

1.0 PURPOSE

This Standard Test Procedure is used by the Electrical Safety Division to conduct the test to determine the impact resistance of windows and lenses.

2.0 SCOPE

This Standard Test Procedure encompasses lenses used on explosion-proof enclosures submitted to MSHA for evaluation under 30 CFR, Part 18.

3.0 REFERENCES

- 3.1. 30 CFR Part 18.66(a)
- 3.2. Criteria for the Evaluation of a Window or Lens on an Explosion-Proof (X/P) Enclosure, ACRI2102.
- 3.3. Restricted Access Lens Impact Test ASTP2136.

4.0 DEFINITIONS

No Definitions are needed.

5.0 TEST EQUIPMENT

- 5.1. Drop weight test apparatus, see Figure 1.
- 5.2. Measuring rod or ruler

6.0 TEST SAMPLES

Four (4) samples of the lens to be tested. The test shall be conducted with the sample assembled in the frame or assembly in which used. No "equivalent thereof" samples or assemblies shall be used.

7.0 PROCEDURES

- 7.1. Verify that the lens is assembled in accordance with the manufacturer's assembly instructions.
- 7.2. Mount and position the lens holder in the drop weight test apparatus. The center of the lens shall be the point of impact.

- 7.3. Mount the drop weight in the drop weight test apparatus.
- 7.4. Using a measuring rod or ruler, adjust the height of drop as per the following tables:

Round Windows and Lenses

Lens diameter, (D), inches	Height of fall, inches
$D < 4$	6
$4 \leq D < 5$	9
$5 \leq D < 6$	15
$6 \leq D$	24

Irregularly Shaped Windows and Lenses

Lens area, (A) square inches	Height of fall, inches
$A \leq 12$	6
$12 < A < 19$	9
$19 \leq A < 28$	15
$28 \leq A$	24

This shall be the distance between the striking surface of the drop weight and the top of the accessory.

- 7.5. Lenses smaller than 1" diameter, or lenses with restricted access should be tested according to ASTP2136 *Restricted Access Lens Impact Test*.

7.6. Perform the drop test on each of the four lenses as specified in Part 18.

7.7. Record all results on the Impact Test Form (see Appendix 1.)

8.0 TEST DATA

8.1. Sample number

8.2. Height of drop

8.3. Results/observations

9.0 PASS/FAIL CRITERIA

9.1. Samples shall not exhibit breakage.

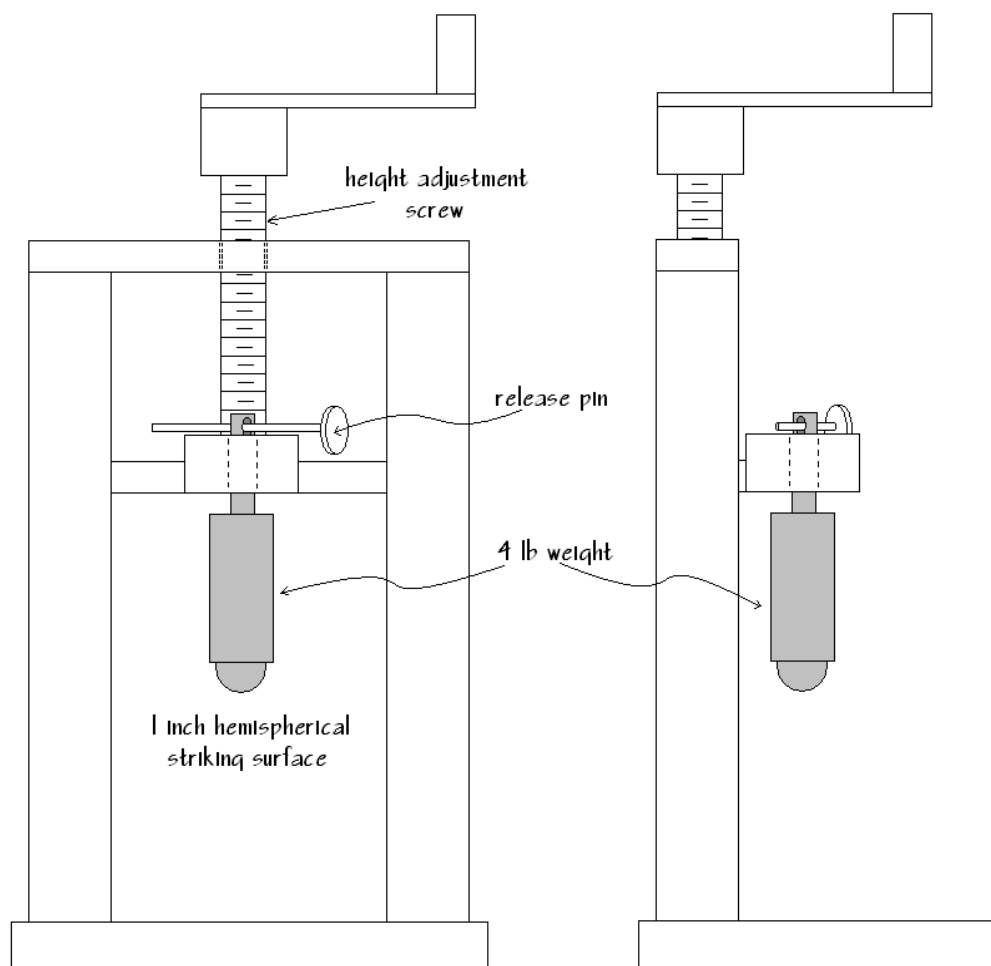


Figure 1 - Drop Weight Test Apparatus

Appendix 1

U.S. Department of Labor
Mine Safety and Health Administration
Approval and Certification Center
Electrical Safety Division
Triadelphia, WV 26059

Date: _____ MR: _____

To: _____ PAR: _____

From: _____ MFG: _____

Enclosure Type: _____

Subject: Impact Tests of Windows and Lenses

Reference: Title 30 CFR, Part 18.66(a), ASTP2132, ASTP2136

Window/Lens Material

Dimension:

Holder Style:

Sample	Height of Drop	Results

Comments:

Pass/Fail Criteria: