BIFMA INTERNATIONAL

The Industry Voice for Workplace Solutions

This document is prepared in accordance with *Section 8, Requests for Interpretations of Standards,* of *BIFMA International – Procedures for Canvass Development Method of Standards Development, June 14, 2007.*

Questions on ANSI/BIFMA M7.1-2007 submitted to BIFMA for interpretation by Air Quality Sciences:

1. *Can small chamber testing be used to predict emissions from a complete workstation, furniture component, or chair? Some manufacturers have this perception. However, Section 10.6.3 states, "Current knowledge does not yet allow reliable prediction of the emissions from a complete workstation system based on the small chamber test results for component materials." Likewise, Section 10.7.2 states, "Current knowledge does not yet allow reliable prediction of the emissions from a complete furniture component or chair based on the small chamber test results for component materials."*

   Both of these statements lead us to believe that the answer is no, and that the complete product must be tested. Is this an accurate understanding?

BIFMA Interpretation:

ANSI/BIFMA M7.1-2007 does not allow small chamber testing of component materials alone to be used to predict emissions from a complete workstation, component, or chair. However, ANSI/BIFMA M7.1-2007 does allow small chamber testing of component materials in conjunction with testing of components, chairs, and/or complete workstations to be used to predict emissions from a complete workstation, component, or chair. Section 5.1.3, *Small Scale Chamber*, states:

"The small-scale chamber test results for component materials (fabric, fiberglass, particleboard, foam, etc.) provide emission rate data for quality control, screening, and estimating the impact of alternative materials on the overall emissions from the workstation components or seating. Small-scale chamber test(s) for a material(s) to be replaced should be conducted in conjunction with the full-scale chamber test, and with specimens from the same batch/lot. Small-scale chamber testing of alternative component materials can be done at a later time in order to compare the emissions to the originally tested material and its impact on the emission from the complete workstation system or component. It is allowable to test duplicate samples of original materials at a later time if the materials have not changed."

In addition, based on recent committee discussions in both the BIFMA furniture emissions subcommittee and the BIFMA sustainability committee, BIFMA is aware the state-of-the-art for use of small chamber tests of component materials has improved. Specifically, manufacturers, laboratories, and third-party certifiers are now able to predict the emissions of assembled worksurfaces from small chamber tests of samples cut from assembled worksurfaces. This approach is documented in the most recent State of California bid requirements for office system furniture, and is reflected in the most recent draft of the BIFMA Sustainability Assessment Standard.

While BIFMA sponsored research investigating the expanded use of small chamber testing is still in process, BIFMA supports individual manufacturers, laboratories, and third-party certifiers in working together to use product specific construction and small chamber emissions testing data to predict the emissions of complete workstations, components, or chairs.

2. *In Sections 9.2.1 and 12.4, for example, it states that VOCs must be calibrated and reported to specific chemical classes, SubSumVOC calculated for each chemical class, and TVOCSumVOC calculated. If this information is not required for a given certification program, or used to determine compliance with a specific standard, is it required in order to be compliant with the method? For example, TVOCSumVOC is not needed to show compliance with the BIFMA X7.1 Standard (nor the USBGC's LEED-CI "EQ*

Credit 4.5 Low-Emitting Materials, Systems Furniture and Seating"), which relies on TVOCToluene only. We ask this only because the process of calibrating VOCs to specific chemical classes, calculating SubSumVOC's and TVOCSumVOC adds extra effort and cost to our customers and appears to be of no value if not required by any program.

BIFMA Interpretation:

BIFMA acknowledges the ANSI/BIFMA M7.1-2007 test method is broader and more comprehensive than some compliance or certification requirements. The intent of the FES subcommittee was to create a method capable of addressing a number of such requirements including California's then current bid requirements for office furniture systems that utilized the chemical class approach and specified a 14-day time point. The calibration and reporting of specific chemical classes as defined in ANSI/BIFMA M7.1-2007 is not required if the results are used to determine compliance with criteria which do not require this additional detail. Section 12.2, item 12 states:

"The test report shall include: (12) Any additions to, deviations from, or exclusions from the test method (such as environmental conditions);…."

Therefore test reports should clearly state what portions of the ANSI/BIFMA M7.1-2007 test method have not been followed.

3. *As stated in Sections 10.6, 10.7 and 12.4.3, for example, modeled 14-day emission factors and predicted concentrations are to be determined and reported. As in question 2 above, if this information is not required to show compliance to the standard or requirement, is it needed and required? For example, the BIFMA X7.1 Standard is based on 168-hour results only. Again, we ask because of the additional cost to our customers.*

BIFMA Interpretation:

BIFMA acknowledges the ANSI/BIFMA M7.1-2007 test method is broader and more comprehensive than some compliance or certification requirements. The intent of the FES subcommittee was to create a method capable of addressing a number of such requirements including California's then current bid requirements for office furniture systems that utilized the chemical class approach and specified a 14-day time point. The modeling of 14 day emission factors, as well as determination and reporting of 14 day tested or predicted concentrations as defined in ANSI/BIFMA M7.1-2007 are not required if the results are used to determine compliance with criteria which do not require these additional details. Section 12.2, item 12 states:

"The test report shall include: (12) Any additions to, deviations from, or exclusions from the test method (such as environmental conditions); …."

Therefore test reports should clearly state what portions of the ANSI/BIFMA M7.1-2007 test method have not been followed.

4. *Other than ISO 17025 accreditation, does BIFMA have any additional qualification requirements for the laboratories?*

BIFMA Interpretation:

BIFMA does not qualify laboratories. ISO 17025 accreditation with ANSI/BIFMA M7.1-2007 included in the scope of accreditation is the sole specified requirement for laboratories within ANSI/BIFMA X7.1-2007. BIFMA recognizes that ANSI/BIFMA M7.1-2007 was only officially approved in September of this year and that it will take time for laboratories to obtain accreditation. BIFMA is aware that the USGBC modified the credit interpretation ruling approving the use of the ANSI/BIFMA standards within the LEED-CI EQ 4.5 credit for low-emitting furniture to exclude the requirement for ISO 17025 accreditation. Section 13 of ANSI/BIFMA M7.1-2007 requires that laboratories conduct tests within the framework of a Quality Assurance/Control (QA/QC) plan based on the guidance of ASTM D 5116. A number of specific requirements are listed including accuracy and precision limits. A round-robin study has been conducted to verify the repeatability and reproducibility of the ANSI/BIFMA M7.1 standard test method. This study included developing a quality plan and conducting a chamber validation for each participating laboratory.