

**SYRIA**

# Damage Grades Handout

**Guidance for ground  
level damage assessments**



## Introductory Note

The following handout has been created to support the undertaking of ground-level damage assessments of war damage, specifically in North-West Syria.

The handout presents five damage grades for war damage. The included grades are based on those outlined in the [Shelter Repair and Rehabilitation Guidelines](#),<sup>1</sup> with additional descriptive text and images added for clarity. As the extent of damage can vary considerably between different building elements, it has been found to be valuable to assess the building elements separately. This handout outlines how the damage may appear for each building element within each grade; walls and loadbearing elements, roof slab and roof covering, external doors and windows and internal finishes. An overall average damage grade may be calculated as necessary, taking into consideration that the damage to external doors/windows and internal finishes becomes irrelevant when Grade 4 or 5 damage to structural members is present. It is recommended that ground-level assessments are conducted by trained engineers, to ensure safety during data collection and the accuracy of collected data. For buildings that are safe and have maintained their structural integrity, internal assessments in addition to external observations facilitate more accurate results.

The handout was field tested through a ground-level assessment conducted by REACH engineers in Idlib City in September 2022 and updated accordingly with imagery from the assessment. As all imagery included in this handout is of Idlib City, it should be noted that the images may not be representative of damage in other contexts, including in rural settings within the region, and should therefore be treated as indicative only. In addition, this handout is only applicable to war damage. It does not take into consideration damage from natural causes or building elements that are unfinished or under construction.

This document should be used for guidance only. REACH and the Shelter and NFI Cluster do not accept any responsibility for the accuracy of the information presented in this handout or liability arising from interpretation or application of any of its content.

### About REACH

REACH facilitates the development of information tools and products that enhance the capacity of aid actors to make evidence-based decisions in emergency, recovery and development contexts. The methodologies used by REACH include primary data collection and in-depth analysis, and all activities are conducted through inter-agency aid coordination mechanisms. REACH is a joint initiative of IMPACT Initiatives, ACTED and the United Nations Institute for Training and Research - Operational Satellite Applications Programme (UNITAR-UNOSAT). For more information please visit [our website](#). You can contact us directly at: [geneva@reach-initiative.org](mailto:geneva@reach-initiative.org) and follow us on Twitter @REACH\_info.

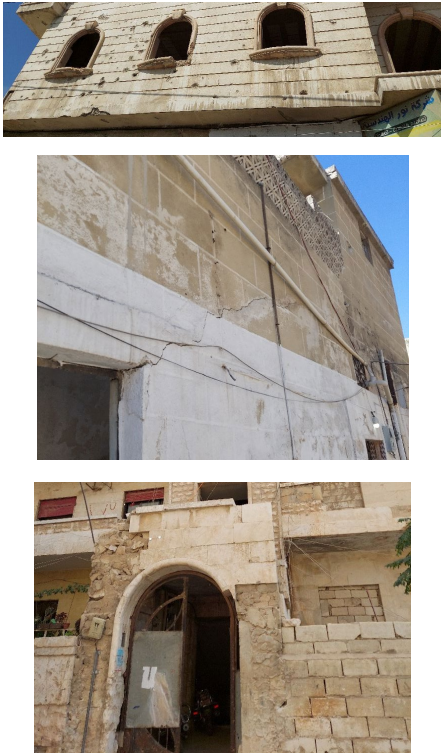
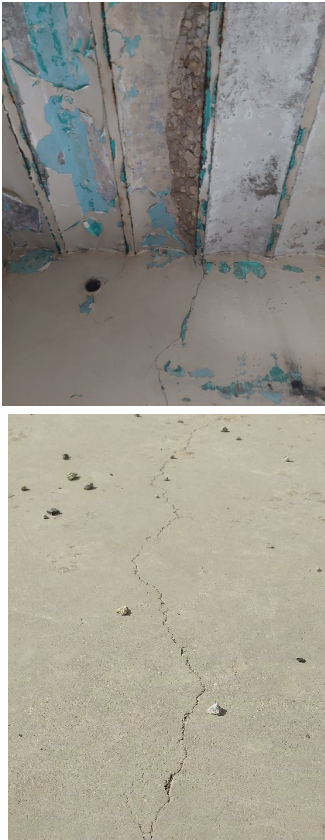


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<sup>1</sup> Shelter and NFI Cluster X-border operation, [Shelter Repair and Rehabilitation Guidelines](#), 2018











## Grade 1: Slight Damage

Superficial damage that has not impacted the structure and does not generally disrupt building function

Walls and loadbearing elements (Including columns and footings)	Roof slab and roof covering	External doors and windows (Including glazing and ironmongery)	Internal finishes: Walls, floor finishes, WC/shower, water and electrical connections
<p>Hairline cracks in walls that are less than 2cm deep. Damage limited to external finishes.</p> <p>Walls may have a few bullet holes or slight mortar and shelling damage, but air does not go through.</p> 	<p>No holes in the roof. Damage is limited to external finishes, and/or internal hairline cracks, that are less than 2 cm deep. The roof may leak.</p> 	<p>Several windowpanes are broken; some of the windows or doors may have light damage.</p> 	<p>Limited superficial damage to internal floor and wall finishes, such as plaster deterioration. No fire damage.</p> 

## Grade 2: Moderate Damage









More extensive damage, that does not impact the structural integrity of the building. For example: holes or damage to non-loadbearing walls, or light/superficial damage to structural members such as columns.

Walls and loadbearing elements (including columns and footings)	Roof slab and roof covering	External doors and windows, (including glazing and ironmongery)	Internal finishes: walls, floor finishes, WC/shower, water and electrical connections
<p>Holes or damage such as from mortar/shelling in non-loadbearing walls. And/or light cracks to non-loadbearing members. There is no break/abruption in the reinforcement rebars.</p>  	<p>Limited holes, or mortar and shell perforations to roof, and/or the presence of deep cracks in the inner side of the slab without any breaks/abruption in the reinforcement rebars.</p>  	<p>Partial glass for windows and/or some windows or doors damaged/destroyed.</p>  	<p>Light internal damage to floors and walls, such as large pieces of fallen plaster. May have light fire damage, that is affecting finishes.</p>  



## Grade 3: Heavy Damage

Structural damage, such as holes and cracks in beams, pillars, structural walls or foundations. Building is unsafe for habitation unless repairs are undertaken.

Walls and loadbearing elements (Including columns and footings)	Roof slab and roof covering	External doors and windows, (Including glazing and ironmongery)	Internal finishes: Walls, floor finishes, WC/shower, water and electrical connections
<p>Structural damage. Holes and/or cracks in some beams, columns, structural walls or foundations.</p> <p>Or the presence of deep cracks in the ceiling, or in the walls spread over the entire height.</p>  	<p>The presence of large holes/ openings in the slab and/or a break/abruption in the reinforcement rebars</p>  	<p>Majority of windows or doors damaged/destroyed.</p>  	<p>Internal spaces damaged, such as by shells, or fragments.</p> <p>Fire damage which can be repaired, and/or limited to some areas of the house.</p>  

## Grade 4: Very Heavy Damage



Serious structural damage. Building's structural integrity is compromised, and it may be at imminent risk of collapsing.

<b>Walls and loadbearing elements</b> (Including columns and footings)	<b>Roof slab and roof covering</b>	<b>External doors and windows,</b> (Including glazing and ironmongery)	<b>Internal finishes: Walls, floor finishes, WC/shower, water, and electrical connections</b>
<p>Serious failure of walls and structural damage involving several loadbearing members (foundation, loadbearing walls, columns and slabs) Deep cracks with observable permanent deformations of the structural elements</p> <div> </div> <div> </div>	<p>Large holes, such as from large shells penetrating roof, or excessively deflected roof. Engineering solutions required to conduct structural repairs of roof. Roof may be partially collapsed.</p> <div> </div> <div> </div>	<p>Damage not relevant as structure severely impacted.</p>	<p>Damage not relevant as structure severely impacted.</p>



## Grade 5: Destruction

Total or partial collapse.

<b>Walls and loadbearing elements</b> (Including columns and footings)	<b>Roof slab and roof covering</b>	<b>External doors and windows</b> (Including glazing and ironmongery)	<b>Internal finishes: Walls, floor finishes, WC/shower, water and electrical connections</b>
<p>Totally in rubble (only foundation or debris remains) or, at least 60% of the structure of the house is destroyed.</p> 	<p>Partial or complete collapse of roof.</p> 	<p>Damage not relevant as structure severely impacted.</p>	<p>Damage not relevant as structure severely impacted.</p>