U.S. Army Test and Evaluation Command
Aberdeen Proving Ground, Maryland 21905

U.S. Army Test and Evaluation Command System Engineering Test Operations
PROCEDURE "PAVING EQUIPMENT"

Final

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ABSTRACT
The report describes a method for evaluation of paving equipment operational and functional performance characteristics. It identifies supporting test, facilities, and equipment required. Specifies procedures for operator training, photographic coverage, safety, initial inspection, physical characteristics, human factors, electromagnetic interference, performance, environmental effects, maintenance, reliability, transportability, durability, and value analysis.
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1. **Purpose and Scope.** This TOP describes test procedures for evaluating the operational and performance characteristics of paving equipment. Equipment covered includes: soil sampling kit; road rooter, grader, roller and sweeper; batching plant; crusher; crushing, screening and washing plant; driers; mixers; asphalt melter; paving, spreader, finishing and curing machines. From the tests listed in Section II, the test director can select those that will satisfy the requirements for the particular test item and the particular test type (i.e., engineering test, initial production test, etc.). This document provides for simulated environmental testing but does not include service testing or environmental testing at climatic test sites.

2. **Background.** Military operations involving the movement of aircraft, vehicles and personnel increase in efficiency when paved surfaces are available for use. Therefore, when possible, construction of temporary and permanent roads, ramps and runways are normally culminated in the application of asphalt or concrete surfaces. The paving operation normally involves three steps or phases of action, namely: road bed preparation, material preparation-processing and paving. The road bed preparation phase consists of probing the area for the proposed road to determine suitability for construction of the road and the preparation of the road bed using earth moving and loading equipment including specialized equipment such as rooters, graders, rollers and sweepers;

*This TOP supersedes MTPs 9-2-116 (30 Jun 70) and 9-2-124 (6 Jul 70), including all changes.*

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material preparation-processing requires the use of batching plants, crushers, crushing, screening and washing plants, drier-mixers for bituminous and concrete, and asphalt melters; the paving phase uses bituminous paving machines and concrete spreaders, finishing and curing machines.

3. **Equipment and Facilities.** Equipment and facilities required are defined in the documents listed in Section II.

**SECTION II**

**TEST PROCEDURES**

4. **Supporting Tests.** Common Engineering MTPs/TOPS, Military Standards, and other published documents to be considered in formulating an engineering test plan are as follows:

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<td>(e) Sweepers (Towed and Self-propelled)</td>
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TEST SUBJECT TITLE
(2) Material Preparation - Processing Equipment
   (a) Batching Plant (Fixed and Wheel-Mounted)
   (b) Crushers (Roll and Jaw)
   (c) Crushing, Screening and Washing Plant
   (d) Driers - Mixers (Bituminous - Concrete)
   (e) Asphalt Melter

(3) Paving Equipment
   (a) Bituminous Paving Machine
   (b) Concrete Spreader
   (c) Concrete Finishing Machine
   (d) Concrete Curing Machine

  e. Compatibility with Related Equipment

f. Environmental Tests
   (1) Temperature
   (2) Storage
   (3) Sunshine
   (4) Rain
   (5) Humidity
   (6) Fungus
   (7) Salt Fog
   (8) Dust
   (9) Vibration
   (10) Rough Handling
   (11) Shock

   (12) Electromagnetic Interference Characteristics

PUBLICATION NO.

MIL-B-22353A
Para 4.3
MIL-B-3755A
Para 4.3.2
MIL-C-52127B
MIL-C-52128B
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MIL-C-13962B
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MIL-M-52182C
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2-3-512

MIL-STD-810B
Method 501, 502, AR 70-38
MIL-G-52484
Method 15
4-2-826
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MIL-STD-810B
Method 516.1
MIL-STD-461A
Notice 4
MIL-STD-462
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Method RE05

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SECTION III
SUPPLEMENTARY INSTRUCTIONS

5. Functional Test.
   a. Objective. To determine the capability of the test item to perform the function for which it is intended.
   
   b. Method. If a specification contains a test of the test item performing its intended function and providing a measurement of the test item doing so, use the test method in the specification. If there is no such test in the specification, devise a test that will demonstrate the ability of the test item performing its intended mission. Measure the product finished.

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