

RR-W-1817A

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SUPERSSEDING

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FEDERAL SPECIFICATION

WARNING DEVICE, HIGHWAY, TRIANGULAR, REFLECTIVE

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers one type, portable, triangular, highway warning set with a container, (see 6.1).

1.2 Classification. The device shall be furnished in the following sets, as specified (see 6.2).

- | | |
|-------|-------------------------|
| Set 1 | - One warning device |
| Set 2 | - Two warning devices |
| Set 3 | - Three warning devices |

2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

Federal Specification:

PPP-B-636 - Boxes, Shipping, Fiberboard

Federal Standard:

Fed. Std. No. 123 - Marking for Shipment (Civil Agencies).

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

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(Single copies of this specification and other Federal specifications required by activities outside the Federal Government for bidding purposes are available without charge from Business Service Centers at the General Services Administration Regional Offices in Boston, New York, Washington, DC, Atlanta, Chicago, Kansas City, MO, Fort Worth, Denver, San Francisco, Los Angeles, and Seattle, WA.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Standards:

- MIL-STD-105 - Sampling Procedures and Table for Inspection by Attributes
- MIL-STD-129 - Marking for Shipment and Storage

(Copies of Military Specifications and Standards required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

LAWS AND REGULATIONS:

- 49 CFR 571 - Federal Motor Vehicle Safety Standards No. 125 - Warning Devices

(The Code of Federal Regulations (CFR) and Federal Register (FR) are for sale on a subscription basis by the Superintendent of Documents, U. S. Government Printing Office, Washington, DC 20402. When indicated, reprints of certain regulations may be obtained from the Federal agency responsible for issuance thereof.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply:

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National Motor Freight Traffic Association, Inc., Agent

National Motor Freight Classification

(Application for copies should be addressed to the American Trucking Associations, Inc., Tariff Order Section, 1616 P Street, N.W., Washington, DC 20036.)

Uniform Classification Committee, Agent

Uniform Freight Classification

(Application for copies should be addressed to the Uniform Classification Committee, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.)

3. REQUIREMENTS

3.1 Materials. The materials used shall conform to Department of Transportation (DOT), Federal Motor Vehicle Safety Standard (FMVSS) No. 125 and requirements specified herein (see 4.1.1).

3.2 Design and construction. The highway warning device shall be in accordance with the requirements specified in paragraphs on equipment, figuration, color, reflectivity, luminance, stability and durability specified in FMVSS No. 125 (see 4.1.1). Overall dimensions of the triangle, color band widths, radii and tolerances shall conform to requirements as specified in FMVSS No. 125.

3.3 Finish. Luminance and reflective surfaces shall be uniform in color and shall be in accordance with FMVSS No. 125. Metal used in the device or container shall be protected from corrosion by chemical, metallic, or enamel finish.

3.4 Marking. Each warning device shall be permanently and legibly marked as specified in FMVSS No. 125. Set 3 containers shall be permanently and legibly marked by a diagram or statement with the following instructions:

"The three devices shall be placed approaching traffic as follows:

On dual direction roadway: Place two devices behind the stopped vehicle, one device 10 feet from rear and the other 100 feet (40 paces) from rear and the third device 100 feet (40 paces) ahead of the vehicle.

On divided highways: Place all three devices behind the stopped vehicle, one 10 feet from rear, another 100 feet (40 paces) and the third 200 feet (70-75 paces) from the rear."

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3.5 Containers. The collapsed warning devices shall be stored in a reusable container without the use of tools. The container shall support the elements of the warning device to prevent damage to the reflective surfaces. The Set 1 container shall be a separate container or integral part of the warning device.

3.6 Workmanship. All edges shall be rounded or chamfered. Burrs shall be removed. Rivets shall be firmly set. Reflecting elements shall be free of cracks or chips.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.1.1 Certificates of compliance. Current certification by the Department of Transportation may be accepted in lieu of material inspection and end item testing as specified herein. When certificates of compliance are submitted, the Government reserves the right to check test such items to determine the validity of certification (see 3.1 and 3.2).

4.2 Inspection. Except as otherwise specified herein, sampling for inspection shall be performed in accordance with the provisions set forth in MIL-STD-105.

4.2.1 Component and material inspection. The supplier shall insure that all components and materials used are manufactured, examined and tested in accordance with referenced specifications and standards unless otherwise excluded, amended, modified or qualified in this specification, or applicable purchase document (see 4.1.1).

4.2.2 End item inspection. The inspection lot shall consist of all completely fabricated warning devices and containers of one set submitted for inspection one time.

4.2.2.1 Visual examination. The warning device and container shall be examined for defects listed in table I. The inspection level shall be II with the acceptable quality level (AQL) of 2.5 for major defects and 6.5 for total defects expressed in terms of defects per hundred units.

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TABLE I. Visual defects

Examine	Defect	Classification	
		Major	Minor
Finish	Not free of burrs or sharp edges		X
	Rivets not firmly set		X
	Metal part not protected against corrosion	X	
	Outer red border not uniform in color		X
	Inner orange border not uniform in color		X
	Reflecting elements cracked or chipped	X	
Construction and design	Not configuration specified	X	
	Outer border not red reflex reflective material	X	
	Inner border not orange fluorescent material	X	
	Warning device not double faced	X	
	Material obscured by fastener	X	
	Reflecting elements loose		X
	Base not supporting device within 10° of vertical	X	
	Any component out of alignment	X	
	Requires tools to erect or place in container	X	
	Set incomplete	X	
Container	Does not provide against damage to reflective surfaces of device		X
	Not adequate to accept required device(s)	X	
Instructions	Incorrect, illegible, or missing from device or container, as specified		X
Markings	Missing, illegible or not as specified		X

4.2.2.2 Dimensional examination. Examination shall be made of the warning device for defects in dimensions. Any dimensions not within specified tolerance shall be classified as a defect. The inspection level shall be S-2 with an AQL of 4.0, expressed in terms of defects per hundred units.

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4.2.2.3 Testing of the end item. Warning device sets shall be tested as specified in 4.4. The contracting officer may accept Department of Transportation certification in lieu of the tests specified in 4.4.2 thru 4.4.5 (see 4.1.1). The inspection level shall be S-2 with an AQL of 4.0, expressed in terms of defects per hundred units, except one device from Set 2 or 3, as applicable, shall be the representative sample. Failure of a test shall be cause for rejection of the inspection lot.

4.3 Examination of preparation for delivery. An examination shall be made to determine that packaging, packing and markings are in compliance with section 5. Defects shall be as indicated in table II. The lot shall be the number of container submitted for inspection at one time. The sample unit shall be one shipping container fully prepared for delivery. The inspection level shall be S-2 with an AQL of 2.5 defects, expressed in terms of defects per hundred units.

TABLE II. Examination of preparation for delivery

<u>Examine</u>	<u>Defect</u>
Markings	Omitted; incorrect; illegible; improper size, location, sequence or method of application
Materials	Any component missing or damaged
Workmanship	Bulging or distortion of containers Inadequate application of components such as incomplete closure, loose strapping, inadequate stapling Cushioning inadequate, improper or missing
Contents	Number per container is more or less than required Net weight exceeds requirements of the box specification

4.3.1 Examination for closure and strapping of shipping containers. When shipping containers are required to be in accordance with PPP-B-636, examination for defects in closure, waterproofing, and strapping shall be in accordance with the appendix of PPP-B-636.

4.4 Tests. Tests for reflectivity, color, luminance, stability and durability shall be performed as specified under the test procedure requirements of FMVSS No. 125. Warning devices shall be tested before and after conditioning, unless otherwise specified.

4.4.1 Reflectivity. Candelpower readings below the minimum specified, shall constitute failure of this test.

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4.4.2 Color. Failure of red and orange material to meet the chromaticity coordinates or purity requirements specified, shall constitute failure of this test.

4.4.3 Luminance. A photometric comparison reading with a flat magnesium oxide surface of less than 35 percent, shall constitute failure of this test.

4.4.4 Stability. Sliding, tilting, or turning of the warning device more than allowed, shall constitute failure of this test. This test may be performed either before or after conditioning.

4.4.5 Durability. Warping or separating of parts, shall constitute failure of this test.

5. PREPARATION FOR DELIVERY

5.1 Packaging. Packaging shall be level A or C, as specified (see 6.2).

5.1.1 Level A. Each warning device set shall be packaged in a snug-fitting end opening fiberboard box conforming to type CF, class domestic, variety SW, grade 200, style RSC of PPP-B-636. The box shall be closed as specified in method I of the appendix to PPP-B-636.

5.1.2 Level C. Each warning device set shall be packaged in a manner as to afford protection against deterioration and physical damage during shipment from the supply source to the first receiving activity for immediate use. The supplier may use his standard practice when it meets these requirements.

5.2 Packing. Packing shall be level A, B, or C, as specified (see 6.2).

5.2.1 Level A. Twelve warning devices (twelve Set 1, six Set 2, or four Set 3) packaged as specified in 5.1, shall be packed in a snug-fitting shipping container conforming to V2s, RSC of PPP-B-636. Each shipping container shall be closed in accordance with method III, waterproofed in accordance with method V and reinforced as specified in the appendix of the container specification.

5.2.2 Level B. Twelve warning devices (twelve Set 1, six Set 2, or four Set 3) packaged as specified in 5.1, shall be packed in a snug-fitting shipping container conforming to type CF, class domestic, variety optional, grade minimum 275, RSC of PPP-B-636. Closure shall be in accordance with method II of PPP-B-636.

5.2.2.1 When specified (see 6.2), the fiberboard box shall conform to V3c, V3s or V4s of PPP-B-636 and closure shall be as specified for class weather-resistant boxes.

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5.2.3 Level C. Warning sets packaged as specified in 5.1, shall be packed in a manner to insure carrier acceptance and safe delivery at destination at the lowest transportation rate for such supplies. Shipping containers shall be in accordance with Uniform Freight Classification Rules or National Motor Freight Classification Rules, as applicable.

5.3 Marking. In addition to any special marking required by the contract or order, interior packages and shipping containers shall be marked in accordance with MIL-STD-129 or FED-STD-123, as applicable.

6. NOTES

6.1 Intended use. The warning device sets covered by this specification are intended to be carried in motor vehicles and be used to warn approaching traffic of the presence of a stopped vehicle. One warning device should be provided each passenger vehicle and at least three (3) warning devices for each truck or bus. The purpose of the item is to reduce deaths and injuries due to rear end collisions between oncoming traffic and disabled vehicle.

6.2 Ordering data. Purchasers should select the preferred options permitted herein and include the following information in procurement documents:

- (a) Title, number, and date of this specification.
- (b) Set required (see 1.2).
- (c) Selection of applicable levels of packaging and packing (see 5.1 and 5.2).
- (d) When weather-resistant grade fiberboard shipping containers are required for level B packing (see 5.2.2.1).

6.3 Standard pack (Civil agencies). The standard pack for this commodity shall be as specified in 5.2.1. The standard pack requirements are intended for use in procurements of stores stock replenishments. Procuring officers should use the standard pack requirements when it is known that the material will be shipped from a supplier to a domestic warehouse, supply depot, or immediate storage point for temporary storage, subsequent issue or shipment to eventual user.

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Custodians:

Army - GL
Navy - YD
Air Force - 84

Review activity:

Navy - MC

User activities:

Army - AT, ME

Preparing activity:

Army - GL

Civil Agency Coordinating Activities:

DC-DCG
DOT-FHW
GSA-FSS
HEW-NIH

Project No. 9905-0220

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