

DATA ITEM DESCRIPTION

Form Approved
OMB No 0704-0188

TITLE

PERFORMANCE ORIENTED PACKAGING TEST REPORT

2. IDENTIFICATION NUMBER

DI-PACK-81059

3. DESCRIPTION / PURPOSE

3.1 The Performance Oriented Packaging Test Report provides test data on packaging systems for the transportation of hazardous materials.

4. APPROVAL DATE
(YYMMDD)

901009

5. OFFICE OF PRIMARY RESPONSIBILITY (OPR)

A/AMSTA-GDD

6a. DTIC APPLICABLE

6b. GIDEP APPLICABLE

7. APPLICATION / INTERRELATIONSHIP

7.1 This Data Item Description (DID) contains the format and content preparation instructions for the data product generated by the specific and discrete task requirement as delineated in the contract.

7.2 This DID should be applied when test reports are required for the testing of packaging systems for the transportation of hazardous materials.

(Continued on Page 2)

8. APPROVAL LIMITATION

9a. APPLICABLE FORMS

9b. AMSC NUMBER

A5019

10. PREPARATION INSTRUCTIONS

10.1 Format. The Performance Oriented Packaging Test Report shall be in a contractor selected format.

10.2 Content requirements. The Performance Oriented Packaging Test Report content shall be as follows:

10.2.1 Report cover. The Performance Oriented Packaging Test Report shall have a durable cover and shall contain the following data:

- a. Government assigned (sequential and non-duplicative) report number. The Government assigned number will be prefixed as follows: "DODPOPHM/—/TR—" (e.g., DODPOPHM/AYH/90001).
- b. Report type (interim or final).
- c. Title (e.g., "Performance Oriented Packaging Testing of).
- d. Date the Performance Oriented Packaging Test Report was prepared.
- e. Author's name.
- f. Contract number applicable to the Performance Oriented Packaging Test Report.

(Continued on Page 2)

DISTRIBUTION STATEMENT

DI-PACK-81059

7. APPLICATION/INTERRELATION (Continued)

7.3 A typical Statement of Work (SOW) applicable for use in conjunction with this Data Item Description is as follows:

"The contractor shall perform testing and shall acquire data necessary to support compliance with the Performance Oriented Packaging (POP) requirements of hazardous materials as defined in Title 49, Code of Federal Regulations (CFR), the International Maritime Organization's International Maritime Dangerous Goods (IMDG) Code, and the International Civil Aviation Organization (ICAO) Technical Instructions for the Safe Transport of Hazardous Goods. Testing shall be performed in accordance with American Society for Testing and Materials (ASTM) D4919-89, Testing of Hazardous Materials Packaging. The contractor shall prepare a Performance Oriented Packaging Test Report in accordance with DI-PACK- and Special Packaging Instructions (SPI) in accordance with DI-PACK-80121. Delivery of the contractor prepared Performance Oriented Packaging Test Report and the Special Packaging Instructions (SPI) shall be in accordance with the Contract Data Requirements List (CDRL)."

7.4 The "International Maritime Organizations International Maritime Dangerous Goods (IMDG) Code" and the "International Civil Aviation Organizations (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods Code" is available from the following commercial sources:

a. UNZ & Co.
190 Baldwin Avenue
Jersey City, NJ 07306

b. American Labelmark
Labelmaster Division
5724 N. Pulaski Road
Chicago, IL 60646-6797

7.5 The "Code of Federal Regulations" Title 49 is available from the following:

Superintendent of Documents
U. S. Government Printing Office
Washington, DC 20402

7.6 The procuring activity must provide the contractor with the appropriate (sequential and non-duplicative) report number for each report (see 10.2.1 a. and 10.2.2 a.).

7.7 This Data Item Description is related (see 7.3 above) to DI-PACK-80121 "Special Packaging Instructions (SPI)".

10. PREPARATION INSTRUCTIONS (Continued)

10.2.2 Report title page. The Performance Oriented Packaging Test Report title page shall contain the following data:

- a. Government assigned (sequential and non-duplicative) report number. The Government assigned number will be prefixed as follows: "DODPOPHM/—/TR—" (e.g., DODPOPHM/AYH/90001).
- b. Report type (interim or final).
- c. Title (e.g., "Performance Oriented Packaging Testing of).

DI-PACK-81059

10. PREPARATION INSTRUCTIONS (Continued)

- d. Date the Performance Oriented Packaging Test Report was prepared.
- e. Contract number applicable to the Performance Oriented Packaging Test Report.
- f. Contractor's (business) name, address, and telephone number.
- g. Testing activity's (business) name, address, and telephone number (if other than the contractor).
- h. Testing period (applicable dates).
- i. Name, position title, address, and (business) telephone number of the author.
- j. Sponsoring organizations (business) name, address, and telephone number.
- k. Security classification.

10.2.3 Data Sheet.10.2.3.1 Exterior shipping container.

- a. Type. In accordance with TABLE I.
- b. Material. In accordance with TABLE I.
- c. United Nations code. In accordance with TABLE I.
- d. Type and material specifications. Identification of the specifications (e.g., federal, military, industry, commercial, company) for the exterior shipping container type (reference 10.2.3.1 a.) and material (reference 10.2.3.1 b.). If the applicable specifications are other than Federal or military specifications, a reference copy shall be included.
- e. Capacity. Interior volume in metric/in-pounds units.
- f. Tare weight. Weight in metric/in-pounds units.
- g. Dimensions. Overall outside dimensions. Include drawing(s) for any containers equipped with handles, skids, or lifting or tie-down mounts.
- h. Closure. Nomenclature for method/type of closure (e.g., heat seal, glue, tape, staple).
- i. Closure specifications. Identification of the specifications (e.g., federal, military, industry, commercial, company) for the closure method reference 10.2.3.1 h.). If the applicable specifications are other than Federal or military specifications, a reference copy shall be included.
- j. Banding. Nomenclature for method/type of banding (e.g., steel/plastic bands, fiber-filament tape).
- k. Banding specifications. Identification of the specifications (e.g., federal, military, industry, commercial, company) for the banding (reference 10.2.3.1 j.). If the applicable specification(s) are other than Federal or military specifications, a reference copy shall be included.
- l. Additional description. Complete description of any significant characteristics (not specifically identified above) needed to describe the shipping container.

DI-PACK-81059

10. PREPARATION INSTRUCTIONS (Continued)

10.2.3.2 Inner packaging of combination packaging.

- a. Type. Nomenclature of inner package (e.g., can, carton, bag, bottle).
- b. Material. Nomenclature of inner package composition (e.g., metal, paperboard, plastic, glass).
- c. Specification number(s). Identification of the specifications (e.g., federal, military, industry, commercial, company) for the inner packaging type (reference 10.2.3.2 a.) and material (reference 10.2.3.2 b.). If the applicable specifications are other than Federal or military specifications, a reference copy shall be included.
- d. Capacity. Interior volume in metric/in-pounds units.
- e. Tare weight. Weight in metric/in-pounds units.
- f. Closure. Nomenclature for method/type of closure (e.g., heat seal, glue, tape, staple).
- g. Closure specification number(s). Identification of the specifications (e.g., federal, military, industry, commercial, company) for the closure method (reference 10.2.3.2 f.). If the applicable specifications are other than Federal or military specifications, a reference copy shall be included.
- h. Additional description. Complete description of any significant characteristics (not specifically identified above) needed to describe the inner packaging.

10.2.3.3 Actual product.

- a. Actual product. Nomenclature for actual product.
- b. Test item. Identify whether the actual product was or was not used in the testing.
- c. National Stock Number (NSN). Identify National Stock Number.
- d. Proper shipping name. As specified in NOTE 1 and NOTE 2.
- e. United Nations number. As specified in NOTE 1.
- f. United Nations packing group. As specified in NOTE 1.
- g. Hazard class. As specified in NOTE 1.
- h. Physical state. Identify the physical state as either solid, liquid, or gas.
- i. Net weight of hazardous component. Weight in metric and in-pound units.
- j. Gross weight. Weight in metric and in-pound units.

DI-PACK-81059

10. PREPARATION INSTRUCTIONS (Continued)

- k. Density/specific gravity of actual product. Density in metric and in-pound units.
- l. Drop height. When actual product is used for testing, drop height in metric and in-pound units as specified in NOTE 1.
- m. Stacking weight/force. When actual product is used for testing, stacking weight/force in metric and in-pound units as specified in NOTE 1.
- n. Vapor pressure. For liquids only, vapor pressure in metric and in-pound units for the following temperatures.
 - (1) 50 degrees Celsius.
 - (2) 55 degrees Celsius.
- o. Flash point. Temperature in Celsius and Fahrenheit units and the type test used.
- p. Air pressure. When an actual product is used for testing and is a liquid, air pressure in metric and in-pound units.

10.2.3.4 Test product. If a test product is used in lieu of the actual product, identify the following characteristics of the test product.

- a. Test product. Nomenclature for the test product (e.g., water, coal, lead shot).
- b. Net weight of test product. Weight in metric and in-pound units.
- c. Gross weight. Weight in metric and in-pound units.
- d. Density/specific gravity of test product. Density in metric and in-pound units.
- e. Drop height. Drop height in metric and in-pound units as specified in NOTE 1 for actual product.
- f. Stacking weight/force. Stacking weight/force in metric and in-pound units as specified in NOTE 1 for actual product.
- g. Vapor pressure. For liquids only, vapor pressure in metric and in-pound units for the following temperatures.
 - (1) 50 degrees Celsius.
 - (2) 55 degrees Celsius.
- h. Air pressure. When a test product is used for testing and is a liquid, air pressure in metric and in-pound units.

NOTE 1: Requirements specified in the "International Maritime Organizations International Maritime Dangerous Goods (IMDG) Code" and the "International Civil Aviation Organizations (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods Code".

NOTE 2: Requirements specified in Title 49 "Code of Federal Regulations" (CFR) (Sub-Part B, 172.101 and 172.102).

DI-PACK-81059

10. PREPARATION INSTRUCTIONS (Continued)

10.2.4 Testing.

10.2.4.1 Introduction. A brief description of why specific tests were performed and the rationale for the test product selected (if applicable). Also, a detailed and complete description of the exact packaging materials used in the packaging system, the rationale for the selection of these materials, the tests performed, and the test conditions under which the tests were performed.

10.2.4.2 Applicable packing group test requirements. A description of the applicable tests required/performed for the commodity of hazard class, as well as the packing group selection rationale. Pass/fail criteria shall be included.

10.2.4.3 Discussion of test results. A narrative discussion and description of the test results including rationale for any variations.

10.2.5 References. Identification of all references used in the development, testing, and documenting of the hazardous item.

DI-pACK-81059

10. PREPARATION INSTRUCTIONS (Continued)

TABLE I. United Nations container type designations

<u>TYPE</u>	<u>MATERIAL</u>	<u>CATEGORY</u>	<u>UNITED NATIONS CODE</u>
1. Drum	A. Steel	non-removable head	1A1
		removable head	1A2
	B. Aluminum	non-removable head	1B1
		removable head	1B2
	D. Plywood		1D
	G. Fibre		1G
2. Barrels	H. Plastics	non-removable head	1H1
		removable head	1H2
	C. Wooden	bung type	2C1
		removable head	2C2
	A. Steel	non-removable head	3A1
		removable head	3A2
3. Jerricans	H. Aluminum	non-removable head	3H1
		removable head	3H2
4. Boxes	A. Steel		4A1
		with inner liner or coating	4A2
	B. Aluminum		4B1
		with inner liner or coating	4B2
	C. Natural Wood	ordinary	4C1
		with sift-proof walls	4C2
	D. Plywood	with sift-proof walls	4D
	F. Reconstituted wood	with sift-proof walls	4F
	G. Fibreboard	with sift-proof walls	4G
	H. Plastics	expanded	4H1
		solid	4H2

DI-PACK-81059

10. PREPARATION INSTRUCTIONS (Continued)

TABLE I. United Nations container type designations (continued)

<u>TYPE</u>	<u>MATERIAL</u>	<u>CATEGORY</u>	<u>UNITED NATIONS CODE</u>
5. Bags	H. Woven Plastics	without inner liner	5H1
		or coating	5H2
		sift-proof	5H3
	H. Plastic Film	water resistant	5H4
	L. Textile	without inner liner	5L1
		or coating	5L2
		sift-proof	5L3
		water resistant	
6. Composite packagings	M. Paper	multiwall	5M1
		multiwall, water resistant	5M26
	H. Plastics receptacle	in a steel drum	6HA1
		in steel crate or box	6HA2
		in aluminum drum	6HB1
		in aluminum crate or box	6HB2
		in wooden box	6HC
		in plywood drum	6HD1
		in plywood box	6HD2
		in fibre drum	6HG1
		in fiberboard box	6HG2
		in plastics drum	6HH
	P. Glass, porcelain or stoneware receptacle	in steel drum	6PA1
		in steel crate or box	6PA2
		in aluminum drum	6PB1
		in aluminum crate or box	6PB2
		in wooden box	6PC
		in plywood drum	6PD1
		in wickerwork hamper	6PD2
		in fibre drum	6PG1
		in fiberboard box	6PG2
		in expanded plastics packaging	6PH1
		in solid plastics packaging	6PH2