CLAIMS

1. A testing apparatus for a removable portion of a furniture, the test apparatus comprising

a holder configured to position the removable portion for testing; and

an arm assembly comprising a load, the arm assembly configured to move the load to exert a first force on the removable portion;

wherein the load is shaped and/or textured to simulate a part of a human body, and wherein the first force is applied in a first direction along a first axis of the removable portion, and wherein the load is formed from steel or silicone.

2. The testing apparatus of claim 1, wherein the load is configured to exert a second force on the removable portion in a second direction, and wherein the second direction is different from the first direction.

3. The testing apparatus of claim 2, wherein the holder comprises a clamp to hold the removable portion in place during testing.

4. The testing apparatus of claim 1, wherein the arm assembly comprises an elevated structure, a pneumatic arm, and a rail; wherein the rail is mounted onto the elevated structure at an elevation from the holder, and the pneumatic arm is mounted onto the rail for moving the pneumatic arm along an axis defined by the rail.

5. The testing apparatus of claim 4, wherein the load is configured to exert the first force of 100 Newtons on the removable portion.

6. The testing apparatus of claim 4 or 5, further comprising a programmable logic controller (PLC), the PLC configured to control the movement of the pneumatic arm to exert the first force.

7. The testing apparatus of claim 6, wherein the PLC comprises a digital counter, the digital counter configured to count a number of times the load exerts the first force on the removable portion and compare the number of times with a pre-determined number.

8. The testing apparatus of claim 7, wherein the PLC is configured to provide at least one of a visual and audio notification when the number of times exceeds the pre-determined number.

9. The testing apparatus of any one of the preceding claims, wherein the furniture is a chair, and the removable portion is an armrest portion.

10. The testing apparatus of claim 9, wherein the armrest portion comprises a cushioned portion.

11. The testing apparatus of claim 10, wherein the cushioned portion is formed from or of polyurethane.

12. A method for testing a removable portion of a furniture, the method comprising

providing a holder, the holder configured to position the removable portion for testing; and

providing an arm assembly comprising a load, the arm assembly configured to move the load to exert a first force on the removable portion;

wherein the load is shaped and/or textured to simulate a part of a human body, and wherein the first force is applied in a first direction along a first axis of the removable portion, and wherein the load is formed from steel or silicone.

13. The method of claim 12, further comprises configuring the load to exert a second force on the removable portion in a second direction, and wherein the second direction is different from the first direction.

14. The method of claim 13, wherein the holder comprises a clamp to hold the removable portion in place during testing.

15. The method of claim 12, wherein the load is configured to exert the first force of 100 Newtons on the removable portion.

16. The method of any one of claims 12 to 15, further comprises providing a programmable logic controller (PLC), the PLC configured to control the movement of a pneumatic arm of the arm assembly to exert the first force.

17. The method of claim 16, further comprises configuring a digital counter of the PLC to count a number of times the load exerts the first force on the removable portion and compare the number of times with a pre-determined number.

18. The method of claim 17, further comprises configuring the PLC to provide at least one of a visual and audio notification when the number of times exceeds the pre-determined number.