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Case Study:

St Marys Primary RC School
Devon Road,
Poole



Incident information:-

An ingress of water from backed up drains due to heavy rainstorm entered the schools main hall, which was wood parquet block flooring, wetting an area 4.8 metres by 9.10 metres, causing a strip in the centre of the wetted area approximately 4.6 metres by 2.1 metres to buckle upwards by 3 to 4 mm and some cupping to the edges of individual blocks.

Datum Control readings of areas unaffected by the water ingress gave readings to indicate that some sections of the floor had “aged” damage and the raised edges on the blocks in these areas was potentially from emulsion polish used as part of regular maintenance practise.

The area of floor that had suffered the water ingress gave above acceptable moisture readings with the highest reading of moisture content being the area where the floor was buckling. Thermal imagery was used to understand if there was any surface evaporation taking place, but the results gave no major evidence of endothermic reactions (surface evaporation).



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The School Hall



Conclusion: The floor would either have to be totally removed and reinstated or as suggested by R E Spencer Ltd, a thermal energy system could be installed and targeted on the buckled area with air mats positioned on other areas of the floor that were giving high percentage Moisture Content readings.

Providing you with technical solutions

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Drying Regime Installed by R E Spencer Ltd:

The drying regime that R E Spencer Ltd had decided on for this particular situation was installed on 24th August. A new flat bed thermal drying system was installed on the buckled area of the floor and heat mats were positioned in the areas with the highest percentage of moisture content, dry air from a dessicant dehumidifier was then feed into the air target mats.



The drying regime was reinspected on 27th August and realigned to achieve maximum coverage over the area that had suffered from the water ingress. Moisture readings were taken of the affected areas including the buckled area that had given the highest reading previously, the moisture content readings were now all reading less than half of the previously recorded data MC reading.



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The system was switched off on the 31st August and the area left to stabilise for a minimum of 24 hours before further readings were taken.

The floor was retested and the results showed that the moisture content readings had reduced considerably, the section of the hall where the main water damage had occurred now showed readings below 8% in comparison to the original readings in this area of 18%. By achieving this level of MC (which is lower than what would be acceptable) it allowed the buckled floor to drop back into position.

The school hall floor was now back to a stable condition and all drying equipment was removed.

All that remained was for the wood block parquet floor surface to be sanded down and resealed.

By appointing R E Spencer Ltd to investigate the affected floor and install the most efficient drying system for the situation it removed the need for the parquet floor to be uplifted and replaced. This demonstrated a considerable amount of cost saving for the client and minimised disruption for the school.