

# PAS 64 & British Standards

Typically, the contractor doesn't follow British Standards on water damage or remediation. Jeff Charlton technical director of Building Forensics provided the major technical input of PAS64, but insurers and the industry superseded PAS 64 with BS1299. In this they suggested instead of scientifically testing air and surfaces. In place of lab analysis, they proposed wiping with a glove to see if it was dirty. Building Forensics complained to the government, and they insisted PAS 64 was added to BS12999 in the appendix.

## Summary

When a property gets wet it can cause an increase in biological activity within 48 hours and this is considered a health hazard. The hazard is the amplification of bacteria, virus and mould spores all of which are always present. The risk is that these omnipresent life forms will amplify to levels known to cause negative health impact.

Chemicals and gases will also be released from many wet building materials and some furnishings and these add to the health burden.

It is therefore imperative that the building is dried properly to halt bio-amplification and remove the contaminants from surfaces and air.

The Environment Agency funded the British Standards Institute to write and publish a guidance document of recognised best practice and standards in the form of BS PAS 64.

The technical committee included Jeff Charlton (JC) of Building Forensics and Association of British insurers (ABI) and British Damage Management Association (BDMA) of which JC was founding chairman..

The PAS 64 was published in 2013 as a guidance document but in 2015 the British Standards Institute published a British Standard BS 12999 which as a management document refers to the practical requirements of PAS 64.

Both documents recognise the potential health impact and set out the requirements to confirm that wet buildings have been dried and sanitised to recognised and proven levels verified by measurement.

The verification process should ideally be undertaken by a third party independent Indoor Environmental Hygienist (IEH)

The verification should be in the form of repeatable evidence and supported by recognised investigation protocols.

Most insurance policies will pay for professional fees and the IEH should be recognised as a professional service when undertaken by a competent and qualified professional.

There is a clear risk if contractors who undertake restoration of wet and contaminated buildings are trusted to provide their own clearance certification. See section on clearance.

## PAS 64- Code of practice for the recovery of flood damaged buildings

The World Health Organisation and international opinion state that water damage buildings can lead to an increased health risk to occupants.

When selling a property, vendors must disclose historic (flood) events which may affect the property value. Failure to provide prospective purchasers with certified evidence of competent restoration sanitation and decontamination could result a property value being reduced.

There is a high risk of acute and chronic health effects even years after the event from a poorly decontaminated property.

The PAS 64 provides the contractor and more importantly the property owner with a guide to industry best practice in the professional drying and decontamination of a property prior to its restoration and reinstatement. Building Forensics can help with this.

### The Department of Communities & Local Government states:

"A highly qualified person should perform the final inspection and testing" - (section 4.3.3, Page 58)

Like to know more on Government guidelines? Click the logo below.



### Free assessment for property owners and tenants.

Contractor work and method assessment: [Download](#)

Health risk and hazard assessment: [Download](#)

Above are 2 free risk/hazard assessments and guidance documents which you can use to assess contractor proposals, actions and performance. It will also guide you on the likely end result and acceptability of their clearance sanitation and drying certificate.

To ensure you're being looked after by professionals you should contact your insurer and us for further evaluation.

Most importantly it will provide you with a guide to the possible health hazards remaining and your risk to long term illness's including asthma, respiratory issues and or neurological problems. (See Scientific Evidence page for information)

### Contractors & Specifiers

We provide protocols and guidance which will ensure clearance certification if followed correctly.

### Cost

Most insurance policies will include our services under "Professional Services."

## PAS 64 and why you should demand compliance.

The health risks of water damage and biological growth (mould) are recognised by World Health Organisation Sec 2.41 and mould is now legally recognised as a health hazard with the same (category 1) risk as asbestos. Ref Housing Health and Safety Rating System 2006.

It is therefore imperative that health hazards and risks are not only removed from damp or wet buildings but proven too.

The following PAS 64 excerpts show important issues which should be addressed by flood and water damage contractors:

- Recognition of potential health risks to building occupants escalating within 24 hours Sec 3.2
- Recognise that dead mould and bacteria may be as toxic and allergenic as live growth and simply applying biocides may increase inhalation risk for years after application (ref WHO Sec 2.41 and BS ISO -16000-19 ref G.2.4)
- Assess Indoor Air Quality and monitor occupant health risk Sec 3.4.2
- Assess Likely presence of hidden mould and microbial growth Sec 3.7

## Compliance objectives

Building Forensics provided technical content to the new British Standard Institute publication (PAS 64) which requires the verification and validation of contractors stated goals on drying and cleaning and decontamination. Of particular importance is the recognised hazard and risk of airborne and surface contamination which is invariably invisible and beyond the competence of any but professional environmental hygienist professionals. Building Forensics can provide all aspects of verification and validation described in PAS 64 to support property owners, insurers and contractors.

This potential and likely contamination should be identified, removed and verified preferably by an independent technically competent person in line with ISO 9000.

## What is PAS 64 verification?

Verification is supportive science based evidence and or validation which should be provided by third party independent technically competent persons and conform to international guidance such as:

- ISO 9000
- Centre of Disease Control
- Environmental Protection Agency
- NIOSH
- BSI PAS 64 2.3.9
- IICRC S520

Contractor evaluation by visual contamination, odour or simple swab or enzyme air tests cannot be construed as anything other than a basic evaluation prior to verification especially as most health hazards are invisible.

Clearance certification required in PAS 64 should be provided by a third party independent professional Environmental Hygienist as follows:

- "Verify" sanitation of surfaces for biological activity Sec 3.9(c)

- "Verify" IAQ goals have been met Sec 3:10(c)
- "Verify" Documentation evidence to confirm IAQ conditions met Sec 4 para j4
- "Evidence" to confirm IAQ goals are met Sec 4 j3 and Sec G2.4

Assessments of vulnerable or atopic individuals Ref. World Health Organisation and Sec 2.41

The alternative to using an independent third party professional environmental hygienist is to ask the contractor who was paid to undertake the cleaning, drying and sanitation of the property to evaluate his own work and expect him tell you if he didn't do it properly?

### How do I identify qualified Indoor Environmental Hygienist?

- Accredited Associate or Member of Chartered Institute of Environmental Health
- Council Certified Indoor Environmental Consultant (ACAC)
- HNC/HND in Environmental health or relevant field
- NVQ4 or degree in Environmental Health

### How do I identify a qualified?

Our principle consultant Jeff Charlton is a Certified Indoor Environmental Hygienist (CIEC) and also accredited by the Chartered Institute of Environmental Health as an Accredited Associate. See accreditation.

### Who pays for professional third party verification?

Most insurance policies contain a "Professional Fees" acceptance which invariably covers the cost of surveyors etc. The qualified professional Indoor Environmental Hygienist should be covered under this section but check with your insurer, loss adjuster or broker.

It should be remembered that any certificate or guarantee issued by an unqualified contractor which is not independently verified may be worthless and unfortunately fail to identify the health risk or latent damage present.

### New Mould and contamination measurement standard BS ISO 16000:19

Apart from the British Standard PAS 64 there is also BS ISO 16000:19 which is possibly one of the biggest improvements in identifying mould health issues. This standard provides the basis of how to measure mould contamination in the air and reduce occupant's health risk.

The standard emphasises the need to measure dead or non-viable spores which replaces the historic use of swabs and culture plates which only identifies some live spores.

The World Health Organisation made the statement that culture and swab type sampling is seriously flawed and this has been internationally accepted. The main issues here is that dead spores released sub-micron particles which are allergenic and can be toxic and these are inhaled more easily to sometimes produce serious health effects.

This type of sampling (Total Spore Counts) has only recently been made a British Standard but Building Forensics have been using TSC as an Indoor Air Quality assessment for nearly a decade.

## Government Environment Agency

The PAS 64 was paid for from the public purse through the Government Environment Agency, supported by various companies and technical expertise: <http://www.environment-agency.gov.uk/>. Please contact us to see how we can help you, both residential and commercial.