

DEPARTMENT OF THE ARMY  
U. S. Army Corps of Engineers  
Washington, D. C. 20314

EM 1110-3-135

Engineer Manual  
No. 1110-3-135

9 April 1984

Engineering and Design  
STANDARD PRACTICE FOR CONCRETE PAVEMENTS  
Mobilization Construction

	<u>Paragraph</u>	<u>Page</u>
<b>CHAPTER 1. GENERAL</b>		
Purpose and scope.....	1-1	1-1
Strength and air content.....	1-2	1-1
Water.....	1-3	1-2
Admixtures.....	1-4	1-2
Cement.....	1-5	1-3
Delivery and storage of materials.....	1-6	1-3
Pavement protection.....	1-7	1-3
<b>CHAPTER 2. AGGREGATES</b>		
Options.....	2-1	2-1
Sources.....	2-2	2-1
Coarse aggregate.....	2-3	2-1
Fine aggregate.....	2-4	2-3
Aggregate for calibration hardstands.....	2-5	2-4
<b>CHAPTER 3. SAMPLING AND TESTING</b>		
Cement.....	3-1	3-1
Aggregates.....	3-2	3-1
Field test specimens.....	3-3	3-1
<b>CHAPTER 4. PROPORTIONING</b>		
Mixture proportioning.....	4-1	4-1
Mixture proportions.....	4-2	4-1
Workability.....	4-3	4-1
Strength.....	4-4	4-1
<b>CHAPTER 5. BATCHING AND MIXING</b>		
General.....	5-1	5-1
Capacity of plant.....	5-2	5-1
Concrete mixers.....	5-3	5-1
Approval of mixers.....	5-4	5-1

	<u>Paragraph</u>	<u>Page</u>
Transporting ready-mix concrete.....	5-5	5-1
<b>CHAPTER 6. SUBGRADE, BASE, FORMS, AND STRING LINES</b>		
General.....	6-1	6-1
Subgrade definition.....	6-2	6-1
Form materials.....	6-3	6-1
Placement of forms and string lines.....	6-4	6-1
String line.....	6-5	6-1
Removal of forms.....	6-6	6-2
<b>CHAPTER 7. PLACING</b>		
General.....	7-1	7-1
Placing time.....	7-2	7-1
Slip-form paving.....	7-3	7-1
Spreading.....	7-4	7-1
Vibration.....	7-5	7-1
Surface vibrators.....	7-6	7-2
Steel reinforcement.....	7-7	7-2
Placing during cold weather.....	7-8	7-2
Placing during hot weather.....	7-9	7-2
Placing of small areas.....	7-10	7-3
Overlay-pavement construction.....	7-11	7-3
<b>CHAPTER 8. FINISHING AND CURING</b>		
Finishing.....	8-1	8-1
Curing.....	8-2	8-1
<b>CHAPTER 9. TOLERANCES</b>		
Grade and surface-smoothness requirements.....	9-1	9-1
Tolerances in pavement thickness.....	9-2	9-1
<b>CHAPTER 10. JOINTS</b>		
General.....	10-1	10-1
Construction joints.....	10-2	10-1
Expansion joints.....	10-3	10-2
Contraction joints.....	10-4	10-2

	<u>Paragraph</u>	<u>Page</u>
CHAPTER 11. THIN BONDED RIGID OVERLAYS FOR RIGID PAVEMENTS		
General.....	11-1	11-1
Correction of defects in existing pavement.....	11-2	11-1
Flexural strength.....	11-3	11-1
Aggregate sizes.....	11-4	11-1
Cement.....	11-5	11-2
Conditioning of existing pavements.....	11-6	11-2
APPENDIX A. REFERENCES		A-1

LIST OF TABLES

- Table 2-1. Coarse aggregate size groups.
- 2-2. Grading of coarse aggregate.
- 2-3. Deleterious substances in coarse aggregate.
- 2-4. Grading of fine aggregate.
- 2-5. Deleterious substances in fine aggregate.
- 9-1. Surface smoothness - airfield and heliport  
pavements.