

Collection of Furniture Product Samples for VOC Emission Testing by ANSI/BIFMA M7.1-2011 Standard Test Method

BkA Guide 10-04

June 2011

Introduction

The instructions given below were transcribed from *ANSI/BIFMA M7.1-2011, Standard Test Method for Determining VOC Emissions from Office Furniture Systems, Components and Seating*. The standard is available for purchase at <http://www.bifma.org/standards/index.html>. Please select, prepare and ship your furniture product samples to Berkeley Analytical (BkA) as described in Sections 9.1 and 9.2 of ANSI/BIFMA M7.1 and as recommended below. Should you have any questions, please contact BkA at **510-236-2325** or email info@berkeleyanalytical.com.

- Section 9.1 of the M7.1 standard describes the selection of test samples including worst-case representative samples.
- Section 9.2 describes the packaging methods and the time schedule for shipping, receipt and testing of samples. One set of procedures is prescribed for workstation components, component assemblies, and seating units. Another set of procedures is prescribed for screening level testing of component materials.
- Appendix 8 of M7.1 standard, Sample Timing Constraints, graphically depicts the timeline for compliance testing of furniture items.
- The standard does **not** describe the time schedule and packaging procedures for compliance testing of component materials following the scaling approach. Our interpretation of the intent of the standard is that the sample timing constraints shown in Appendix 8 should be followed for all compliance testing and that typical packaging may be used. Our recommendation is to ship newly manufactured component materials as if you were sending a replacement part to a customer using your typical most airtight packaging option. This may dictate, for example, that a small worksurface be shipped for testing rather than a pre-cut section of a worksurface. Alternately, the procedures described for screening testing of component materials may be used as these are presumed to be more conservative.
- Each product sample must be accompanied by a unique chain-of-custody form as provided by BkA (<http://www.berkeleyanalytical.com/forms>).
- Ship samples to this address.

Shipping Address for Furniture Test Samples:

Sample Custodian
Berkeley Analytical
815 Harbour Way South, Unit 6
Richmond, CA 94804
Ph: 510-236-2325

ANSI/BIMFA M7.1-2011, Standard Test Method for Determining VOC Emissions from Office Furniture Systems, Components and Seating

9. Selection, Collection and Preparation of the Test Specimen(s)

9.1 Selection of test samples.

9.1.1. **Representative (Worst-case) specimens** shall be selected for testing.

9.1.2 To demonstrate compliance for a specific product(s), only that product shall be tested.

9.1.3 Compliance of a broad set of products may be demonstrated by using the results from a limited number of representative models. A range, series or category of products with varying characteristics may be grouped together for testing purposes if the products can be expected to perform similarly during testing (i.e., having the same general construction, materials, and manufacturing processes).

9.1.4 If test results are to be considered representative of a group of products or materials, a representative specimen that has the potential to have the **highest VOC emissions** shall be selected from the group. A case-by-case product line analysis by the manufacturer in consultation with the laboratory(ies) and/or certification body(ies) is required, taking into consideration any special attributes, materials, methods of manufacture/construction, etc. See Section 7 and Appendix 2 for additional requirements for product configurations and size.

9.1.5 For evaluations using the direct scaling approach, the determination of the representative worst-case product shall be based on the individual component assembly emissions and product construction. Component assemblies may be either pre-assembly components of a product or may be deconstructed assemblies taken from a completed product as long as they are consistent and representative of final product emissions. Selection and preparation of component assembly samples for direct scaling should account for breaching of lower emitting surface materials to expose potentially higher emitting substrates (e.g., drilled holes or cut-outs in work surfaces constructed of laminate on composite wood materials such as particleboard).

9.1.6 For evaluations using the emission factor approach the product with the minimum amount of simplified surface area in combination with the maximum overall product emissions (in terms of resulting chamber concentration) shall be used as the representative worst-case product. Note that the largest product size may not necessarily be representative of the worst-case emitting condition for a given product line. Although some surfaces may be excluded or ignored when calculating simplified area, the emissions of all product surfaces shall be considered when determining total product emissions during testing.

9.2 Test Specimen Collection, Packaging, Transportation, and Storage (time schedule).

9.2.1 The complete test item – all components or component assemblies of a workstation system, workstation component, or seating unit – must be received by the testing laboratory **not more than 15 days** after the date of manufacture of the first workstation component. The manufacturer shall attempt to minimize the total elapsed time from manufacture to receipt of the sample at the lab in a way that best represents their standard manufacturing, packaging and shipping processes. The manufacturer's most airtight packaging option for that workstation

component, component assembly, or seating unit shall be used unless the manufacturer prefers to use a more airtight means of packaging*.

(*Typically the most airtight packaging will fully-encase the product in plastic coverings (polybags, shrink-wrap, etc.). Corrugated (cardboard) packaging materials, even if combined with shrink-wrap that does not fully enclose the product, are generally less airtight than fully encasing plastic materials. Blanket wrapping is generally not considered to be airtight and is discouraged for use as a packaging material for the purpose of emissions testing. More airtight means of packaging may be preferred to prevent the potential for cross-contamination during shipping if such contamination is suspected.)

9.2.2 When testing component materials for screening purposes, the material samples shall be packaged at the time of sample collection, and shall be **sealed or packed** in a fashion to limit emissions (e.g., double-layer aluminum foil wrap with shiny side out and placed in a polyethylene bag, or directly placed in a Mylar or Tedlar bag and sealed). Samples shall remain in their packaging until prepared and placed in a test chamber. Sample collection shall occur **within 24 hours** of manufacture.

9.2.3 Each system, component, or material shipped must be accompanied by a **chain-of-custody (COC)** form that contains the full identification of the item, the dates of manufacture, collection and shipping, and individuals handling the item.

ANSI/BIFMA M7.1-2011, Appendix 8 -- Sample Timing Constraints

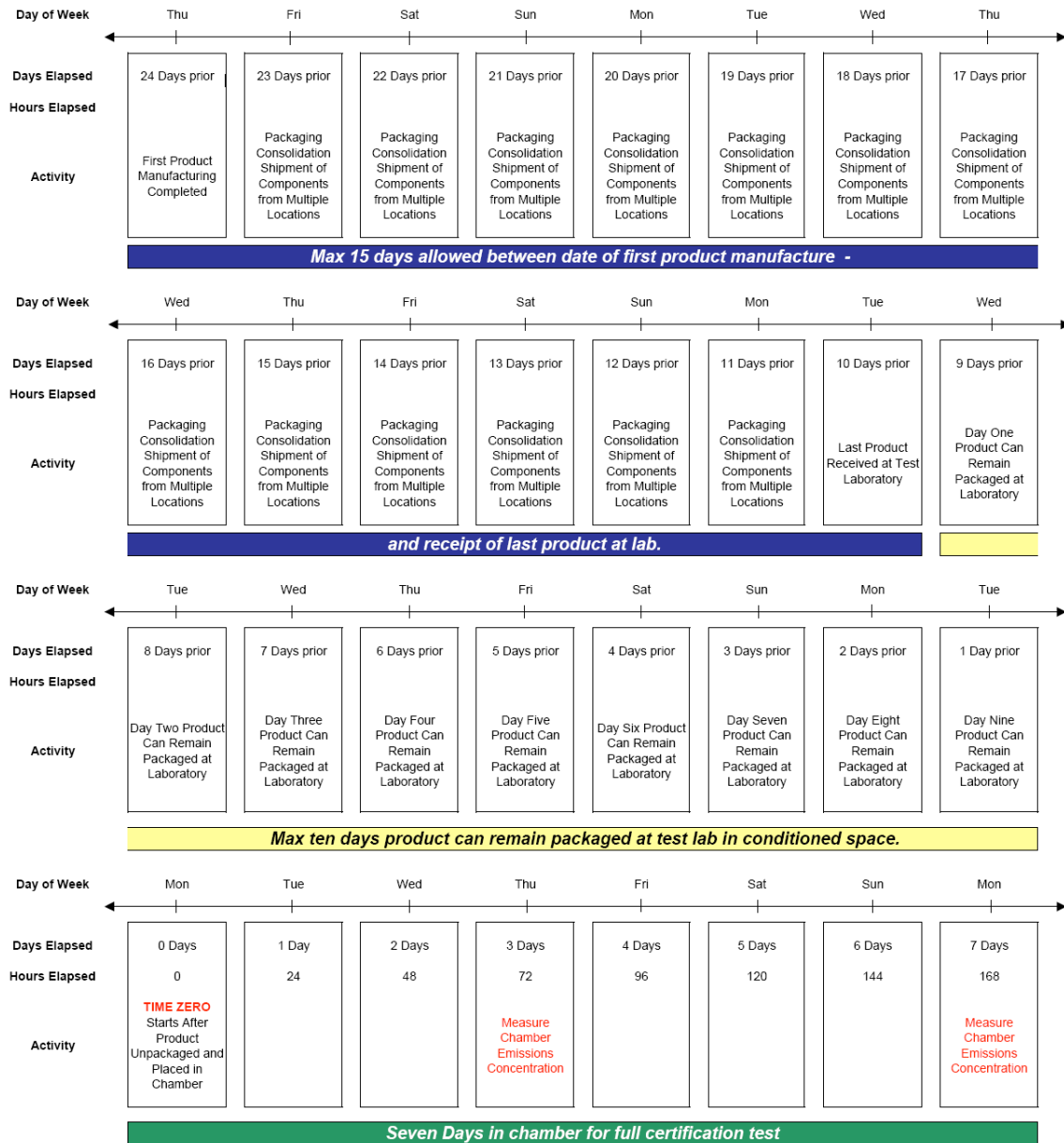


Figure A8.1 Sample Timing Constraints Time Line

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