

Benex – Resistance to Water Penetration

The resistance of buildings to moisture penetration from wind driven rain is dependent upon both the permeability of the masonry and the effectiveness of water proofing details of doors and windows. While most leakages in buildings result from the latter factors, the correct details to prevent such failures are well documented. Whatever the thickness, a single leaf masonry wall is generally not regarded as being sufficiently impervious by AS3700 without further protection.

Benex however has been independently tested by the CSIRO* using ASTM 514-06 and found to pass this water permeability test for more than 24 hours



Test Method

One single leaf test panel was built from the 200mm hollow Benex blocks. The panel was constructed in the laboratory and was approximately 1800mm high x 1200mm wide. The test panel was built by an experienced block/brick layer using the Benex thin-bed mortar.

The apparatus used for testing the water penetration of the panel and the test procedure complied with ASTM E514-06 'Standard Test Method for Water Penetration and Leakage through Masonry'.

The test apparatus enclosed an area 1070mm x 1600mm on the test face of the panel. The test chamber was positioned on the specimen and clamped firmly in place, compressing a rubber seal which prevented any loss of water and air pressure

Observations were made for the appearance of damp patches on the back of the wall at 30 minute intervals during the first 8 hours. Although the test is supposed to be terminated at 4 hours, it was continued for 24 hours.

Wall Description	Test Date	Test Commenced	Test Terminated	Comments
200mm Hollow Benex Wall	29 March 2007	10:40am	10:40am (30 March 2007)	Test conducted by CSIRO (see note)

The test was conducted at 210C and 83% RH. There was a very slight leakage of water through the masonry at mid-height within the first 4 hour test period (possibly due to an air cavity-hole on front face) but ceased after a time. No wet patches behind the wall were observed.

Conclusions

The results from this testing showed the Benex 200mm hollow wall, resisted water penetration through the masonry element to the rear face of the test wall.

Hence, it may be concluded that properly built Benex masonry walls can resist the conditions imposed by the ASTM water permeability test for more than 24 hours, without failure. In general, rendered Benex masonry walls can be considered as impervious without further protection since any tiny holes in the mortar joints can be fully covered by the render.

