Case no. : -

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To whom it may concern

From shipyard to tv-studio and concert hall

The Eurovision Song Contest 2014 took place in Copenhagen, Denmark. As a venue for the event, the old B&W shipyard was chosen. This interesting space has a volume of approximately 700,000 cubic meters, a distance of more than 50 meters from floor to ceiling in the main area, and a reverberation time when empty of 13.2 sec.!! Seen from the acousticians perspective this is an extremely challenging space.

Originally the walls and the ceiling of this building was not designed to carry the heavy load of installed lighting/sound gear and acoustic treatment that would transform the room from shipyard to tv-facility. As it was not possible to reduce much of the lighting and sound equipment, the task for the acoustician was to find materials that were absorbing sufficiently efficiently, having low weight, were easy to install, and even at the lowest possible prize.

Finding low weight, low frequency absorption sounds like contradictory requirements. However, one product had the qualities needed: the AqFlex absorber, invented by Niels Werner Adelman-Larsen. Niels W. has the advantage of being both a scientist and a musician. He knows what is needed when rhythmic music meets extreme halls. His knowledge and experience has led to a very interesting solution, AqFlex.

The AqFlex low frequency absorbers are basically inflatable soft plastic tubes. For this venue the AqFlex tubes were manufactured in various lengths fitted either to the height of the room (50 or 35 meters) or as tubes mounted in the ceiling covering the main area above stage and audience. This was done in order to ease the installation.

The result was extremely satisfactory, especially considering the initial conditions. Approximately 8,000 square meters of AqFlex was installed. The reverberation time at lower frequencies (63 Hz, 125 Hz, and 250 Hz octave bands) was reduced to be in the range of 2.5-3.2 sec. (hall with an audience of approximately 10.000). For a room of the actual size this is a very satisfactory result indeed.

I cannot think of any other material - at all - that would have been able to do such a convincing job under these extreme conditions and I will recommend AqFlex for both temporary and fixed room designs.

Kind regards

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