



file: IE1008.F390

## Test Report

### F390 Lead Pot and Therasphere Acrylic Shield Drop Tests

#### Purpose:

The F390 lead pot and Therasphere acrylic shield were tested to demonstrate that they would not fail as a result of normal handling accidents in a hospital environment. The F-400/F390 type A package has previously been tested for normal and accident conditions of transport (ref IS/TR 1190 F400/F390).

Date of Test: December 21, 1999

#### Test Specimens:

Specimen #1 was prepared by crimping a septum and aluminum cap on a Wheaton 0.3 mL V-Vial. The glass vial was installed inside an acrylic shield (p/n K120612-003). The top was pressed into the body of the shield. A blank Therasphere product label was applied to the acrylic shield. The Shield Access Plug was installed and taped in place with a tamper-evident seal.

Specimen #2 was identical to Specimen #1.

Specimen #3 was the same as Specimen #1, excepted that the acrylic shield was installed in an F-390 lead pot. The lid was taped on the lead pot using 3/4" wide fibre tape.

#### Apparatus:

The testing was performed on the concrete floor in the Nuclear Medicine Shipping Area. A meter stick was used to measure the height of the drops.

The specimens were released by hand.

Photographs were taken with a digital camera.

#### Tests:

Specimen #1 was subjected to the following 1 m drops:

1. Vertical, upright orientation
2. Horizontal orientation
3. Corner drop, inverted
4. Same as 3, but with the centre of gravity over top of the point of impact.

Specimen #2 was subjected to the following 1 m drops:

1. Vertical, upright orientation
2. Horizontal orientation
3. Corner drop, inverted, with centre of gravity over top of the point of impact.

Test Results:

Refer to attached photographs.

Other than minor scratches to the acrylic shield, test specimen #1 was undamaged. There was no damage to the glass vial.

The tamper-evident seal on specimen #2 was torn as a result of the tests. The tearing was almost complete, and the top plug was dislodged by two swift slaps by hand on the base of the acrylic shield. There were minor scratches on the acrylic shield. The glass vial was undamaged.

Specimen #3's lead pot suffered some dents as a result of the tests. The fibre tape held the pot lid firmly in place. The acrylic shield and glass vial were undamaged.

Conclusion:

The Therasphere F-390 lead pot and acrylic shield can withstand repeated drops from 1 m onto a concrete floor. These tests are representative of handling accidents that may occur in a hospital environment.

Tests Performed by:

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Jeff Bulloch, Production Services

*Blair Menna* 99/12/23

Blair Menna, Package Engineering

Tests Witnessed by:

*Rachel Pickering* 99-12-23

Rachel Pickering, Quality Control

Figure 1. Specimens Prior to Drop Tests.  
Photo P001739



Figure 2. Test Setup, Specimen #3, Upright Drop.  
Photo P001751

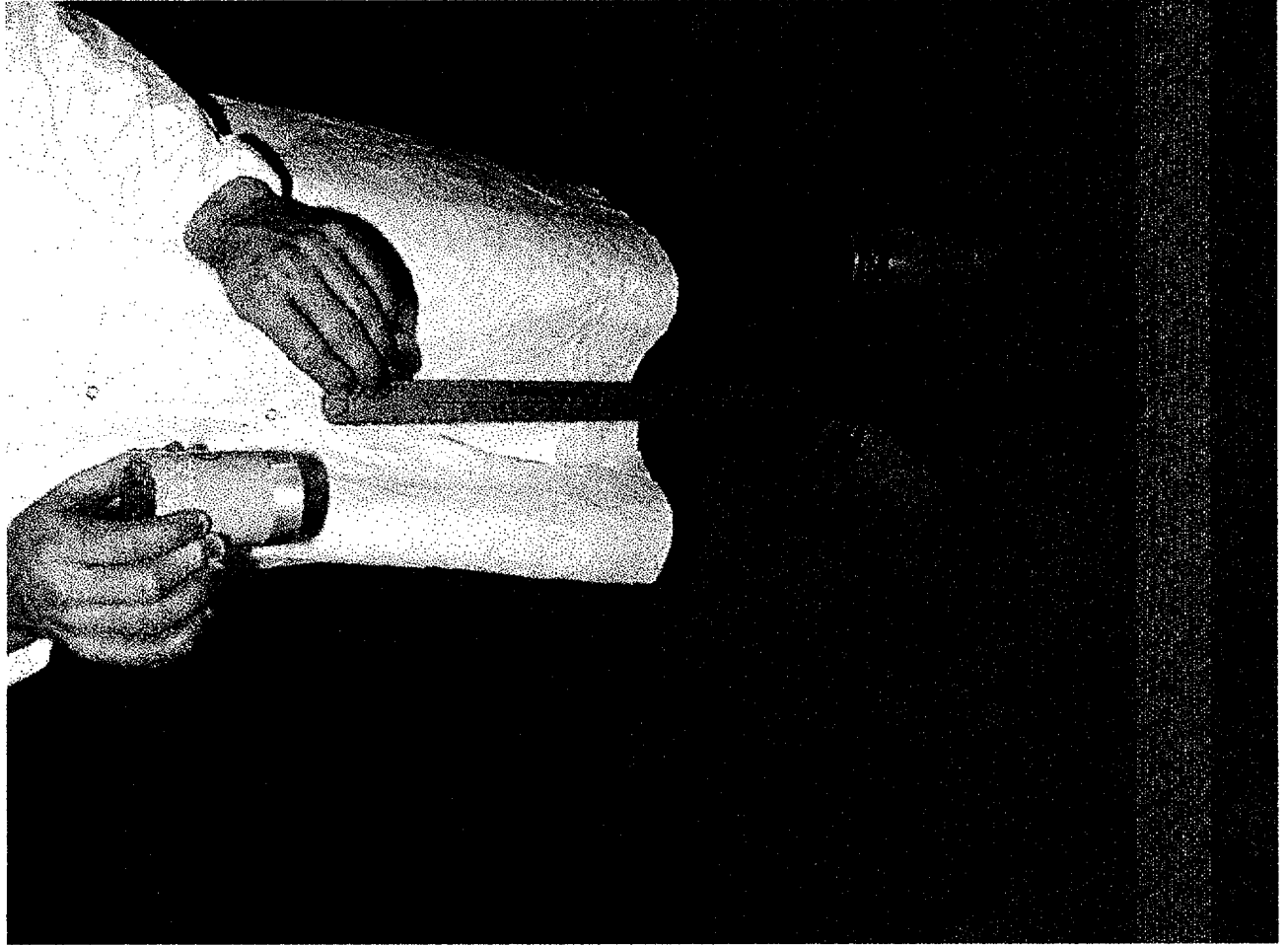


Figure 3. Specimen #2, Horizontal Drop, Prior to Impact.  
Photo P001748

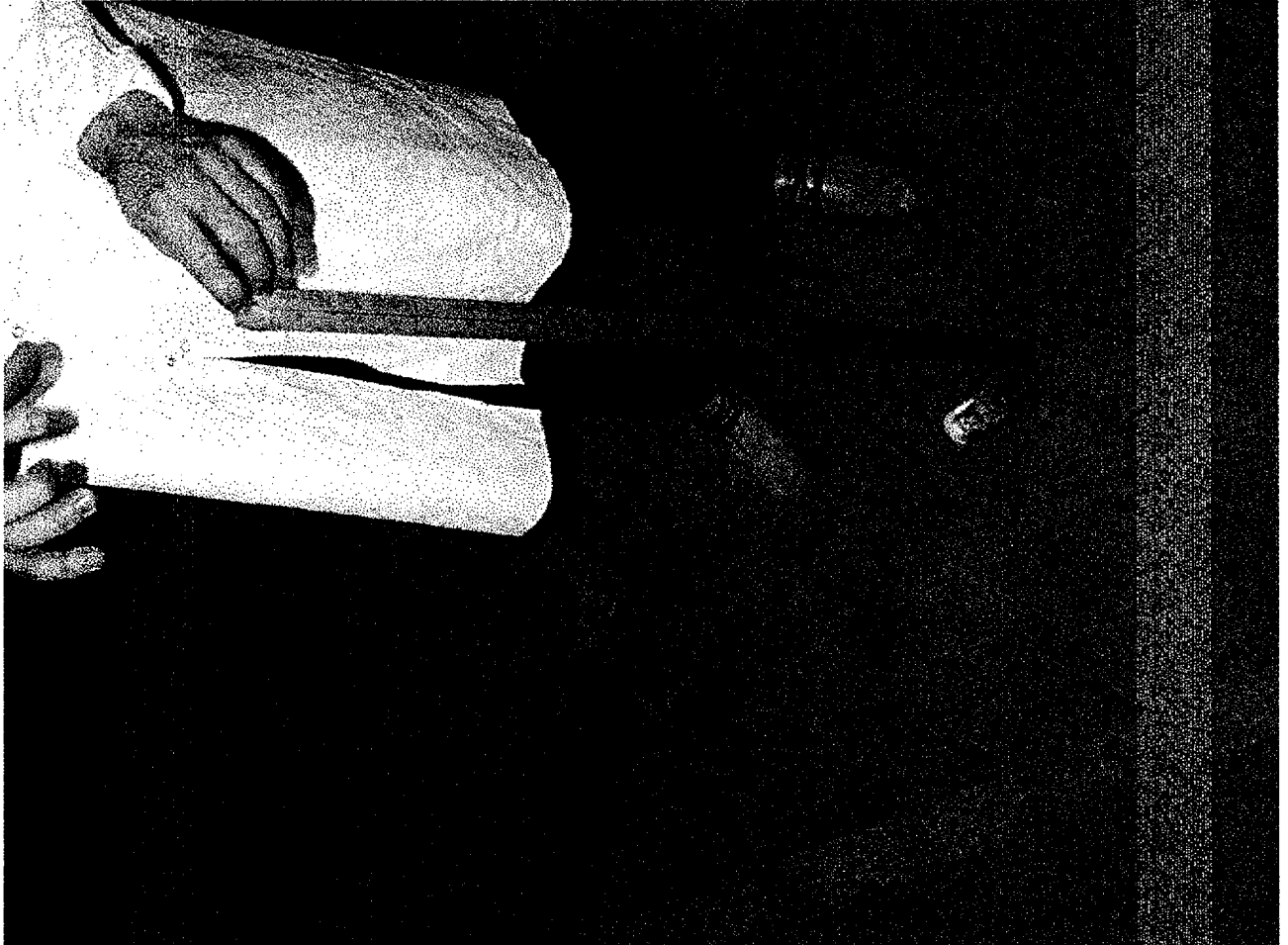


Figure 4. Specimen #3, Corner Drop, Prior to Impact.  
Photo P001754

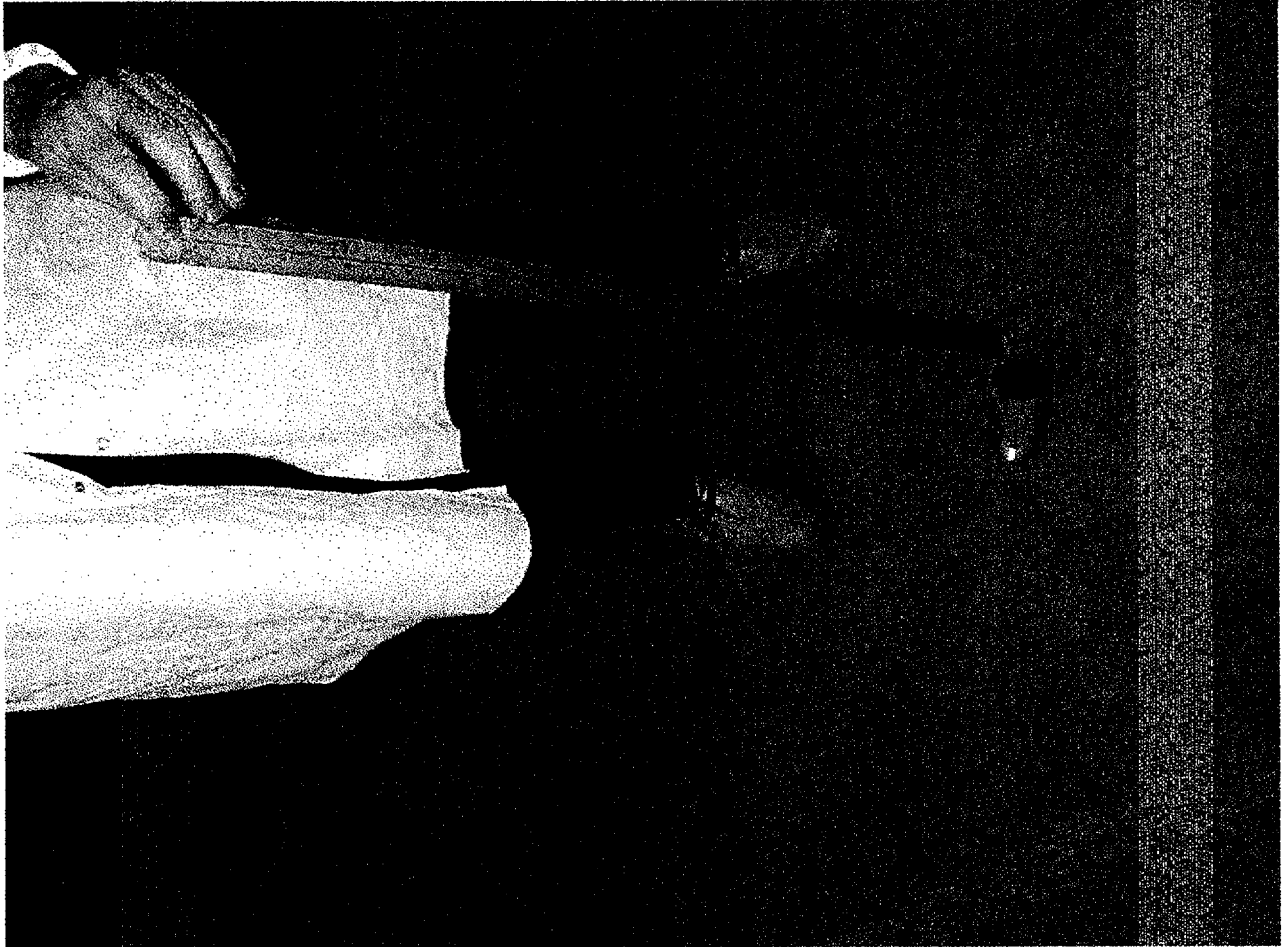


Figure 5. Specimens After Drop Tests.  
Photo P001755

