

Republic Polytechnic

Singapore (2006)

BACKGROUND

Republic Polytechnic is a post-secondary institution that began construction of their new Woodlands Campus in 2004, which would serve thousands of students and community members. The 20 hectare Woodlands Campus is made up of a central nucleus containing 11 identical, high-rise learning pods that are linked by two large, elliptical concrete decks of common facilities, known as the Lawn and the Agora. The Agora houses a library, auditoriums, lecture rooms, cafeterias and informal reading and recreation spaces. The Lawn features a grassy area, a sunken garden and various landscaped spaces.

In planning the Woodlands Campus, waterproofing the suspended concrete slabs that make up the Lawn and the Agora was a key concern for the project team. Water leaking through the slabs would flood the laboratories, restaurants and classrooms beneath, and accessing the concrete beneath the Lawn for repairs would mean tearing up the grass and landscaping. The team needed to find a permanent solution that would be easy and quick to apply

SOLUTION

The project team chose Krystol Internal Membrane (KIM) to waterproof the suspended slabs of the elliptical disks that make up the Agora and the Lawn. A sunken courtyard and an Olympic-sized swimming pool were also waterproofed using KIM. More than 60,000 kilograms (132,275 pounds) of KIM and 7,500 cubic metres (9,810 cubic yards) of KIM-treated concrete were used in the new Republic Polytechnic campus, which opened in March 2006.

Key factors in the team's decision to use KIM instead of conventional waterproofing membrane systems were its ease of application, which saved hundreds of hours of labour, weeks of construction time and thousands of dollars in construction costs.



More than 60,000 kilograms (132,275 pounds) of KIM was used at Woodlands Campus.



The suspended slab that made up the Lawn and the Agora was a key waterproofing concern for the team.

OWNER:

Republic Polytechnic

PROJECT MANAGER:

PM Link PTE Ltd.

ENGINEER:

Meinhardt (Singapore) PTE Ltd.

MECHANICAL &

ELECTRICAL ENGINEER:

Beca, Carter, Hollings & Ferner
(S.E. Asia) PTE Ltd.

ARCHITECT:

DP Architects PTE Ltd.

CONTRACTOR:

China Construction – Taisei JV

QUANTITY SURVEYOR:

Davis Langdon and Seah
(Singapore) PTE Ltd.

DISTRIBUTOR:

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PRODUCTS & TECHNICAL SPECIFICATIONS:

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