MEMO

BIFMA

To: Whom It May Concern

From: Dave Panning (dpanning@bifma.org)

Date: September 5, 2017

Subject: **Test Considerations for Sit-Stand Seating and Motion Seating Products**

The ***ANSI/BIFMA X5.1 General Purpose Office Chairs – Tests*** standard may not be applicable to Sit-Stand or Motion Seating products. For these cases, the BIFMA Seating Subcommittee offers the following considerations for testing and evaluation of these types of products (based on 95th percentile male body weight of 275 lbs.).

For the purposes of this document, the following definitions apply:

Sit-stand seating - A device with an angled seat pan which allows the user to have a portion of their weight supported by their buttocks while having their feet flat on the floor also supporting some of the user's weight in a semi-standing posture. These products may have a seat back to provide lumbar support and may include height-adjustability to accommodate multiple users. These products may also be referred to as 'Perching' or 'Lean' type seating products.

Motion seating -- These products typically have an inherent movement characteristic that creates some instability to encourage user movement. These products may be used in a seated or semi-standing posture. These products may have a seat back to provide lumbar support and may include height-adjustability to accommodate multiple users.

The applicable tests may include:

1) The X5.1 **Seating Durability Tests – Impact** test should be used for overall guidance with the following modifications making the test a load ease type test:
   - apply a 150 lbf. force in the seat's normal position (in line with the angle of the seat) through a 12" diameter disk. Apply the force at the center of the seating position for 50,000 cycles.
   Note: If the normal position is not obvious, then test at the mid-range of adjustment(s).
2) The X5.1 **Seating Durability Tests – Front Corner Load-Ease – Cyclic Off-Center** test should be modified to apply a force in the seat's normal position (in line with the angle of the

seat) and the 8-inch loading pad flush with the front edge. A force of 100 lbf. is applied in the center of the seating position for 150,000 cycles. Restraint of the unit in its most forward position is acceptable. **Note:** If the seat has a slide, it should be in the most forward position. Any tilt angle should be set to the mid-range of tilt.

3) With the unit in its most upright/vertical position, the structural support member should withstand a downward functional force of 275 lbf. applied in-line with the support structure through the seat using an 8" diameter disk for 1-minute. The test should be repeated with a proof force of 400 lbf. for 15 seconds. No loss of serviceability is permitted after the functional force. No sudden and major structural changes are permitted after the proof force.
4) With the unit in its most forward position, the structural support member should withstand a functional force of 200 lbf. applied in-line with the support structure through the seat using an 8" diameter disk for 1-minute. The test should be repeated with a proof force of 300 lbf. for 15 seconds . No loss of serviceability is permitted after the functional force. No sudden and major structural changes are permitted after the proof force.
5) For some product designs, the friction of the unit base to the flooring surface is important to prevent accidental slippage of the unit that could cause the user to fall. Products bases (including rolling resistance of casters) should be evaluated to assure they provide enough friction to prevent unintended slipping against the flooring surface(s) on which they will be used.
6) For Stability, if a product can stand upright, then it should maintain its upright position on a 10-degree incline ramp in the worst-case position.

BIFMA wishes to thank the following individuals for their input. These individuals do not necessarily endorse these tests but rather have provided some feedback:

Tom Rademaker	Consultant	Greg Allison	Humanscale
Doug Woodard	Consultant	Anthony Serge	Intertek
Josh Kerst	Safco	Jon Eckerle	Kimball
Lucy Hart	Global Furniture Group	Steve Trinkel	Kimball
Ray Mohamed	Global Furniture Group	Matthew Renninger	Knoll
Teresa Bellingar	Haworth Inc.	Wayne Maynard	Liberty Mutual
Tom Dykstra	Haworth Inc.	John Knust	National Office Furniture
John Norton	Herman Miller Inc.	Melissa DuBuis	Steelcase, Inc.
Randy Ruster	Herman Miller Inc.	Jeff Musculus	Steelcase, Inc.
Lauren Gant	HNI	Joe LaGrow	UL
Chris Zorich	HON	Tyler Williams	Via Seating

Please contact the Director of Technical Services at BIFMA should there be any questions.

Notes –

The first release of this memo was titled, *"Test Considerations for Active/Dynamic Seating"* and was issued February 4, 2016.

The second release was titled, "*Test Considerations for Sit-Stand Seating and Motion Seating Products"* and was issued January 5, 2017.

The third release modified the strength tests and offered clarifications, in addition to removing ANSI/NFSI B101.1-2009 as a friction requirement. The third release was issued September 5, 2017.