MILITARY SPECIFICATION

ENAMEL, ALKYD, CAMOUFLAGE, FLASH DRY

This amendment forms a part of Military Specification MIL-E-52929(ME) dated 20 July 1977.

PAGE 1

Add the following:

"1.2. Classification

Type I - Standard Formulation
Type II - Non-Lead Formulation"

PAGE 2

Add the following under standards:

"MILITARY

MIL-STD-1188 - Commercial Packaging of Supplies and Equipment."

Page 3

Add the following under Other Publications:

"AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D3335 - Test for Low Concentrations of Lead, Cadmium and Cobalt in Paint by Atomic Absorption Spectroscopy."

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3.4.1, add the following:

"For Type II, the hiding pigments shall be acid insoluble green pigment as in the standard formulation, chromium oxide, organic yellow pigment derived from tetrachloroisoindoline light stable organic brown or maroon pigment, and carbazole dioxane violet."

"3.4.1.1 Type II composition. Type II shall contain no lead based pigments and lead content shall not exceed 0.06 percent by weight of total nonvolatile content upon analysis."

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Table IV. Quantitative requirements. Following "Total solids, percent by weight of enamel" add:

	Min	Max
"Total solids, Type II, percent by weight of enamel	60	-
Following "Pigment percent by weight of enamel" add:		
"Pigment, Type II percent by weight of enamel"	39	43

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3.6.13, Accelerated weathering, change sentence beginning on Line 4 to read: "In addition, the color after accelerated weathering shall remain within 2.5 NBS Units of the chromaticity and the average of the visual reflectance values specified in Table I."

Add the following to this paragraph:

"For Type II Forest Green, the color change shall be less than 1.0 NBS Unit."

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Add the following paragraphs.

"4.3.3.1. Lead content (type II only).

"4.3.3.1.1 Determination of Lead by Atomic Absorption Spectroscopy. Determine percent of lead in accordance with ASTM Method D3335. Nonconformance to 3.4.1.2 shall constitute failure of this test.

"4.3.3.1.2 Determination of lead by X-ray emission spectrometric analysis alternate method).

"4.3.3.1.2.1 Test panel preparation Using 100 grams of a known lead free Type II enamel, prepare standard aliquots containing 0.00, 0.03, 0.06, and 0.09 percent lead metal, based on total nonvolatile paint, by adding calculated amounts of lead napthenate of a known lead content. Thoroughly mix the aliquots to incorporate the lead and draw down the standards and enamel to be tested on duplicate black and white Morest cards using a 0.0020 inch (0.004 inch gap clearance) film applicator. Dry for 48 hours at a temperature of 23° ± 1.1° C (73.4° ± 2° F.), a relative humidity of 50 ± 4 percent, and under dust free conditions. Cut the drawdowns into a suitable size and shape to fit the sample holder of the X-ray fluorescence spectrometer.

"4.3.3.1.2.2 X-ray analytical procedure. Lead content shall be determined using an X-ray fluorescence spectrometer capable of determining lead content at a minimum level of 0.03 percent by weight of the total nonvolatile paint. The parameters of angle, crystal, pulse height selection, counting time, collimator, X-ray tube, voltage and amperage, shall be established for a wave length dispersive fluorescence spectrometer according to conventional X-ray analytical procedures. The analytical line Pb L-Alpha or Pb L-Beta shall be used. To calibrate, place the known standards in the X-ray unit and measure the count rates of lead, lead background and the Compton scattered background from the X-ray tube. The ratio R, of net lead intensity and Compton scattered background is calculated as follows:

$$R = \frac{I_{Pb} - \dfrac{(I_{Pb}\ \text{Background I} + I_{Pb}\ \text{Background II})}{2}}{I_{\text{Compton Line}}}$$

White I = Gross Intensity
and the background is take on each side of the Pb line.

Establish a lead calibration curve using these results. Determine the lead content of the test paint using the above procedure and calibration curve. When using an energy dispersive fluorescence spectrometer, it shall be set up in accordance with the manufacturer's manual.

"4.3.3.1.2.3 Failure criteria. Nonconformance to 3.4.1.1 shall constitute failure of this test."

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4.4, delete and substitute as follows:

"4.4 Inspection of packaging. Inspection of military levels of packaging shall be in accordance with PPP-P-1892. Commercial packaging shall be inspected for conformance to MIL-STD-1188."

5.1, delete and substitute as follows:

"5.1 Preservation packing and marking. Preservation shall be level A or Commercial and packing shall be level A, level B or Commercial as specified (see 6.2). Level A preservation, level A or B packing and military packaging marking shall be in accordance with PPP-P-1892. Commercial preservation, packing and marking shall be in accordance with MIL-STD-1188. The enamel shall be furnished in the size of container specified (see 6.2)."

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6.1 Intended Use: Change last sentence to read: "For adequate camouflage properties, it is necessary to apply the enamel to a minimum dry film thickness of 0.0018 inch."

6.2 (c), delete and substitute as follows:

"(c) Degree of preservation and degree of packing required (see 5.1)."

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6.6 Add the following:

"Forest Green Type II Prime Pigmentation

Acid Insoluble Green Pigment	-	59.7 lbs.
Chromium Oxide	-	30.0 lbs.
Organic Yellow[1]	-	2.3 lbs.
Organic Brown[2]	-	8.0 lbs.

[1]IRGAZINE 2 GLT Yellow

[2]17-3075 HOSTOPERM Brown HRF

Custodian:
Army - ME

Review activities:
Army - MD, MR, MI, AV, CR

User activity:
Army - AT

Preparing activity:
Army - ME

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