

ISO 18560-1:2014-11 (E)

Fine ceramics (advanced ceramic s, advanced technical ceramics) - Test method for air-purification performance of semiconducting photocatalytic materials by test chamber method under indoor lighting environment - Part 1: Removal of formaldehyde

| Contents | | Page |
|-----------------|--|-------------|
| Foreword | | iv |
| 1 | Scope | 1 |
| 2 | Normative references | 1 |
| 3 | Terms and definitions | 2 |
| 4 | Symbols | 3 |
| 5 | Principle | 4 |
| 6 | Apparatus | 4 |
| 6.1 | General | 4 |
| 6.2 | Test chamber | 5 |
| 6.3 | Sealing material for test specimens | 5 |
| 6.4 | Air purifier | 5 |
| 6.5 | Supply air spiked with formaldehyde | 6 |
| 6.6 | Temperature and humidity controls | 6 |
| 6.7 | Air flow meter | 6 |
| 6.8 | Light source and UV sharp cut-off filter | 6 |
| 6.9 | Air sampling devices | 6 |
| 6.10 | Device to circulate air and control of air velocity | 6 |
| 6.11 | Analytical instrument | 7 |
| 7 | Test conditions | 7 |
| 7.1 | General | 7 |
| 7.2 | Test conditions of removal performance | 7 |
| 7.3 | Factors affecting the removal performance (optional) | 8 |
| 8 | Verification of test conditions | 9 |
| 8.1 | Monitoring of test conditions | 9 |
| 8.2 | Air-tightness of test chamber | 9 |
| 8.3 | Air change rate in test chamber | 9 |
| 8.4 | Efficiency of the internal test chamber air mixing | 9 |
| 8.5 | Recovery | 9 |
| 9 | Preparation of test chamber | 9 |
| 10 | Test specimen | 10 |
| 10.1 | Preparation of test specimen | 10 |
| 10.2 | Preparation for the test | 10 |
| 11 | Test methods | 10 |
| 11.1 | Background concentration and supply air spiked with formaldehyde | 10 |
| 11.2 | Placing the test specimen in the test chamber | 10 |
| 11.3 | Test under dark condition | 10 |
| 11.4 | Test for removal performance | 11 |

| | | |
|------|---|----|
| 11.5 | Factors affecting the removal performance | 11 |
| 11.6 | Air sampling | 11 |
| 12 | Determination of formaldehyde | 11 |
| 13 | Calculation and expression of results | 11 |
| 14 | Test report | 12 |
| | Annex A (informative) Example of a test chamber | 14 |
| | Bibliography | 17 |