THE HONG KONG HOUSING AUTHORITY

Memorandum for the Building Committee

Standard Domestic Blocks -
Waterproofing Materials for
Roofs and External Tanking of Lift Pits

PURPOSE

This paper is to inform Members of the use of proprietary waterproofing materials as alternatives to mastic asphalt for roofs and external tanking of lift pits of standard domestic blocks.

BACKGROUND

2. Currently, mastic asphalt is specified as the waterproofing for main roofs and lift pits of standard domestic blocks.

3. There are difficulties in carrying out asphalt works in the wet season, which critically affect the construction programme with respect to tanking of lift pits and waterproofing roofs. The Department has also experienced difficulties where contractors were not able to get asphalters after periods of heavy prolonged rain, when all were called out for roof repair works.

4. Public complaints have also been received on the fumes from melting asphalt. Alternative materials are required to reduce nuisance for contracts in sensitive locations, e.g. infill or redevelopment sites where works are carried out in close proximity to schools or other residents.
5. A research study on the waterproofing materials for roofs and external tanking of lift pits of standard domestic blocks has been carried out by the Chinese University of Hong Kong. The findings indicate that proprietary sheet and liquid membrane waterproofing materials perform satisfactorily subject to good workmanship, proper detailing, adequate supervision and quality control. A large number of sheet and liquid membrane waterproofing materials are readily available.

6. The Architectural Services Department (ASD) have been using proprietary waterproofing materials in lieu of asphalt since 1993 for easier handling and site operation. Asphalt may only be used for repairs to existing asphalt roofs.

7. Management Branch (MB) have for some 10 years been specifying sheet and liquid applied waterproofing materials for tanking and roofing rather than asphalt. Currently, MB adopt products from ASD’s approved list. Based on MB’s experience in re-roofing, sheet membranes are preferred for roofs due to better control of material thickness. For external tanking of lift pits, both sheet and liquid membrane are acceptable. There has been no adverse feedback on the use of these materials.

COST IMPLICATIONS

8. The estimated cost saving of using proprietary sheet or liquid membranes as alternatives to mastic asphalt based on 6/98 price levels are -

<table>
<thead>
<tr>
<th>Proprietary Waterproofing Materials</th>
<th>Estimated Cost Saving / Block (at June 98 Price Level)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>H1 Opt 5</td>
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<tr>
<td>(a) Roofs</td>
<td>Sheet Membrane</td>
</tr>
<tr>
<td>Lift Pits</td>
<td>Sheet Membrane</td>
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<tr>
<td>(b) Roofs</td>
<td>Sheet Membrane</td>
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<tr>
<td>Lift Pits</td>
<td>Liquid Membrane</td>
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ACTION TO BE TAKEN

Projects due for and under Tender

9. Although mastic asphalt is still to be specified in new contracts, as an alternative project teams shall also specify that contractors may propose to use proprietary waterproofing materials in accordance with Annex.

10. In locations where asphalting work may give rise to complaints or to suit special project requirements, project teams shall specify proprietary waterproofing materials based on the approved lists at Annex in lieu of mastic asphalt.

Projects due for and under Construction

11. As alternatives to mastic asphalt, project teams may accept a contractors’ proposal to use proprietary waterproofing materials on standard domestic blocks based on the approved lists at Annex. Project teams are to consider the contractors’ proposals subject to cost savings being passed onto the Housing Authority, and to seek relevant approval in accordance with BPP-802.

Type of Proprietary Materials to be Specified

12. Only the Full Lists of the ArchSD’s list are to be adopted as the roof area of most standard blocks exceed 1,000m$^2$. Those products which are on probation or under temporary suspension from the ASD’s list are excluded from Housing Authority contracts until they are included on the Full Lists.

13. Sheet membranes are to be used at roofs, and either sheet or liquid membranes for the tanking of lift pits. The lists at Annex comprises -

(a) Sheet Materials for Roof and Lift Pit Tanking -
   - Sheet Materials Requiring Protection
   - Sheet Materials Self Finished

(b) Liquid Applied Materials for Lift Pit Tanking -
- Liquid Applied Materials Requiring Protection
- Liquid Applied Materials Self Finished

14. Regular liaison with ASD is to be strengthened. Feedback on any unsatisfactory performance of the materials in the approved list will be conveyed to ArchSD for their ongoing review of the list. Project teams will also be informed of any updating of the approved lists. After one year, the usage of proprietary waterproofing materials will be reviewed.

TIME IMPLICATIONS

15. No time implications are expected.

INFORMATION

16. This Paper is issued for Members’ information.

File Ref : HD(C) DS 719/12
Date : 16 June 1999