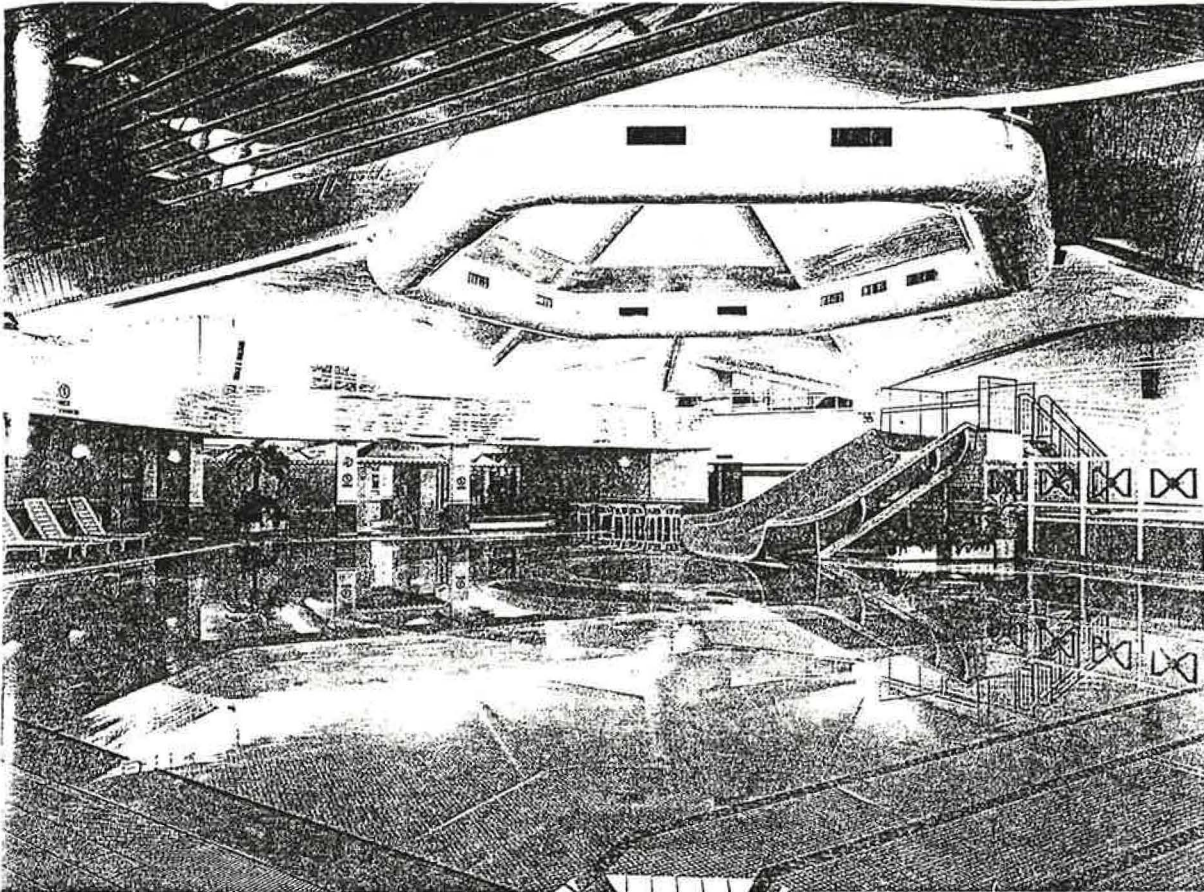


#3967



Rubersil was used to insulate the roof at the Aqua Park in Poole

INNOVATE TO INSULATE

In a highly fragmented market, installing insulation is getting easier through innovations from a variety of companies. Paul Haddelsey looks at some of these organisations with new products which could be of benefit to all of us.

If the insulation market is to become as competitive as many people expect we are likely to see a wider range of products entering the arena. Already there are several novel ideas being introduced, mainly designed for specific applications where the standard materials don't entirely fit the bill.

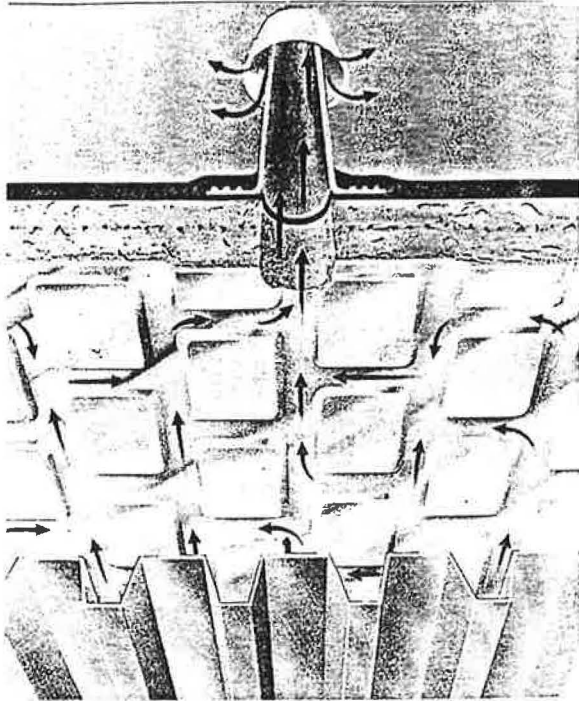
One such product is Rockspray, marketed by Freeman Insulation, which is a mineral fibre bound in silica so it can be sprayed directly onto a surface. Rockspray is designed mainly for situations like underground car parks where it is sprayed onto the soffits in the roof of the car park. Its purpose is to prevent heat loss from the building above while

providing fire protection at the same time. One such installation was the Sainsbury's Savacentre at Merton, Surrey, claimed to be the country's largest hypermarket. The design required an overall U value of 0.6 for the concrete slab that forms the roof of the car park and the floor of the sales hall. To achieve this the insulation was sprayed on to depths ranging from 25mm on lightweight screeds to 75mm on dense concrete slab.

Superwool from Thermatic Insulation is a new product for filling cavity walls which, unlike many other cavity fills, is purpose made rather than being the offshoot of another process. This means that it can be tailored to meet specific requirements such as being the ideal size for passing through a blowing machine efficiently. The makers claim this speeds up installation and therefore reduces costs so they are aiming mainly at

local authorities and new building work where the time factor is most important.

Specially designed for applications where no airborne particles are allowed to be present is Maxiflex K11 from Ebis. This non-fibrous material is made of an open cell melamine matrix which gives a fine low density structure and achieves low thermal conductivity values. Although it is more expensive than some other non-fibrous materials it is approved to class O fire regulations so it can be used in many places where competing products are not suitable. The foam is blown without the use of CFCs but Ebis are reluctant to provide further details of the technique they use. Maxiflex is designed mainly for acoustic and thermal insulation of heating and ventilating ducting as well as acoustic lining of machinery enclosures.



Tekurat insulation incorporates a network of vapour release channels

Interstitial condensation can be a problem with flat roofs but the roof top insulants provided by Tekurat incorporate a network of ventilation channels to control this problem. The insulation is installed so that the channels are on the warm side of the dewpoint so moisture vapour within the roof can be vented to the external atmosphere by way of breather vents without condensing. Tekurat backs its

products with a freephone service so that specifiers can avail themselves of a computerised condensation risk and U value calculation facility.

Rubersil, from Ruberoid Insulation Services, is another product used mainly for roof insulation. It consists of a seamless layer of rigid polyurethane which is covered with two coats of protective GE silicone rubber, providing weatherproofing as well as insulation. One of the advantages of Rubersil is that it can be sprayed on from the outside, reducing disruption inside a building when an old roof is being renovated. Rubersil's external application also came in useful at the Aqua Park Development at Poole, when a chlorinated atmosphere from the swimming pool prevented the use of internal insulation.

THIN JOINTS

Using new insulation techniques can lead to changes in other aspects of construction. Last month HAC looked at the Oracle Project where Barratts Central London are building two energy efficient houses. To allow careful inspection the inner skin was put up completely before they started building the outer brick layer. This meant that the cavity fill had to be attached to the inner skin before the bricks were laid. Use of the Durox thin joint system also meant that there were no mortar joints for the wall ties. To overcome this problem Rockwool

devised a system where flexible stainless steel ties were hammered into the wall blocks and bent over the insulation to hold it in place. As the bricks were laid the ties were straightened and set in the mortar joints between the bricks. Rockwool also developed a novel underfloor insulation technique so the beam and block floor could be used as a heat store. In this installation the insulation slabs were suspended from galvanised strips attached to the beams. Although this was a one-off experiment for Oracle, Rockwool are now looking at developing this system further so it can be used with all beam and block floors. They hope to produce an independent system that can be suspended without being linked to the floor.

These are just a few examples of the current development in insulation technology. The new Building Regulations may prove a headache for some people in the industry but they will certainly be good for the companies who can provide what the customer is going to need.

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