



RISK MANAGEMENT GUIDE

WATER DAMAGE RISKS

1. INTRODUCTION

Each year there are numerous insurance claims for damage to Buildings, Contents/Stock and Machinery caused by water. This Note is intended to demonstrate the various ways in which this damage may occur, and to suggest ways in which the risk of an incident, and the magnitude of any consequential damage, may be reduced.

Items damaged by water contamination or corrosion may be uneconomical to salvage or require expensive re-packaging and repair.

The unusual rainfall patterns seen in recent years have caused Flooding problems in areas historically considered to be at low risk, and both the frequency and the size of losses have increased significantly.

Many other losses are caused by failure of some part of the water supply system, often Burst Pipes.

This guide sets out various recommendations which will help to alleviate the expense and inconvenience that these potential problems could cause.

2. RAINFALL: BUILDING MAINTENANCE

The fabric of the building must be well maintained to protect the contents from the elements. All buildings need frequent and careful examination. Those in elevated positions, exposed to the prevailing winds, are particularly at risk from rain entry. The following regular checks are necessary and appropriate remedial action should be taken:

- Check the roof and replace any loose or damaged tiles, slates, ridge tiles and any other roof claddings and flashings.
- Check that flat roof coverings are in good condition, not showing evidence of cracks or splits, and are firmly stuck down, particularly at joints. Remember that bitumen felt flat roof coverings may need to be renewed every 10 years.
- Check the condition of roof lights for leaks and cracks or breakages.
- Check and repair as necessary all cement fillets and brickwork pointing including chimneys, coping stones, lintels and ledges.
- Check that roof gutters and down-pipes are clean and unobstructed, kept free from leaves and vegetation. These should be cleaned at least once a year, possibly more often depending on local trees etc.
- Check that if gutters overflow in storm conditions the water will be discharged outside the building. This is particularly relevant to valley gutters and those which run behind parapets, where overflow outlets should discharge through the parapet to the outside of the building. Overflow weirs should be considered if not already fitted.
- Check all internal drainpipes
 - Are they protected from mechanical damage, and securely fixed?
 - Are all inspection covers and rodding eyes easily accessible and free from internal obstruction?
 - Are the covers securely fixed to prevent leakage?
- Check the condition of the underground drains
 - Lift manhole covers and check that the drains are clean
 - Make sure that the water runs freely without backing-up inside the manhole
 - If the pipes are dirty, or the water appears to run more slowly than would be expected, have the drainage system cleaned
- Check that all gullies, gratings and drainage channels both inside and outside the building are clean

and free from obstruction. If the external yard is large, there may well be an oil interceptor, which will also require routine cleaning. Certain types of pre-formed concrete yard drainage channels are particularly prone to blockage, and must regularly be rodded through.

It is possible that, despite having done all these things, you might still encounter problems with rainwater drainage systems. Typical problems are:

- gutters that regularly overflow (even though they are clean and well maintained).
- constant damp patches on walls.
- puddles that collect on flat roofs in wet weather.

These indications of inadequate drainage design will need specialist attention and you should seek the advice of a chartered building surveyor.

3. FLOODWATER PROTECTION

Flooding, although normally associated with inundation from sea, reservoir, river or canal can also be caused by melting snow or intense rainstorms with which drainage systems cannot cope. The risk that premises could be affected by floodwater needs to be assessed and appropriate precautions taken.

The following points should be considered in relation to flooding:

- Check whether there has been a **history of flooding in the area**, or whether recent developments have made flooding more likely. Local authorities – Building Control and Planning Departments, Highway Authorities, Environmental Agency and the local water company should be able to advise on specific areas liable to flood or on modifications to drainage routes. Have the authorities taken precautions to prevent a recurrence? Check the local flood risk on the Environmental Agency web site:
<http://www.environment-agency.gov.uk/subjects/flood>
- Check that you understand the operational details of any Local Authority flood warning system and have prepared an emergency plan for such an event – See Section 5.
- If flooding is known to be a possibility, **preventive measures** to stop floodwater include:
 - installation of intervening walls or banks
 - provision of floodboards and sills to doorway openings or gateway openings in walls
 - blocking up unnecessary openings in the building
 - provision of sandbags for emergency use
- Check for any signs of site drains overflowing. If this has occurred, was it due to a blockage or were the drains inadequately sized? Next time the flood could be more serious. Remember that even if all the premises drainage is clean, problems may arise if the public drainage systems external to the site are not flowing freely or are undersized
- Periodically inspect and clean out all drains and gullies and make sure that all interceptors and inspection panels are correctly sealed – both inside and outside the building
- Check that basement areas are provided with adequate drainage. Where necessary, sump pumps should be provided, with the following features:
 - Pumps should operate automatically, by means of a float switch
 - Pump motors and their control systems should themselves be flood-proof or located above the maximum flood level

4. WATER PIPES AND TANKS etc.

Protection against leakage

There are four principal causes of water loss from pipes and tanks – mechanical damage, corrosion, freezing and overflowing (tanks). Water pipes serve domestic, industrial and fire protection systems (including sprinklers) and there is a possibility that any part can leak. The following points for reducing leakage and its effect should be considered, a regular maintenance system initiated and action taken where appropriate:

- Check the age and state of the system, including the support by pipe clips and hangers, and if in poor condition get a professional plumbing contractor to replace or improve it
- It is essential to check that adequate Public Liability insurance is held by any plumber employed
- Check whether pipes are located in positions vulnerable to mechanical damage e.g. where they are liable to be damaged by fork-lift truck. If so, they must be protected or relocated or the threatening activity moved
- Metal pipes may be liable to corrosion, internally or externally. Check that closed systems, such as heating pipes, are protected with anti-corrosive additives.

- Check that there are no signs of even minor leakage. If any leaks are found they should be immediately repaired
- Check that the premises are adequately heated, pipes lagged and water tanks protected against the effects of frost, particularly during holiday shutdown periods. Advice is available in the Association of British Insurers leaflet 'Winter Precautions for Business Premises'. Pipe lagging on its own is not enough to prevent freezing in sustained sub-zero temperatures. The heating system and other special frost protection should be operating at all times
- Check that the overflow pipes on water tanks cisterns are of adequate size, and have unobstructed discharge to a purposeful place – not onto floor (especially relevant to WC cisterns)
- Make sure that the location of the stopcock on the mains water supply is known and accessible to appropriate management and staff. Check that the stopcock is operational. Also make sure that there are sufficient subsidiary isolating valves, especially for large tanks. Provide these with labels, so that the correct valves are shut
- Consider the installation of water loss detection alarms and shut-off valves. This should also be considered for computer and communications areas, regardless of size, based on the vulnerability of the business to disruption
- Flexible connectors are often used for wash basin taps, drinks machines and the like. These can suddenly fail, and release large volumes of water in vulnerable areas. Isolating valves should be fitted in easily accessible positions, and the connectors themselves regularly examined and replaced if necessary.
- Check that all floors have adequate drainage, so that any water damage is localised
- In places where water spillage could possibly run down a wall, check that mains switch gear boxes are protected, and preferably spaced away from the wall
- Sprinkler installations need special attention and any specific instructions and maintenance requirements should be followed. Specific advice on their care and maintenance can be obtained from the **MORE TH>N BUSINESS** web site
- Air conditioning units can produce large volumes of condensed water. For externally mounted units, this is generally not a problem, but the small units often fitted internally to computer/communications areas have caused serious problems, as their drain lines can easily be disconnected accidentally.

5. EMERGENCY PLANS AND REMEDIAL ACTIONS

If precautions to prevent water damage from all causes have been carefully considered and appropriate measures taken the risk will be greatly reduced – but not eliminated. In all organisations it is essential to make emergency plans for such hazards as fire and explosion and preparations for a water damage event should also be considered. Incorporating Business Continuity Management into your everyday processes is a sensible step. Water damage should be one of the primary scenarios considered. Advice on developing Business Continuity Management is available from by clicking on the link on the Shops Homepage.

Even the most basic plan need not be complicated, but should include:

- Means of early detection of water (instrumented or manual patrol)
- Planning the best means of drying out and cleaning up the premises
- Planning to avoid business interruption by:
 - giving early warning of the problems to your customers
 - arranging different sources of material supply
 - preparing to carry on the business elsewhere
 - preparing to move stock and equipment to a safe place
- Considering the feasibility of salvage and repackaging measures
- Listing (in a safe location) the telephone numbers of the people you need to contact. Some of these are:
 - the fire brigade or appropriate service for pumping out
 - plumber
 - salvage firms
 - your insurance company,

IMPORTANT

The information set out in this document constitutes a set of general guidelines and should not be construed or relied upon as specialist advice. Therefore **MORE TH>N BUSINESS** accepts no responsibility towards any person relying upon these Risk Management Guidelines nor accepts any liability whatsoever for the accuracy of data supplied by another party or the consequences of reliance upon it.