

On the Backfilled design for washing basin and floor drain for the prevention of drying up of U-traps

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Abstract

Severe acute respiratory syndrome (SARS) first reported in China in November 2002 and had spread to Hong Kong in late February. In late March, a cluster of SARS cases broke out among residents living in Block E of Amoy Gardens, the first time the epidemic struck in the community (*reported in CNN: News*). Scores of patients diagnosed with SARS came down with diarrhea, and researchers found fecal matter in toilets and kitchen sinks, leading them to suspect the disease had multiple ways of spreading. The Department of Health, HKSAR and World Health Organization (WHO) have concluded that the floor drains with *dried out U-traps* may be a means causing the spread of the virus through the sewage system. It is proposed to arrange the discharge of the basin in such a way that the u-trap of the floor drain can be backfilled with prevention of foam flooding due to the draining of soapy water. The proposed “backfilled arrangement” is simple and can be made by simply alter the existing waste pipe connections without alteration of the vertical main soil stack. According to the full-scale tests carried out in the Laboratory of the Department of Building and Construction, City University of Hong Kong, the back-fill arrangement for the U-trap of floor drains has been demonstrated to be feasible in preventing the loss of water seal and the foam flooding. Substantial tests were carried out in the laboratory for determination of the backfilling rate and the dilution of the U-trap water. It was found that the backfilled arrangement performs satisfactorily. The detailed design and results shall be presented.