

Loss prevention standards

Residential Properties: Weather-Related Property Damage

The purpose of this document is to summarise potential weather-related risks that residential property can be exposed to, and to provide guidance on precautions that can be taken to reduce the risk of damage being sustained.

Residential Properties: Weather-Related Property Damage



Introduction

Weather conditions and events can result in damage to a property. Whereas we may tend to associate the worst of these conditions with winter, they are not restricted to the winter months alone. Thaws, cold periods, torrential rainfall, storms, high winds, etc. can occur during the various seasons of the year. Effective maintenance of a property will help to reduce the risk of damage being sustained.

The priority should always be the personal safety of you and your family. However, the following information and guidance is designed to assist you in understanding the exposures and implementing measures which may protect your property against weather-related damage.



Types of Weather-Related Damage

The most obvious causes of weather-related damage to your property are wind (including the impact of objects), rain, flood, snow, hail and sub-zero temperatures, which can result in:

- Structural damage, collapse
- Fallen trees, branches, utility poles
- Impact damage
- Flooding
- Ingress of water and damage
- Ice accumulations and dam creation on roofs/in gutters
- Frozen tanks and pipes
- Power failure, etc.

Wind/Windstorm

Windstorm is one of the most damaging of the natural perils. During major windstorm events or even just in high winds, the resultant damage to buildings and their surroundings can be substantial with significant losses sustained every year. Buildings situated in open or elevated locations are particularly exposed.

Increasingly, weather forecasts include the potential for gale and storm force winds, leading to the possibility of structural damage. Such damage may be difficult to prevent entirely, but there is generally a higher risk to a property if it has structural issues or is poorly maintained.

As such events are normally forecasted and provide at least some notice, so preparation for their impact and implementation of some precautions can be made. Listen out for severe weather warnings on local radio; on television; on social media; or use a weather app on your phone.

The most important measure is the good maintenance and condition of a property, as even minor defects can result in substantial damage during gales and high winds. Consider gaps around door frames; loose glazing putty; lack of sealing around frames; damaged vent exit points; old or poor flashing, etc.

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External Items of Property

External items such as fences, sheds, patio furniture, trampolines, greenhouses, bins, stored materials, ladders, trees and shrubs etc. can move or be thrown around in high winds. These can impact buildings and other items such as vehicles. Impacted or damaged property can then become even more vulnerable to the effects of the weather itself.

Precautions should be taken to prevent items being lifted-up by strong winds, and such items should be moved to secure or internal areas, or suitably fixed in place.

In some instances, it may be necessary to protect some of the property glazing, e.g. with fixed plywood sheets. This may include any Velux windows or roof lights.

External services and equipment should be also protected against impact.

The condition of trees and shrubs should be considered, and these should be inspected and any features such as dead or fractured branches/limbs should be addressed. Remove any trees/branches that have been damaged and may be a threat to your property. Consideration should be given to the height of any tree versus its distance from the property.

Rain

Heavy or wind-driven rain presents various exposures including flooding, but can also lead to water ingress via windows, doors, vents, at the eaves and other external apertures from the building.

- Ensure all door and window frames are appropriately sealed
- Ensure all glazed elements are appropriately fixed and weather proofed
- **Consider pooling on flat roofs and repair any issues with 'alligatoring' or cracking**
- Ensure all guttering and downspouts are clear and secured

Precautions should be taken to prevent wind-driven rain entering a property under and around sliding doors, through air vents and louvres.

Drains should be kept clear and clean and manhole covers should be kept in place and secured.

It may be prudent to liaise with neighbours to ensure they are also keeping drains clear, as a blockage at one property can cause a knock-on effect to others in a drainage network.

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Flood

Flood control measures and defences are part of long-term planning and funding by Local Authorities, the Environment Agency and several other bodies. However, there are some measures that a residential property owner can take to minimise the risk and the repercussions of water damage to their home and contents.

The Environment Agency is the primary source of information and advice. If you have suffered flood damage in the past or live in a vulnerable area:

- Prepare a Flood Plan and take appropriate measured action
 - If additional measures are needed, e.g. sandbags, ensure you keep an appropriate supply to hand if such weather is predicted
 - Consider how you can make your property more flood resilient
- **Prepare a simple guide of the do's and don'ts to follow if flooding does occur**
- Obtain guidance and support from your Property Insurance Company and Insurance Broker

You should be able to demonstrate to your insurance company that all reasonable measures have been taken to prevent losses resulting from flood. If you live in a vulnerable area, these may be either flood resilience or flood resistance measures.

Roofs and Guttering

The roof and associated features of a property is particularly exposed to the weather, and keeping it well maintained is important.

Roofs should be suitably designed in the first instance, however, regardless of the design, regular inspection, maintenance and repairs may reduce the risk of a roof or the roof coverings failing during high winds, heavy rainfall or other extreme conditions such as snow and ice.

Poorly installed or poorly maintained flashing can suffer damage during high winds. If perimeter flashing is affected, then further damage may be sustained to the rest of the roof. The flashing around the edge of the building should be checked regularly, particularly when high winds are forecast. It is a good idea to store some suitable fixings that can be used for interim repairs if necessary, e.g. threaded nails and washers.

For anything other than small repairs, a roofing or guttering specialist should be contacted to undertake emergency repairs ahead of a storm.

Note: Do not attempt to inspect any damage by using a ladder whilst rain and wind persist. Only check for damage once it is safe to do so and with appropriate secure arrangements.

Checks should be made for broken or loose roof tiles and any damaged bricks. Even if problems appear minor, they can be exacerbated when harsher weather sets in, increasing the risk of further damage both internally and externally.

Roof-mounted structures such as chimneys, should be of sound construction and condition. Brickwork pointing and associated flashing should also be in good condition.

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Roof or wall-mounted objects can increase the risk of building damage during high winds and should be suitably secured. Ahead of any high winds, any roof or wall-mounted equipment should be checked, e.g. solar panels, TV aerials and satellite dishes.

Ice and snow can bring additional risks. A substantial build-up of snow or drifting on a roof can present a risk of structural collapse. A heavy covering of snow or melting snow on the roof of a house/extension carries substantial weight. Should ice, rain or sleet fall, the mass increases and puts even more strain on the structure. Regular removal of excessive snow from your roof will help to maintain its structural integrity. Snow that collects on a peaked roof, melts and then refreezes towards the edge/eave of the roof can also result in the formation of what is called an ice dam. This stops water flowing to drain via the guttering. As the snow and ice freezes and melts, and the refreeze/re-melt cycle continues, it can cause:

- Melt water to seep into a building resulting in water damage
- Damage due to the expansion of water when frozen and then seeping into the damage created or gaps in tiles etc. when thawing, before re-freezing again, so expanding

It is important to ensure that your roof and property is properly and appropriately insulated. Poor insulation can result in problems including the formation of ice dams, as described above. These can occur when a roof is too warm. Snow will fall onto the roof and melt quickly, allowing it to run into the gutter where it can refreeze and cause ice blockages. Ice dams can cause heavy accumulations of ice and snow which puts strain on guttering systems, which may be enough to result in their collapse.

Guttering should be kept clear and the regular removal of leaves, moss and other vegetation should be carried out. This should be completed all year round but is particularly important prior to and during the winter as this is when the guttering will endure the harshest conditions. If snow and ice form around leaves and debris within guttering, the risk of blockages increases and subsequent damage may be higher.

Plumbing and Heating

Should temperatures drop significantly, a hot water boiler can be at risk of freezing. To avoid this, the heating should be run regularly. The use of timers is recommended in order that the heating system operates at set times throughout the day and night. Alternatively, heating can be run at a suitable, constant low-level temperature.

Regular bleeding of the radiators is recommended to prevent pockets of air entering the system.

If you are away from your property, ensure that heating is maintained throughout the building. If the property is to be left empty for an extended period of time, then it may be necessary to isolate the domestic water supply to act as a precaution and prevent any potential water release from occurring.

Appropriate precautions should be implemented in order to reduce the risk of the escape of water and damage during sub-zero temperatures. If the water in a pipe freezes, it expands and this can result in a burst pipe or the failure of a pipe joint; when the frozen pipe thaws the water escapes from the damaged pipe or joint. To help prevent this, the following measures should be addressed:

- Pipes should be well insulated in all areas of the property – ensure water pipes and tanks are fully lagged
- Water tanks and pipework in loft spaces should be checked. It should be ensured that the lagging is sufficient
 - However, do not insulate underneath any tanks, as this will prevent warm air rising effectively from any rooms below

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- Pipework should be checked for cracks
- Any dripping taps should be repaired
- Boilers should be serviced regularly
- A suitable temperature should be maintained throughout the property
- Ensure the location of the stopcock (and other isolation valves) is known and that it has not seized
- Understand what to do should a pipe fracture
 - If a pipe does freeze, always isolate the pipe by closing the stopcock on the feed from the tank or the incoming main and then use a hot water bottle or a hairdryer to thaw it. You should never use a naked flame to thaw a frozen pipe. This is a severe fire risk

Key Action Steps

- Ensure effective maintenance of your property throughout the year and particularly coming into the winter months
- Inspect your property regularly, particularly prior to and following adverse weather conditions such as strong winds and heavy rains
- Keep roofs, gutters and drains clear and well maintained - enabling effective water run-off and reducing the risk of damage from blockage and overflow
- Repair any leaking taps
- Protect your property if you are away:
 - Leave your heating in use
 - Isolate the domestic water supply if the home is being left for an extended period
- Locate your stopcock and make sure you can turn the water supply on and off easily
- Make sure you have emergency contact numbers to hand, in a safe place, including your insurer, local authority, utilities companies and professional tradespersons

Checklist

A generic Residential Properties: Weather-Related Property Damage Checklist is presented in Appendix 1 which can be tailored to individual requirements.

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Aviva Risk Management Solutions can offer access to a wide range of risk management products and services via our network of Specialist Partners who are reputable companies offering agreed discounted rates for Aviva customers.

For more information please visit:

[Aviva Risk Management Solutions – Specialist Partners](#)

Sources and Useful Links

- [The Environment Agency](#)
- [The Scottish Environment Protection Agency \(SEPA\)](#)
- [Natural Resources Wales](#)
- [Department for Infrastructure – Northern Ireland: Rivers and Flooding](#)
- [GOV.UK – Sign up For Flood Warnings](#)

LOSS PREVENTION STANDARDS

Additional Information

Relevant Loss Prevention Standards and Risk Management Bulletins include:

- Escape of Water and Fluid Leakage
- Photovoltaic Solar Panel Systems
- Trees – Property Damage
- UK Flood – Guidance and Mitigation
- Weight of Snow – Property Precautions
- Winter Risk Management Bulletin

To find out more, please visit [Aviva Risk Management Solutions](#) or speak to one of our advisors.

Email us at riskadvice@aviva.com or call 0345 366 6666.*

*Calls may be recorded and/or monitored for our joint protection.

Appendix 1 - Residential Properties: Weather-Related Property Damage Checklist



Location	
Date	
Completed by (name and signature)	

	Property Protection	Y/N	Comments
1.	<p>Are the buildings situated in an exposed location which is prone to windstorm?</p> <p>Have there been any previous instances of high winds, heavy rain, snow or hail causing damage to the property?</p>		
2.	<p>Are regular inspections, maintenance and repairs made to the property?</p> <p>Is the property in good condition?</p>		
3.	<p>Ahead of any expected high winds, is the flashing around the edge of the building perimeter visually checked?</p> <p>To facilitate immediate minor repairs, do you have a supply of threaded nails with flat washers available?</p> <p>For anything other than small repairs, has a roofing specialist been contacted to conduct emergency repairs?</p>		
4.	<p>Have any missing or damaged roof tiles been replaced?</p>		
5.	<p>Are all flat roofs in good condition and well maintained?</p> <p>Are weatherproofing materials free from cracks and loose joints?</p> <p>Are the roofs free from vegetation/debris and kept clean?</p> <p>Are the roofs free from ponding?</p>		
6.	<p>Are all roof-mounted structures, such as chimneys or parapets in good condition?</p>		
7.	<p>Is brickwork pointing to an appropriate standard?</p>		

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8.	Have any missing or damaged guttering or downspouts been replaced or repaired?		
9.	Are all gutters inspected regularly and cleared of leaves, moss, vegetation and other debris?		
10.	Is the condition of roofs and guttering checked following: <ul style="list-style-type: none"> • Strong winds? • Heavy rains? • Snow/ice? • Hail? 		
11.	Are roof or wall-mounted objects such as TV aerials, solar panels and satellite dishes appropriately secured? From the ground, have you observed how they behave in strong winds?		
12.	If present, are solar panel systems inspected? Are these maintained and cleaned regularly? Are they secure? Is there any accumulation of leaves/debris around or below the panels which may have an adverse effect on performance or drainage?		
13.	Are all glazing elements and window frames in good condition? Are these sealed to prevent water ingress? Are these secured to prevent wind damage?		
14.	Are glazed elements, including skylights, impact resistant? If not, and if they are vulnerable to impact, are plywood and appropriate fixings available to be fixed to them to act as protection in high winds?		
15.	Have precautions been taken against wind-driven rain through any external openings, such as: <ul style="list-style-type: none"> • Doors? • Under and around sliding doors? • Windows? • Louvres? • Air bricks? 		

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16.	<p>Are doors, door frames and associated locks:</p> <ul style="list-style-type: none"> • Well maintained? • Secured to prevent movement in high winds? • Sealed to prevent water ingress in driving rain? • Operating effectively? • Suitably lubricated to prevent freezing? 		
17.	<p>Are all openings, windows and doors protected and sealed to prevent water ingress at all levels of the building, consider:</p> <ul style="list-style-type: none"> • Basement levels • Upper levels • Levels adjacent to gutter valleys/troughs or flat roofs <p>This includes any flood water from rising water levels or surface water accumulations and run-off.</p>		
18.	<p>Where a building has a conservatory or a glass roofed gazebo or canopy, etc. is this structure protected against:</p> <ul style="list-style-type: none"> • Objects falling from the main building roof such as tiles? • Impact from objects and items lifted by high winds? • Snow accumulations or drifting? • Large snow and ice deposits falling from the main building roof? 		
19.	<p>Are there any trees, shrubs or utility poles taller than the horizontal distance they are from the building?</p> <p>Are these well maintained and in good condition?</p> <p>Are there any issues requiring attention such as overhanging branches, fractured limbs, etc.?</p> <p>Are the trees appropriately pruned to remove dead or damaged limbs, etc.?</p>		
20.	<p>Have gates and boundary walls been considered?</p> <p>Are gates and posts in good condition?</p> <p>Are gates and posts secure?</p> <p>Can gates be effectively secured in the closed position?</p> <p>Are boundary walls in good condition and maintained?</p> <ul style="list-style-type: none"> ○ Is there a collapse risk in high wind? ○ Are there any features such as statues/large planted pots that may be blown off in high winds? 		

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21.	<p>Are all fence posts, panels and fence sections in good condition?</p> <p>Are there any loose posts or panels?</p> <ul style="list-style-type: none"> o Have these been suitably fixed? <p>Have any other necessary repairs been carried out?</p>		
22.	<p>Have all external objects which could potentially be lifted/moved by high winds been identified such as:</p> <ul style="list-style-type: none"> • Stored items and materials? • Bins? • Outdoor furniture? • Sheds? • Trampolines? <p>Have appropriate precautions been taken to prevent these objects from being lifted/moved by high winds and causing damage?</p> <p>Have mobile objects been moved to secure areas or securely fixed to the ground?</p>		
23.	<p>Have any external services, connections, utilities, equipment been protected against impact damage?</p>		
24.	<p>Are external structures such as car ports and storage sheds in good condition/maintained and are they secure?</p>		
25.	<p>Are all water tanks and water carrying pipes in good condition with no signs of leakage or cracks?</p>		
26.	<p>Are all water pipes fully lagged including loft spaces?</p>		
27.	<p>Are all water tanks fully lagged on all sides and over the top?</p> <p>Note: Not the underside or below the tanks.</p>		
28.	<p>Are any tank or cistern overflows passing water ahead of cold weather periods?</p> <p>If so, these should be investigated and repaired - ball valves should be repaired. Dripping water could freeze forming an ice plug and causing a tank/cistern to overflow.</p>		
29.	<p>Have any dripping taps been repaired?</p>		
30.	<p>Is the central heating boiler regularly maintained and serviced?</p>		

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31.	Can heating of the property be maintained constantly at a suitable low-level temperature throughout to prevent freezing?		
32.	Is the location of the mains water stopcock isolation valve known? Is it readily accessible? Can it be turned/exercised easily? Do you understand what to do in the event of an escape of water emergency in your residence?		
33.	In the event of the property being left empty for an extended period: <ul style="list-style-type: none"> • Have the heating controls been set accordingly to maintain a low constant temperature to prevent freezing? • Has the domestic water supply been isolated? 		
34.	Have you referred to the relevant government and local authority websites and helplines regarding flood risks to your property/location? Have you signed-up to receive flood and/or weather warnings if available? Have there been any instances of flood in the past?		
35.	Have you considered the following: <ul style="list-style-type: none"> • Flooding from a water course or body of water? • Flash or surface water flooding? 		
36.	If you are in a flood risk area, have you tried to move valuable or essential items upstairs or to a higher level?		
37.	Are drains and manhole covers in place and secured?		
38.	Are the public highway located storm drains identified, cleared and clean?		
39.	Have you liaised with your neighbours to ensure they have clear drainage channels?		
40.	Have you prepared a simple 'bad weather/flood' emergency response plan? Do you know what to do? Do you know who to contact?		

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41.	<p>If appropriate, and you are flood exposed, do you have sandbags or more specifically engineered flood resilience products available?</p> <p>Do you have a plan of how and when to deploy these?</p>		
42.	<p>Do you have emergency contact numbers to hand in a safe place, for organisations such as:</p> <ul style="list-style-type: none"> • Your insurer/broker? • Local Authority? • Utility companies? • Plumber? • Electrician? • General property maintenance provider? • Locksmith? 		
<p>Additional comments:</p>			

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