

## AIRPORT SAFETY AND MAINTENANCE WORKSHOP

### EXCERPT FROM FAA ADVISORY CIRCULAR 150/5380-6C “Guidelines and Procedures for Maintenance of Airport Pavements”

The following handout pages from this Advisory Circular (AC) are provided for your reference. Workshop participants are encouraged to download and review the complete AC from the FAA website at [www.faa.gov/airports/resources/advisory\\_circulars](http://www.faa.gov/airports/resources/advisory_circulars). At the website, Search for AC No: **150/5380-6C**.



U.S. Department  
of Transportation

Federal Aviation  
Administration

# Advisory Circular

---

**Subject:** Guidelines and Procedures for Maintenance of Airport Pavements    **Date:** 10/10/2014    **AC No:** 150/5380-6C  
**Initiated by:** AAS-100    **Change:**

- 1. Purpose.** This advisory circular (AC) provides guidelines and procedures for maintaining airport pavements.
- 2. Cancellation.** This AC cancels AC 150/5380-6B, Guidelines and Procedures for Maintenance of Airport Pavements, dated September 28, 2007.
- 3. Application.** The guidelines and procedures contained in this AC are recommended by the Federal Aviation Administration (FAA) for the maintenance and minor repairs of airport pavements. This AC offers general guidance for maintenance and is neither binding nor regulatory.  
  
Use of this AC is not mandatory. For major maintenance projects, the airport should utilize plans and specifications developed under the direction of a pavement design engineer.  
  
For all maintenance and repair projects funded with federal grant monies through the Airport Improvement Program (AIP) and with revenue from the Passenger Facility Charge (PFC) Program, the airport must use the guidelines and specifications for materials and methods in [AC 150/5370-10, Standards for Specifying Construction of Airports](#). Pavement maintenance discussed in this AC is specific to airfield pavements. Maintenance of airport access roads and other non-aeronautical pavements may typically use state highway standards.
- 4. Principal changes.** The AC contains the following principal changes:
  - a. Revised and reformatted entire AC.
  - b. Added paragraph on operational safety on airports during construction in Chapter 1.
  - c. Simplified Chapter 2. Moved information on friction, drainage, etc., into Chapter 2.
  - d. Added paragraph on wildlife hazard attractants and mitigation with respect to drainage systems to Chapter 2.
  - e. Split Table 6-1 into two tables; updated and simplified tables for Quick Guide for Maintenance and Repair of Common Rigid Pavement Surface Problems and Quick Guide for Maintenance and Repair of Common Flexible Pavement Surface problems.

**Table 6-1. Quick guide for maintenance and repair of common flexible pavement surface problems**

<b>Problem</b>	<b>Repair</b>	<b>Probable Cause</b>
Weathering/ Oxidation	<ul style="list-style-type: none"> <li>- Apply surface treatment</li> <li>- Overlay</li> </ul>	<ul style="list-style-type: none"> <li>- Environment</li> <li>- Lack of timely surface treatments</li> </ul>
Cracks	<ul style="list-style-type: none"> <li>- Remove old sealer material if present</li> <li>- Clean and prepare cracks</li> <li>- Seal/reseal cracks</li> <li>- Joint heating may be an option for longitudinal cracks when under the direction of an engineer. (Operate heaters to avoid excessive heat on the pavement.)</li> </ul>	<ul style="list-style-type: none"> <li>- Age</li> <li>- Environmental conditions</li> <li>- Bitumen too hard or overheated in mix</li> <li>- Sealant defects (e.g., incorrect application temperature, improper sealant selection, improper crack preparation)</li> </ul>
Alligator or fatigue cracking	<ul style="list-style-type: none"> <li>- Remove and replace damaged pavement, including the base and/or subbase course if required.</li> </ul>	<ul style="list-style-type: none"> <li>- Base and/or Subgrade failure</li> <li>- Overload</li> <li>- Under-designed surface course (too thin)</li> </ul>
Patches	<ul style="list-style-type: none"> <li>- Remove/replace.</li> <li>- Repair and Resurface</li> </ul>	<ul style="list-style-type: none"> <li>- Inadequate/Improper repair detail/material</li> <li>- Age</li> </ul>
Surface irregularities (e.g., rutting, wash-boarding, birdbaths)	<ul style="list-style-type: none"> <li>- Remove and replace damaged areas</li> <li>- Surface grinding/milling</li> </ul>	<ul style="list-style-type: none"> <li>- Traffic</li> <li>- Age</li> </ul>
Loss of Skid Resistance	<ul style="list-style-type: none"> <li>- Remove rubber/surface contamination</li> <li>- Apply surface treatment</li> </ul>	<ul style="list-style-type: none"> <li>- Rubber deposits/surface contamination</li> <li>- Polished aggregate</li> <li>- Improper surface treatment</li> </ul>
Bleeding	<ul style="list-style-type: none"> <li>- Blot with sand and remove sand prior to resuming aircraft operations. Excessive bleeding may require removal and replacement of pavement.</li> </ul>	<ul style="list-style-type: none"> <li>- Overly rich mix/low air void content. Bleeding may be a precursor to other surface deformities forming, e.g., rutting, wash-boarding, etc.</li> </ul>
Drainage	<ul style="list-style-type: none"> <li>- Grade pavement shoulders, clear drainage path</li> <li>- Clean out drainage structures, e.g., edge drains, outfalls, etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Poor maintenance of drainage facilities</li> <li>- Poor maintenance of grade</li> </ul>

**Table 6-2. Quick guide for maintenance and repair of common rigid pavement surface problems**

<b>Problem</b>	<b>Repair</b>	<b>Probable Cause</b>
Joint sealant damage	- Remove old sealant, clean joints, reseal	- Age - Environmental conditions - Sealant defects (e.g., incorrect application temperature, improper sealant selection, improper joint preparation)
Cracks	- Clean and seal cracks - Repair/replace slab - Evaluate adequacy of pavement structure; may require strengthening	- Loss of slab support - Load repetition; curling stresses; and shrinkage stresses
Corner Breaks	- Seal and maintain until full depth patch	- Loss of slab support - Load repetition and curling stresses
Joint spalling	- Remove loose material; refill with approved product; reseal - Partial depth repair	- Latent defects, i.e., excessive finishing - Incompressible matter in joint spaces - Snow plow damage
Slab blowup	- Replace slab in blowup area; clean and reseal joints.	- Incompressible material in joints preventing slab from expanding
Loss of Skid Resistance	- Remove rubber/surface contamination. - Grinding.	- Rubber deposits/surface contamination - Age, i.e., surface wear
Drainage	- Grade pavement shoulders, clear drainage path - Clean out drainage structures, e.g., edge drains, outfalls, etc.	- Poor maintenance of drainage facilities - Poor maintenance of grade
Popouts	- Remove FOD	- Material
Patches	- Remove/replace	- Inadequate/Improper repair detail/material - Age