



# DRY ROT SENSORS

Conduct dry rot investigations without the usual invasive disruption



## Introduction

Fugenex Dry Rot Sensors are a simple to install treated wooden dowel that changes colour, from blue to yellow, in the presence of incipient Dry Rot.

It allows you to tell if Dry Rot is present at its earliest stages, in timber or masonry, giving you an early warning that action is required before your building is damaged.

It is installed by drilling an 7mm-10mm diameter hole to a depth of 100mm in the 'at risk' timber or masonry (if it is felt the material you are drilling into may shrink then it would be prudent to drill 8-9mm diameter hole). The blue detector dye, that is vacuum impregnated into the wooden dowel, reacts to the chemical that Dry Rot produces - oxalic acid - at very low levels, turning the dye to yellow.

## Key Features and Benefits

- No need for destructive survey, cornices and ornamental woodwork can be saved.
- Early recognition of dry rot fungus.
- Growth can be monitored.
- The full extent of spread of dry rot can be mapped out.
- Environmental control methods can be implemented and evaluated.

## Ideal for

- Wall timbers, plasterwork and masonry within buildings to indicate the presence of the dry rot fungus *Serpula Lacrymans*.

## Instructions for Use

Sensors are installed in small, pre-drilled holes within the areas identified as at risk. They are monitored usually for about two weeks during which time they reach equilibrium with the building substrates, and react to the presence of the dry rot fungus. Sensors installed beyond the 'at risk' areas will confirm that there is no dry rot activity. There is no need to uplift floors or to remove plasterwork.



The extent of spread of dry rot can be determined from examination of the sensors.

1. Fit sensors
2. Allow to equilibrate
3. Examine sensors
4. Record affected areas and 'at risk' areas
5. Monitor 'at risk' areas for a further period



Sensors may be installed where there is a risk of dry rot presence or dry rot development. They may be installed in plaster, in wood, or in brick or masonry walls.

The sensor is installed by placing it in a pre - drilled 7mm-10mm hole in the beam or wall. The hole should be deep enough to fit the sensor fully into the hole (100mm deep).

After 14 days remove the sensor for examination. If the colour has changed from blue to yellow - at any point on the sensor - there is dry rot present. You should get help. If there is no change in colour or you are not sure place the sensor back in the hole and re-inspect after a further 14 days. Continue this process until the end of the test period, or until you are satisfied the beam or wall is fully dry.

## What is Dry Rot?

Dry Rot, the decay of timber by the fungus *Serpula Lacrymans*, is the most serious timber decay problem in buildings. The fungus decays timber components and without remedial action considerable structural damage can ensue.

The unique ability of the dry rot fungus to penetrate the non-timber elements of buildings, such as masonry and plaster, in the form of mycelial strands, and to transport water through those strands, allows the fungus to spread considerable

distances from its point of origin. Finding dry rot and determining how far it has spread is therefore difficult - until the arrival of Dry Rot Sensors.



## Validation

Repeat tests were carried out on the Fugenex Dry Rot sensors at the University of Leeds between July and August 2005.

In all cases the sensors showed a colour change that was within the "evidence of dry rot" range when compared to the Fugenex colour chart. The sensors on the

three plates which had been exposed for 15 days showed a very strong yellow colour that was considered to be at the extreme of the range shown by the colour chart. The sensors on the three plates only exposed for 10 days showed a weaker yellow colour, however this was still considered to be well

within the "evidence of dry rot" range on the colour chart.

From these tests it can be concluded that the Fugenex Dry Rot Sensors turn yellow in colour when in contact with actively growing *Serpula Lacrymans* for a period of approximately 10 days.

## Recommendations

**Brian Stevens Allchem UK**

"In my 30 years of personal experience of dry rot identification and treatment, this is the most useful tool invented for use on site."

**Ian Adams MRICS senior chartered surveyor Allied Surveyors Plc**

"At last an added value product to assist in providing real property advice in surveys. It is what the customer expects."

## Examples

- When carrying out a routine inspection you notice a damp stained area that might give rise to dry rot. By fitting sensors you get either a yes there is dry rot or no there is not.
- If you find dry rot in a roof void but can't see how far it has spread into the room below. You can fit sensors and will get a yes there is dry rot until the point where the dry rot stops. Or you can map out the spread of moisture that will tell you the whole "at risk" area, then examine the sensors and establish how far the dry rot has spread within that at risk area. You have then established how far to go with treatment in order to stop the dry rot from spreading further.

## Health & Safety

The sensor is a combustible product when exposed to a direct flame of sufficient intensity and therefore should be handled accordingly. Precautions must be taken to minimise the hazards in storage, handling and use. Good practices suggest the following precautions:

- Store in a location free from any ignition hazard such as open flames, cutting and welding torches, high surface temperatures, electric heaters and other forms of direct radiant heat.
- Protective clothing particularly gloves and eye protection should be worn when drilling during installation

- Employers must ensure that there are measures in place that will control or limit the exposure of their employees to any substance hazardous to health. Occupational Exposure Standards (O.E.S.) for nuisance dusts, are detailed in Health and Safety Executive Guidance Note EH 40 (current issue).

Further information on dust hazards may be obtained from EH 44/84 'Dust in the Workplace' - general principles of protection.

- Not classified as hazardous for disposal. No special measures required.

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