

newsletter

“Chinese drywall” plasterboard controversy

In the USA, a new multiple claims event is emerging involving certain plasterboards, mainly exported by China and used en masse in construction since 2004. Against this backdrop, the media have established the term “Chinese drywall”. Since it cannot be ruled out that other plasterboards are also the cause similar problems, the term “drywall” will be used to refer to this phenomenon. The problem of drywall gypsum boards is that they emit foul-smelling, gaseous compounds under certain conditions which have yet to be determined. Houses affected by this could possibly be rendered uninhabitable.

Plasterboard – a very common construction material

Plasterboard is made up of a plaster core covered by cardboard. The boards are mainly used in the construction of light, non-supporting interior walls, suspended ceilings or cladding.

Reconstruction following hurricanes Katrina, Rita and Wilma in the USA led to a shortage of plasterboard in the USA. Therefore, more plasterboard has been imported from China since 2004. It is estimated that between 2001 and 2007, around 250.000 tonnes of plasterboard was imported from China to the USA. It is thought to be the case that the majority of the plasterboard entered the USA via ports in Florida, with an estimated 40% of the plasterboard being shipped to the west coast. It cannot be ruled out that today these plasterboards are still being imported.

Problematic plasterboards

In December 2008, the Consumer Product Safety Commission (CPSC) first published a report highlighting a possible link between plasterboard and the smell of rotten eggs and corrosion.

By early August 2009, the CPSC received more than 800 reports from 19 states. The reports contained complaints about the stench of rotten eggs and a series of health complaints, such as asthma, sinus infections, headaches, coughing, nose bleeds or irritated eyes. Chinese plasterboards have been linked with many problem areas, from blackened or corroded pieces of metal to damaged air conditioning systems. Most of the properties affected were constructed in 2006 and 2007, with the majority of complaints coming from Florida and the south-eastern US states.

Manufacture of plasterboard

Natural gypsum is extracted during mining. Synthetic gypsum is by-product of flue gas desulphurisation of coal-fired power plants. Both materials are generally suitable for the manufacture of plasterboard, but do vary according to mine or power plant in terms of composition at trace level. Chemicals are also added to the plaster core and the cardboard covering in order to give the plasterboard its desired qualities. Mixing plastic, glass or cellulose fibres with the plaster gives the boards a higher static load capacity.

Possible causes	<p>The problems observed with plasterboard in internal walls are relatively new and are accompanied by great uncertainty in terms of the causes and consequences. The CPSC is currently examining this issue in greater detail, yet it will take a number of months or years until reliable findings can be presented.</p> <p>In some of the buildings made with plasterboards manufactured in China, there was evidence of hydrogen sulphide and carbon disulphide, amongst other substances, in both the boards and in the indoor air samples.</p> <p>The increase in sulphur levels may be attributable to sulphur-rich plaster or impurities in the manufacturing process of the plasterboard. Additions such as pesticides, adhesives or chemicals used for the surface treatment are other possible sources of the problem. Microbial activity is also being discussed as a possible cause of the build-up of hydrogen sulphide.</p> <p>In this context, climatic conditions also play an important role. Whilst the problems outlined were mainly identified in plasterboards coming from China, new reports indicate that boards manufactured in the USA might possibly also exhibit similar characteristics.</p>
Number of buildings affected	<p>It is currently completely unknown how many buildings will ultimately be affected, since it is generally very difficult to trace back the origin of the plasterboard. In theory, just one gypsum board per building could mean that renovation works are necessary. Estimates currently range from 25.000 to 250.000 potentially affected buildings in the USA.</p>
Parallels to known construction materials damage	<p>Insufficient concrete quality, frost-prone roof tiles, leaking plastic pipes, surface treatments leading to water damage, or moisture-sensitive chipboard are just a few examples from the past, where defective construction materials have caused a great deal of damage. Typically, these kinds of construction materials are already built in to many thousands of houses, until the defects become noticed. Similarly, repairing these defects results in a great deal of time, effort and money. A further complicating factor is that due to the failure of certain construction materials, complete sections of buildings or even whole buildings are rendered inhabitable and must be renovated. The development of the "Chinese drywall" controversy has already led to the idea of a number of parallels being drawn to the above mentioned previous cases of construction materials damage.</p>
Further consequences	<p>The CPSC is currently looking into the further consequences associated with drywall. It is feared that electrical installations (eg cables, switches, connections) may corrode when exposed to sulphurous gases. This could result in short circuits, overheating and fires. There is also the possibility that fire alarms and other sensors may no longer function. The aim of the investigation is also to check whether copper pipes and connectors for gas supply can be damaged, which could result in fire or explosions being triggered.</p>

Development of legal disputes

In a number of cases in the USA, certain defective plasterboards led to the consequence that residents in the buildings affected were forced to leave their homes as a result of overpowering smells or due to adverse health effects. In addition, there have been cases where air conditioning units have had to be replaced a number of times prior to the actual cause of the corrosion even being discovered. Some property owners even claimed that their properties dropped in value as a result.

Complainants' claims are diverse; those affected might demand compensation for costs necessary to make their homes inhabitable again, for example. Further claims include compensation for living expenses during renovation works, for loss in property value, for buildings inspection by specialists and for treatment costs in terms of health complaints/illnesses as a result of inhaling the gaseous compounds.

Since the concentrations are very low bodily injury is considered rather unlikely, provided that the defective boards are replaced.

As it currently stands, it is assumed that the defective plasterboards, that is the products themselves, are the cause of the problem, rather than the way in which they have been fitted and erected. In this regard, those lodging claims, generally the property owners, should direct them towards the plasterboard manufacturers. Aside from the manufacturers themselves, suppliers, constructors, building firms, general contractors and construction material suppliers could also be involved.

Information for the underwriter

This controversy shows that even when it comes to seemingly simple or less complex products, risk analysis and assessment is essential. In terms of insurance, it is essential that quality assurance measures are analysed throughout the whole value creation chain and that findings arising from this are taken into consideration during the underwriting process. This is particularly important when it comes to mass-produced goods due to the potentially grave consequences of their exceptionally widespread usage (multiplication effect).

At present, the impact on insurance companies cannot be assessed conclusively. It is advisable to observe how the issue develops over the next few months so as to identify the potential exposure of existing and future cedents, in order to reduce any risks by implementing targeted measures. In any case, an exposure assessment is recommended in terms of the risk exposure to drywall.

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