A-A-50493
19 February 1990

COMMERCIAL ITEM DESCRIPTION

OIL, PENETRATING (FOR LOOSENING FROZEN METALLIC PARTS)

The General Services Administration has authorized the use of this commercial item description (CID) as a replacement for Federal Specification VV-P-216C which is canceled.

Abstract. This commercial item description is intended for use in the freeing of corroded and frozen metallic parts resisting movement, without causing damage to such parts. This commercial item description covers two types of penetrating oil as follows:

Type I - Liquid application (brush, dip, or spray).

Type II - Aerosol application

Salient characteristics.

1. Penetrating oil. The penetrating oils shall consist of a synthetic oil or a light mineral oil, or a mixture of these oils, with or without additives, as necessary to meet the requirements of this commercial item description. The penetrating oil shall be free from dirt, sediment, disagreeable odors, or other foreign matter, as determined by visual and olfactory examination. The penetrating oil shall have physical properties that meet the requirements of Table I when tested as specified.

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* Beneficial comments (recommendations, additions, deletions) and any *
* pertinent data which may be of use in improving this document should be *
* addressed to: Commanding Officer (Code 156), Naval Construction Battalion *
* Center, Port Hueneme, CA 93043-5000, by using the self-addressed Standard *
* Document Improvement Proposal (DD Form 1426) appearing at the end of this *
* document or by letter. *
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FSC 9150

TABLE I

Test	Limit	Method in Fed Test Std 791 or ASTM
Pour point	-40 degrees centigrade (C), maximum	ASTM D 97
Viscosity, Kinematic	1.7 to 10 centistokes at 40 degrees C	ASTM D 445
Flash point 1/	43.3 degrees C minimum	ASTM D 56 or ASTM D 93
Water	0.0 percent	ASTM D 95
Corrosion 2/	none	5306
Surface Tension	44 dynes per centimeter, maximum	ASTM D 3825
Interfacial Tension	36 dynes per centimeter, maximum	ASTM D 971

1/ For oils with viscosities from 1.7 to 5.5 centistokes (cST) @ 40 degrees C, ASTM D 56 should be used. For those oils having viscosities in excess of 5.5 cST at 40 degrees C, ASTM D 93 should be used.

2/ Eliminate requirements for emulsification of sample and subsequent addition of distilled water when not applicable.

2. Toxicity. When used for its intended purpose, Type I and II penetrating oil and propellant used in Type II, shall have no adverse affect on the health of personnel. Questions relating to the health effects of the oil and propellant shall be referred by the contracting activity to the appropriate departmental medical service who will act as an advisor to the contracting agency. Toxicity information shall be submitted in accordance with Federal Standard 313 and distributed as specified therein, with one additional copy furnished to the contracting officer.

3. Type I. Unless otherwise specified, type I containers shall conform to Federal Specification PPP-C-96 Type V with the type and size as specified. The complete unit shall be capable of withstanding the maximum Department of Transportation (DOT) recommended pressure for the applicable class of container and shall show no evidence of leakage. All containers shall be filled with the required amount of penetrating oil.

4. Type II. Type II penetrating oil shall be packaged in aerosol containers Conforming to Type IX, class 2 or class 3 of Federal Specification PPP-C-96 with the size as specified. The complete unit shall be capable of withstanding the maximum DOT recommended pressure for the applicable class container. The complete unit shall show no evidence of leakage when tested in accordance with DOT regulations. The container shall be fitted with an activating mechanism and a snap-fitted cover to protect the mechanism. The activating mechanism and a spray nozzle shall be designed for convenient operation and shall require use of only one hand to hold and operate the unit. The mechanism shall be readily operated by a downward finer pressure which shall activate the valve. The can shall be capable of spraying in an upside down position. The complete unit

shall be in compliance with the applicable DOT regulations. The valve shall be centrally located on the valve cup and shall be capable of being operated by the activating mechanism. The valve shall be the wet spray type having a nozzle through which the propellant and active ingredient are delivered. The valve shall be designed so that it closes immediately upon release of the activating mechanism. The valve and activating mechanism shall not leak or clog during or after successive usage.

5. Propellant. Type II aerosol container shall use propellent composed of one of the following gasses: carbon dioxide, nitrous oxide, nitrogen, or Dymel propellants. The propellant shall be capable of propelling all the penetrating oil in the can when tested in accordance with ASTM D 3097 and shall be nonflammable as defined in 49 CFR 173.300, DOT Regulations.

Contractor certification. The contractor shall certify and maintain substantiating evidence that the product offered meets the salient characteristics of this Commercial Item Description, and that the product conforms to the producer's own drawings, specifications, standards, and quality assurance practices. The Government reserves the right to require proof of such conformance prior to first delivery and thereafter as may be otherwise provided for under the provisions of the contract.

Metric products. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using inch-pound units, provided they fall within specified tolerances using conversion tables contained in the latest revision of Federal Standard 376, and all other requirements of this Commercial Item Description are met. If a product is manufactured to metric dimensions and those dimensions exceed the tolerances specified in the inch-pound units, a request should be made to the contracting officer to determine if the product is acceptable. The contracting officer has the option of accepting or rejecting the product.

Preservation, packaging, packing, labeling, and marking. Preservation, packaging, packing, labeling, and marking shall be as specified in the contract or order. Precautionary markings on the aerosol containers shall be in accordance with 16 CFR 1500, Consumer Products Safety Commission.

CID based part identification numbers. The following part identification numbering procedure is for Government purposes and does not constitute a requirement for the contractor.

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A  - 50493 - X - XX
*    *       *   *
*    *       *   *
*    *       *   *
*    *       *   *--  Size of container (Type I only)
*    *       *
*    *       *------  Type Designator Code
*    *
*    *--------------  CID Number
*
*-------------------  Designates A Commercial Item Description
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The type of penetrating oil is identified by a single numerical code character, see Table II.

TABLE II

Type	Type Designator Code
I	1
II	2

The size of container (Type I only) is identified by two letters, see Table III.

TABLE III

Size	National Stock Numbers
PT	9150-00-261-7899
GL	9150-00-223-4119

Notes.

Ordering data. Acquisition documents should specify the following:

a. Title, number, and date of this document
b. Type of penetrating oil required.
c. When containers are to conform to Federal Specification, PPP-C-96 Type V.
d. Type, class, and size containers required.

PPP-C-96, FED-STD-313, FED-STD-376, and FED-STD-791 are available Military Specifications and Standards, Bldg 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094. 16 CFR, Part 1500 and 49 CFR, Part 173 are available in the Code of Federal Regulations (CFR) and the Federal Register (FR) which are for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington D.D. 20402. When indicated, reprints of certain regulations may be obtained from the Federal agency responsible for issuance thereof.

ASTM D 56, ASTM D 93, ASTM D 95, ASTM D 97, ASTM D 445, ASTM D 971, and ASTM D 3097, are available from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

MILITARY INTERESTS:

Custodians

Army - ME
Navy - YD
Air Force - 68

Review Activities

Army - AV, AR
Navy - SH, MS, SA
DLA - GS

Users

Army - AT
Navy - MC

CIVIL AGENCY COORDINATING ACTIVITIES:

GSA - FSS

PREPARING ACTIVITY:

Navy - YD

Project No. 9150-1040