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*Supplement of*

**Assessment of physical vulnerability of buildings  
and analysis of landslide risk at the municipal scale:  
application to the Loures municipality, Portugal**

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## Supplement:

### Supplement 1. Matrix of the experts questionnaire

	Landslide body (rotational slide): Depth of the slip surface (m)					Landslide foot: Height of affected material (m)			
	1	3	5	10	20	0.5	1	3	5
STB1									
STB2									
STB3									
STB4									

Note: complete with a potential damage between 1 (negligible damage) and 5 (very severe damage).

Structural building type	Structural elements and construction material
SBT1	Wood or metal (light structures)
SBT2	Adobe, rammed earth or loose stone walls
SBT3	Brick or stone masonry walls
SBT4	Masonry walls confined with reinforced concrete

Potential damage class	Damage level on buildings (based on Alexander, 1986; AGS, 2000; Tinti et al., 2011; Garcia 2012)
1: Negligible damage	No significant damage - slight accumulation of material originating aesthetic damages (dirt, chipping paint, etc.)
2: Slight damage	No structural damage - minor repairable damage: chipping of plaster, slight cracks, damage to doors and windows
3: Significant damage	No structural damage - major damage requiring complex repair: displacement or partial collapse of walls or panels without compromising structural integrity, highly developed cracks. Evacuation required
4: Severe damage	Structural damage that can affect the stability of the building: out-of-plane failure or collapse of masonry, partial collapse of floors, severe cracking or collapse of sections of structure due to settlement. Immediate evacuation; demolition of the element may be required.
5: Very severe damage	Heavy damage seriously compromising the structural integrity: partial or total collapse of the building. Imperative and immediate evacuation and complete demolition.