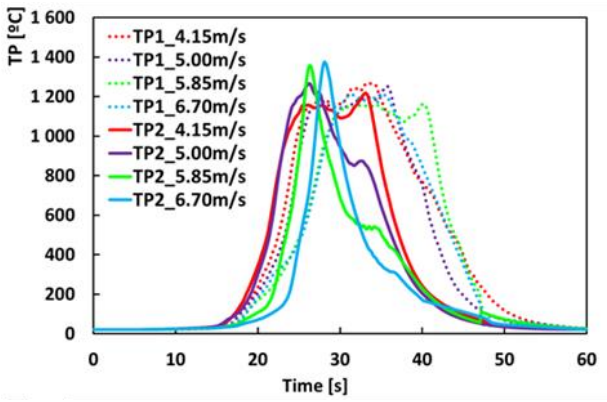
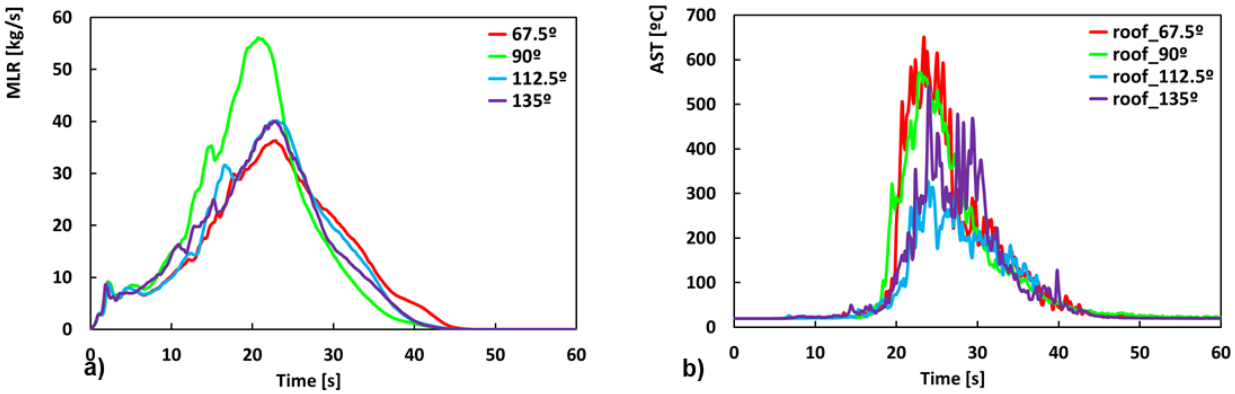


SUPPL. MAT 8: Slice Temperature visualization for the tested wind velocities. a) 4.15 m/s. b) 5.00 m/s. c) 5.85 m/s. d) 6.70 m/s. Slice Temperature for y = 18m (e) 4.15 m/s; (f) 5.00 m/s; (g) 5.85 m/s; (h) 6.70 m/s - Slice Temperature for x =30.5 m (i) 4.15 m/s; (j) 5.00 m/s; (k) 5.85 m/s; (l) 6.70 m/s



SUPPL. MAT 9: Gas temperature measured by the thermocouples



SUPPL. MAT 10: Evolution of MLR and AST roof as a function of time for different wind direction. a) MLR; b) AST in the roof.

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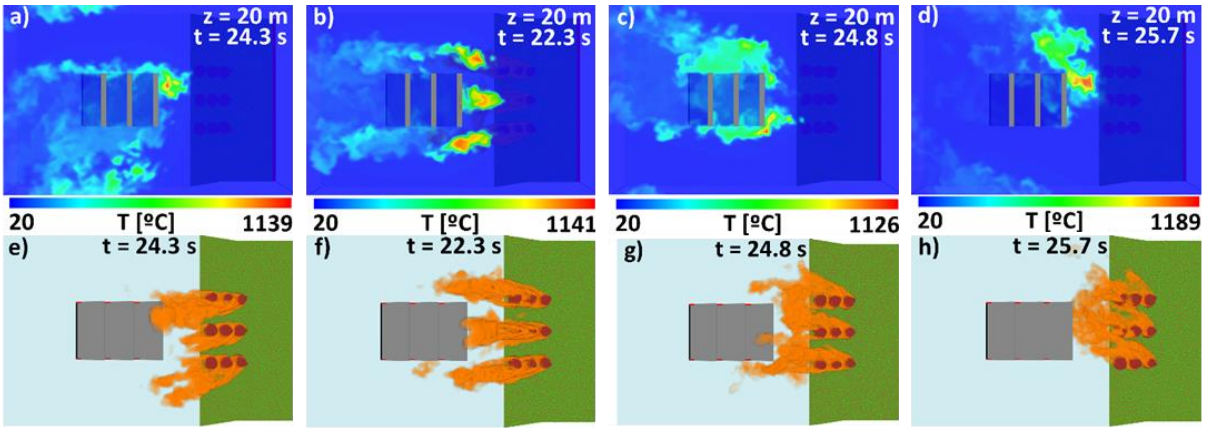
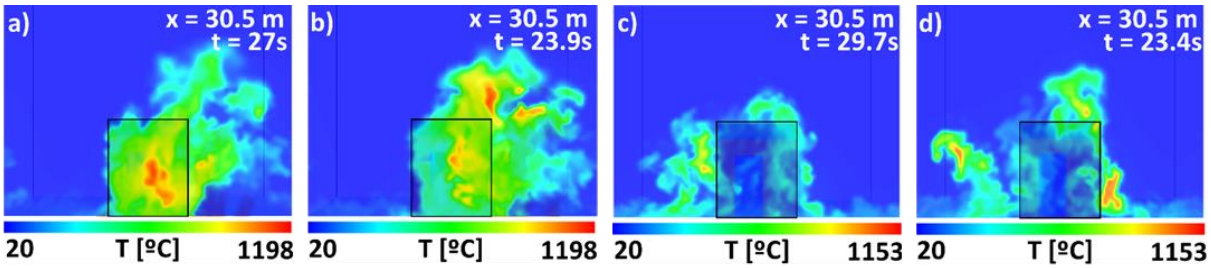
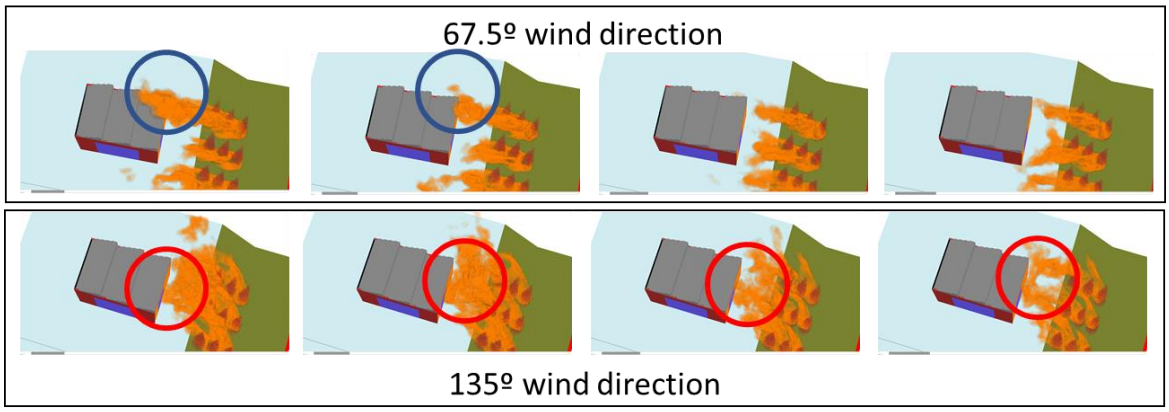


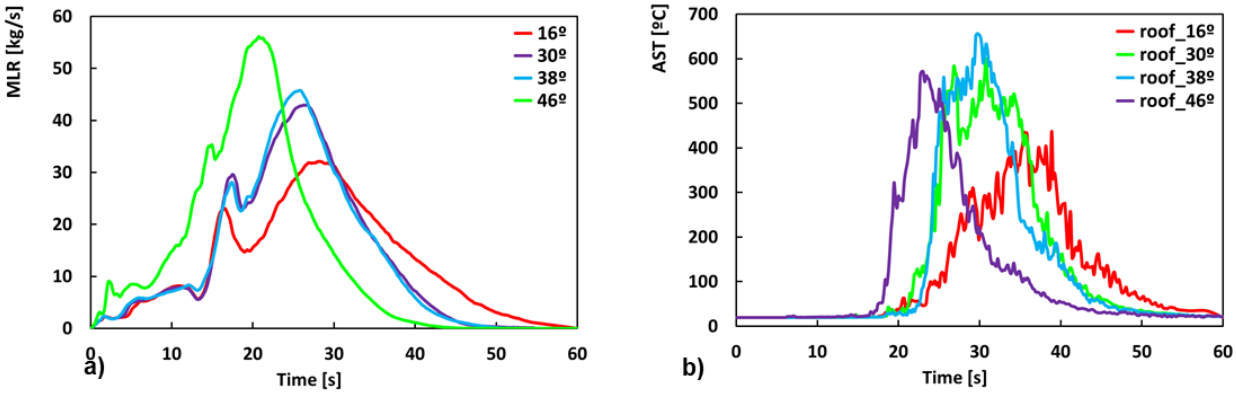
SUPPL. MAT 11: Slice Temperature visualization for the tested wind directions and top view. a) and e) 67.5º. b) and f) 90º. c) and g) 112.5º. d) and h) 135º.



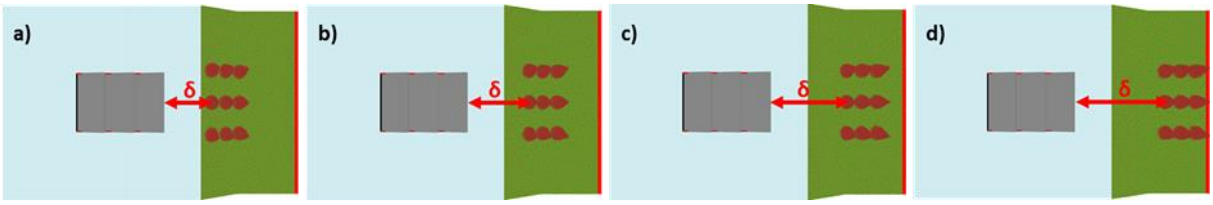
SUPPL. MAT 12: Slice Temperature visualization for the tested wind directions. Front view (trees hidden). a) 67.5º. b) 90º. c) 112.5º. d) 135º.



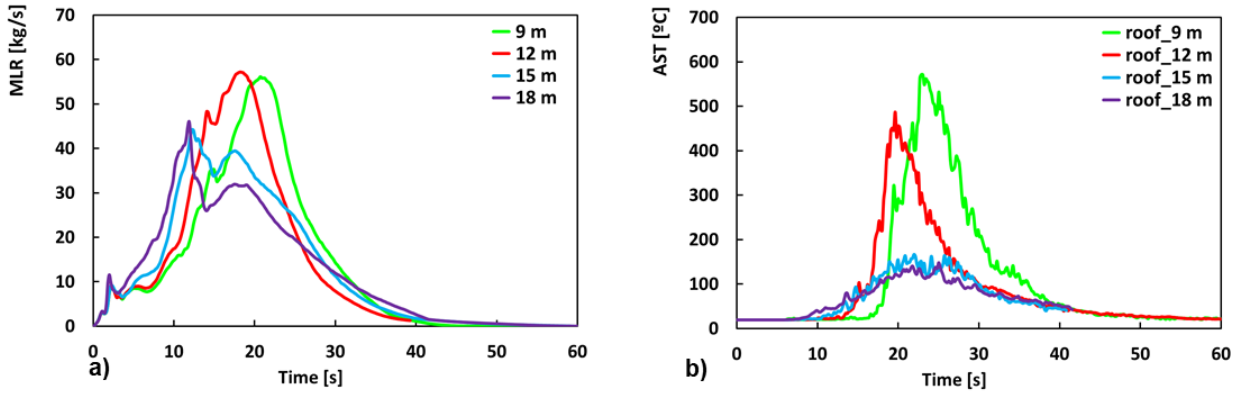
SUPPL. MAT 13: Slice Temperature visualization for the tested wind directions. Front view (trees hidden). a) 67.5º b) 135º.



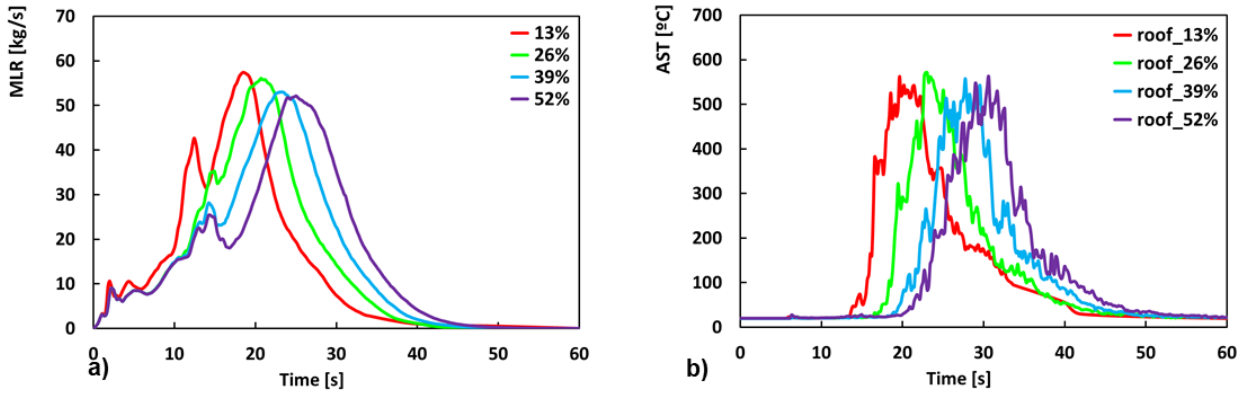
SUPPL. MAT 14: Evolution of MLR and AST roof as a function of time for different slope. a) MLR; b) AST in the roof.



SUPPL. MAT 15: Top view for the distance between the warehouse and the vegetation. a) 9 m; b) 12 m; c) 15 m; d) 18 m.



SUPPL. MAT 16: Evolution of MLR and AST roof as a function of time for different distances. a) MLR; b) AST in the roof.



SUPPL. MAT 17: Evolution of MLR and AST roof as a function of time for different moisture of content. a) MLR; b) AST in the roof.