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Trey Project

Testing Procedure

Table of Contents

1 Scope

This testing procedure is intended to thoroughly test the Trey Project chair in order to verify that it will be able to withstand all reasonable abuse that it could be dealt during its lifetime. Abuse beyond that which is expected in the intended market is not necessarily taken into account or tested for.

2 Testing Process for Trey Assembly

When assembled, the Trey chair is classified as a Type I tilting chair, as defined in ANSI/BIFMA X5.1-2002. In some of the tests, the extent of the testing is increased to push towards the point of failure. Any necessary test modifications will be listed where applicable. Term definitions follow the convention used in ANSI/BIFMA X5.1-2002.

2.1 Backrest Strength Test (static)

The purpose of this test is to evaluate the ability of the chair to withstand stresses such as those caused by the user exerting a rearward force on the backrest of the chair.

The testing procedure will follow the ANSI/BIFMA X5.1-2002 standards outlined in Section 5 (p. 18). *There will be a variation in the extent of the testing. After the proof load test is performed (Section 5.4.2), the load force will be increased until a sudden or major change in the structural integrity of the chair occurs.*

2.2 Drop Test (dynamic)

The purpose of this test is to evaluate the ability of the chair to withstand heavy and abusive impact forces on the seat.

The testing procedure will follow the ANSI/BIFMA X5.1-2002 standards outlined in Section 8 (pp. 29 – 31). *There will be a variation in the extent of the testing. After the functional load (Section 8.4.1) and proof load (Section 8.4.2) tests are performed, the drop height of the test bag – using the proof load weight – will be increased by 3 in. increments until either the height reaches 305 mm (12 in.) or a sudden or major change in the structural integrity of the chair occurs, whichever comes first.*

2.3 Swivel Test (cyclic)

The purpose of this test is to evaluate the ability of the chair to withstand stresses and wear of repeated swiveling.

The testing procedure will follow the ANSI/BIFMA X5.1-2002 standards outlined in Section 9 (p. 33).

2.4 Tilt Mechanism Test (cyclic)

The purpose of this test is to evaluate the ability of the tilt mechanism to withstand fatigue stresses and wear caused by repeated tilting.

The testing procedure will follow the ANSI/BIFMA X5.1-2002 standards outlined in Section 10 (p. 35).

2.5 Seating Durability Tests (cyclic)

The purpose of these tests is to evaluate the ability of the chair to withstand fatigue stresses and wear caused by downward vertical force(s) on the seat.

The testing procedure will follow the ANSI/BIFMA X5.1-2002 standards outlined in Section 11 (pp. 37 – 39).

2.6 Stability Tests

The purpose of these tests is to evaluate the front and rear stability of the chair.

The testing procedure will follow the ANSI/BIFMA X5.1-2002 standards outlined in Section 12 (pp. 41 – 45). *This test is to be performed on only a chair with casters.*

2.7 Backrest Durability Test (cyclic)

The purpose of this test is to evaluate the ability of the chair to withstand fatigue stresses and wear caused by a rearward force on the backrest of the chair.

The testing procedure will follow the ANSI/BIFMA X5.1-2002 standards outlined in Section 15 (pp. 53 – 57).

2.8 Caster/Chair Base Durability Test (cyclic)

The purpose of this test is to evaluate the ability of the chair base and casters to withstand fatigue stresses and wear caused by moving the chair back and forth.

The testing procedure will follow the ANSI/BIFMA X5.1-2002 standards outlined in Section 17 (p. 67).

2.9 Chair Glide Strength Test (dynamic)

The purpose of this test is to evaluate the ability of the chair glides to withstand impact forces such as those experienced upon contact with a fixed object while the chair is being slid across the floor.

2.9.1 Test Procedure

This test is to be performed only on a chair with glides. The chair will be attached to a machine such as that used in Section 2.8. If the seat portion of the chair is not attached to the base, then weights equivalent to the weight of the seat portion will be put on the base.

The base is to be run over an obstacle such as those used in Section 2.8 at a speed of 1.0 m/s (3.3 ft/s) over a long enough distance that at least one of the glides contacts the obstacle. There should be no loss of serviceability.

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