

1. Testing propose:

We imitate the indoor environmental condition by using the small-scale chamber. The building materials that were needed to test put into the box. The volatile organic compounds (VOCs) and the formaldehyde in the building materials will emission slowly to the steady state in the chamber and be collected and condensed by using appropriate adsorption tube with constant flow rate. The target matters were desorbed with suitable desorption and extract methods and then be injected into the gas chromatograph/mass selective detector (GC/MS) and gas chromatograph/flame ionization detector (GC/FID) to proceed the analysis of the VOCs and formaldehyde respectively. This method is used to estimate the emission of the VOCs and formaldehyde in the building materials.

2. Sampling and preservation :

(1) Preparation before sampling:

The sampling bag, clean aluminum foil, the interior of sampling box, etc are needed to wash and replace before sampling by the high purity nitrogen riddled of the water content. After washing, these equipments are airtight and put in clean place.

(2) The collection of building materials:

The dry building materials cutted as 200mm *400mm are covered by clean aluminum foil and put into sampling bags. After collection, the samples are place in sampling box at 4 °C for preservation. The wet building materials are kept in not open condition and put into sampling box at 4 °C. All samples are analyzed in two days. The transportation and preservation of these testing samples as follows:



(3) The transportation and preservation of the building materials samples:

The building materials samples collected and kept in sampling box are transported with temperature controlled at 4 °C. At the process of transportation the samples can't be opened and need to avoid colliding. The samples can be opened after finishing the blank test in the chamber. The open process should conduct in chamber.