

Identification of timber material defect using VIA on selected traditional Malay house: Case study on Tuan Hj Hashim Itam (Kerani) historical house at Penang, Malaysia

Abstract

The timber or wooden base is a significant material in traditional Malay houses from structure to architecture craftsmanship of the buildings. Due to the material natural condition the problem perceive to be very particularly dealing with common wood base treat namely rot, decay and broken material. The study purpose is to identify existing defect facing by the traditional house via the house component namely roof system, ceiling, wall, beam, column, floor boards, balustrade and stairs. Visual impact assessment (VIA) method used to identifies defect area followed by natural infrared heat radiation test to the defective area. The preliminaries finding indicates the timber species namely *Intsia palembanica* Miq or well known in local community as a 'Merbau', with a low surface temperature range in 25.1°C at minimum census compare to surrounding census at 31.2°C. Due to the huge gap in surface calibration leads to consistent treat in dampness activity causes rotten and decay in timber material in the houses.