

VATTENSKADEUNDERSÖKNINGEN 2002



Summary

Each year water damage in buildings costs more than SEK 5 billion to repair. Aside from the high cost, the inconvenience caused to individuals is substantial. Water damage also causes environmental problems and contributes to losses in capital.

The purpose of this study was to produce a nationwide documentation for the causes of water damage, which can lead to the development of work methods, quality control measures and material development in the construction and contracting industries.

● Result

The aim of the study was to produce a detailed set of statistics and data on the underlying causes of water damage and to make comparisons with previous water damage studies.

The biggest change, compared with the 1987 study conducted by the insurance industry, is that the share of damage caused by seepage through sealed surfaces in wet rooms has decreased by 9 percentage points to 27 per cent.

The share of damage incidents caused by leaks from plumbing systems has risen by 7 percentage points compared with 1987, to 60 per cent.

The share of damage incidents caused by leaks from appliances has increased by 2 percentage points compared with 1987, to 13 per cent.

● Plumbing systems

Corrosion and freezing are the most common causes of leaks from plumbing systems. In this study it was found that frozen pipes accounted for 20 per cent of total water damage and were thus the largest single cause of water damage. This result is the same as that found in the 1987 study. In the category of damage caused by leaks from plumbing systems, cold water pipes were the most frequent cause of damage. The share of damage incidents caused by leaks from cold water pipes has risen to 41 per cent, while the corresponding share for hot water pipes has fallen to 9 per cent.

Mechanical joints connecting water pipes are the cause of considerably more damage incidents than soldered joints, even though solder-free joints account for only about 20 per cent of all joints. Historically, solder-free joints accounted for only 5 to 10 per cent of all joints.

The share of damage incidents caused by leaks from plumbing systems younger than 20 years has decreased compared with the 1987 study. This new study shows that installations from the 1960s and '70s are still the most frequent source of damage – which is the same finding as in the 1987 study.

● Appliances

Dishwashers are the appliance found to be the most frequent source of water damage, which was also the finding of the 1987 study. This suggests that the water damage safety in dishwashers has not improved since the previous study in 1987.

In addition, for damage caused by dishwashers, nearly all hook-up hoses that caused water leaks were type-approved. In the cases where break-away valves were mounted on hook-up hoses to the dishwasher, they have not worked in their intended manner.

The percentage of water damage incidents caused by leaks from refrigerators/freezers has increased in comparison with the 1987 study. In most cases, a sealed layer or deflection mat was lacking under the refrigerator/freezer units that caused the damage (92 per cent).

The study shows that damage caused by leaks from hot water heaters has a higher average cost than damage caused by other equipment.

- Sealed surfaces in wet rooms

The proportion of water damage caused by leaks through sealed surfaces on floors and walls has changed since 1987. At that time, the frequency of damage caused to floors and walls was roughly the same. This study shows that 62 per cent of all damage incidents caused by leaks through sealed surfaces stem from leaks in floors.

Sealant systems behind wall tiles, welded plastic wall coverings, chemically welded wall coverings and welded plastic flooring accounted for a considerably lower share of damage for installations that are 10 years and younger compared with the 1987 study. In this study, the so-called H method for plastic wall coverings, which is a relatively new technology, accounted for a very negligible share of water damage.

Sealant systems under clinker tiles on floors were showed to account for a considerably higher share of damage incidents for installations younger than 10 years than in the 1987 study.

- Sealed surface seams around floor drains

Seepage through the seams between sealed flooring materials and floor drains is by far the most common cause of water damage in wet rooms. It accounts for approximately 50 per cent of floor damage incidents, which is an increase compared with the 1987 study. One exception is welded plastic floors, which accounted for a low share in installations 10 years and younger.

- Age breakdown of water damage

The percentage of damage caused by leaks from plumbing systems and seepage through sealed surfaces in wet rooms, such as welded plastic floors, shows a low level for installations younger than 20 years, which is a clear improvement compared with the 1987 study.

Damage caused by leaks from appliances showed essentially the same age breakdown as in the 1987 study.

The majority of all damage incidents in the study was caused by installations and sealed surfaces installed during the 1960s and '70s. The exception is seepage through sealed systems under floor clinkers, which showed the highest damage frequency in installations 10 years and younger.