


D.O.T. SPECIFICATION 7A, TYPE A
PACKAGING TEST RECORD

| DATE: DECEMBER 22, 2003 PACKAGE IDENTIFICATION: COMPACT SINGLE UNIT DOSE PIG SHIPPING SYSTEM, MODEL #001-786 | | |
|---|---|---|
| PACKAGE | DESCRIPTION | SIGNED OFF BY |
| Outer Case: manufacturer of case construction material wall strength, lb test dimensions, inches closure internal cushioning | Zero Plastic rotation molded polyethylene N/A 11.75 x 11.75 x 12.5 (h) hinged lid, 2 clasps high density polyurethane foam |  |
| Lead Insert Shielding Package: material insert support | cast lead in a contoured shape to supply appropriate shielding to inner pig - open top and bottom metal plate to hold and position lead | |
| Unit Dose Pig: material closure cushioning dimensions, " | lead encased in plastic shell with integral liner Lead: body .5" top 1.44" bottom 1.2" plastic screw threads between top and bottom sections, single turn twist lock N/A 10.2" long x 2.4" diameter | |
| Lead Shielding Combined: | bottom: 1.2" top: 1.44" sides: varies depending on location from .56 to 1.8" | |
| Weight: lead insert and case unit dose pig Total Weight | 33.1 lb 8.9 lb 42 lb | |
| Primary Container Unit Dose Pig: syringe nominal volume ml closure content simulation absorbent materials | One 5 cc syringe 2.6 ml needle and needle cover or luer cap water, colored absorbent sheet (001-771) | |
| Examination of test sample before tests: Describe: | | |
| defects distortions deterioration printing imperfections | none none none none | |

| TESTS | NOTES | SIGNED OFF BY |
|---|---|--|
| TEST RECORD: | Perform tests in order and attach a photographic record | |
| <p>WATER SPRAY TEST: 49 CFR 173.465 (b) (must be performed before remaining tests)</p> <p>Spray Package: from 1 or 4 sides rate approx. 2 inches / hour time at least 1 hour</p> <p>Describe Results:</p> | <p>spray from 4 simultaneously greater than 2 inches / hour sprayed for 1.5 hours</p> <p>The water spray did not affect the plastic shipping container.</p> <p>There was no water inside the overlapping seal.</p> <p>NOTE: If the package was sprayed from 4 sides simultaneously, the other tests may begin up to 2 hrs. after the water is turned off.</p> <p>If the spray is from 1 direction on each side sequentially, the compression test must begin within 1 hour.</p> | <p><u>CS</u></p> <p><u>CS</u></p> <p><u>CS</u></p> |

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| <p>FREE DROP TEST: onto flat concrete surface</p> <p>Drop Test one foot onto 8 corners: 49 CFR 173.465 (c) (2)</p> <p>Describe Results:</p> <p>Drop Test four feet for maximum damage: 49 CFR 173.465 (c) (1)</p> <p>Describe Results:</p> <p>Drop Test 30 feet: 49 CFR 173.465 (a) (1)</p> <p>Describe Results:</p> | <p>dropped in sequence</p> <p>corners have small scratches pig is OK no leakage</p> <p>dropped onto latches - plastic zip tie seal used</p> <p>case stayed closed pig is OK - no leakage syringe is OK scratches on case front</p> <p>case taken to top of building and dropped 30 feet onto concrete apron</p> <p>case hit on bottom corner corner bent lead is OK pig comes out top unscrews pig is OK syringe has trace amount in needle cap absorbent material is dry</p> | <p>CS</p> <hr/> <p>CS</p> <hr/> <p>CS</p> <hr/> <p>CS</p> <hr/> <p>CS</p> <hr/> |
| <p>PENETRATION TEST: 49 CFR 173.466 (a) (2) and IATA 10.6.3.5.2 using 1.25 in. diameter bar with hemispherical end weighing 13.2 lbs.</p> <p>Drop from 67 inches: strike point</p> <p>clock time</p> <p>Describe Results:</p> | <p>first case hit near rib on top second case hit near center of top lid N/A</p> <p>case 1 – rod penetrated top case had hole in it pig looks OK syringe is OK – no leaks</p> <p>case 2 - the bar hit and bounced off plastic case has small dent pig looks OK syringe is OK - no leaks</p> | <p>CS</p> <hr/> <p>CS</p> <hr/> <p>CS</p> <hr/> |

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| <p>COMPRESSION TEST: 49 CFR 173.65 (d) performed December 1999 24 hours compression: weight in lbs. clock time - start clock time - finish</p> <p>Describe Results:</p> | <p>greater than 600 pounds N/A timer, 24 hours</p> <p>NOTE: Compression test was performed by placing a sheet of plywood with lead bricks onto the top of the plastic case. The heaviest system weighs 55.2 lbs. The stacking test is (2 lb./in² x vertical projected area of package, which would be 277 lbs. or 5x's the weight of the package) which is 276 lbs. We used over 600 lbs. of lead bricks on top of the shipping system.</p> <p>There was no damage or effect to the plastic container. None of the inner shields were damaged during this test.</p> | <p><u>CS</u> <u>CS</u> <u>CS</u></p> <p><u>CS</u></p> |
| <p>ACCEPTANCE CRITERIA:</p> | <ol style="list-style-type: none"> 1. Damage to the packaging may not cause loss or dispersal of simulated contents. 2. Damage to the packaging may not cause an increase in calculated surface radiation exposure. 3. The test record must be complete and accurate, and the photographic record attached. | |

Tests performed by:

[Signature]
[Signature]

Initials CS

Initials KP

Date: 1/22/04