

# FAA Standard Specifications & Their Application to GA Airports

*AC 150/5370-10 and 150/5100-13*

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## NPIAS Airports

Table 2: Activity and Development at NPIAS Airports

| Airport Category            | Number of Airports | Percentage of Airports | Percentage of Paved Runways | Percentage of 2021 Total Enplanements | Percentage of All Active GA Aircraft | Percentage of Total Operations | Percentage of NPIAS Cost |
|-----------------------------|--------------------|------------------------|-----------------------------|---------------------------------------|--------------------------------------|--------------------------------|--------------------------|
| Large Hub                   | 30                 | 1                      | 2                           | 69                                    | 1                                    | 10                             | 32.0                     |
| Medium Hub                  | 35                 | 1                      | 2                           | 18                                    | 2                                    | 5                              | 14.9                     |
| Small Hub                   | 80                 | 2                      | 4                           | 9                                     | 5                                    | 7                              | 9.7                      |
| Nonhub                      | 238                | 7                      | 9                           | 3                                     | 10                                   | 10                             | 12.2                     |
| <b>Primary Subtotal</b>     | <b>383</b>         | <b>11</b>              | <b>17</b>                   | <b>99</b>                             | <b>18</b>                            | <b>32</b>                      | <b>68.8</b>              |
| National                    | 107                | 3                      | 4                           |                                       | 12                                   | 11                             | 5.3                      |
| Regional                    | 501                | 15                     | 17                          |                                       | 22                                   | 25                             | 9.0                      |
| Local                       | 1,179              | 36                     | 34                          |                                       | 20                                   | 23                             | 10.3                     |
| Basic                       | 904                | 28                     | 23                          |                                       | 3                                    | 7                              | 6.0                      |
| Unclassified                | 213                | 7                      | 5                           |                                       | 1                                    | 2                              | 0                        |
| <b>Nonprimary Subtotal</b>  | <b>2,904</b>       | <b>89</b>              | <b>83</b>                   | <b>0.07</b>                           | <b>58</b>                            | <b>68</b>                      | <b>30.6</b>              |
| <b>Total NPIAS Airports</b> | <b>3,287</b>       | <b>100</b>             | <b>100</b>                  | <b>100</b>                            | <b>76</b>                            | <b>100</b>                     | <b>100</b>               |

<sup>1</sup>Based on active general aviation fleet 204,380 aircraft in 2020. The remaining aircraft are based at other, non-NPIAS airports.



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## Regulatory Authority for FAA Specifications

### 49 USC § 47105

#### **(b) – An application for a project grant under this subchapter-**

*(3) May propose airport development only if the development complies with standards the Secretary prescribes or approves, including standards for site location, airport layout, site preparation, paving, lighting, and safety of approaches*

- **AC 150/5370-10H is the Secretary approved standard for construction**

- FAA has the authority to approve modifications to FAA standards which then become Secretary approved
  - **FAA Order 5300.1G Modifications to Agency Airport Design, Construction, and Equipment Standards**



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## Regulatory Authority for FAA Specifications

### 49 USC § 47105

#### **(c) – State Standards for Airport Development-**

*(1) The Secretary may approve standards (except standards for safety of approaches) that a **State prescribes for airport development at nonprimary public-use airports** in the State. On approval under this subsection, a State's standards apply to the nonprimary public-use airports in the State instead of the comparable standards prescribed by the Secretary under subsection (b)(3) of this section. The Secretary, or the State with the approval of the Secretary, may revise standards approved under this subsection.*

- **AC 150/5300-13C Development of State Aviation Standards for Airport Construction**



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## Regulatory Authority for FAA Specifications

### 49 USC § 47114 (d)

**(5) – The Secretary shall use the highway specifications of a State for airfield pavement construction and improvement using funds made available under this subsection at nonprimary airports serving aircraft that do not exceed 60,000 pounds gross weight if-**

*(A) Such State requests the use of such specifications; and*

*(B) The Secretary determines that-*

*(i) Safety will not be negatively affected; and*

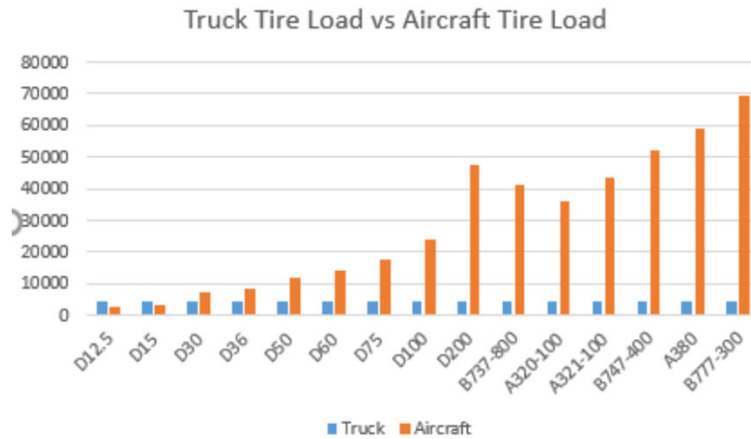
*(ii) The life of the pavement, with necessary maintenance and upkeep, will not be shorter than it would be if constructed using Administration standards.*

- **AC 150/5300-13C Development of State Aviation Standards for Airport Construction**



## Airport vs. Highway Standards

**Highway materials are not engineered to withstand the loads and traffic airfield pavement experiences. They also don't provide a FOD resistant pavement.**



## Weight Isn't Everything

| Aircraft             | Gross Weight (lbs) | Tire Pressure (PSI) |
|----------------------|--------------------|---------------------|
| Learjet 35/36        | 18,000             | 171                 |
| Learjet 45/55        | 21,500             | 201                 |
| Cessna Citation X    | 36,000             | 189                 |
| Dassault Falcon 2000 | 35,000             | 197                 |
| Dassault Falcon 50   | 38,800             | 208                 |
| Gulfstream G-II      | 66,000             | 160                 |



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## AC 150/5370-10H *Standard Specifications for Construction of Airports*

- **Released 12/21/2018**
- **Last Errata Issued 8/19/2020**
  - Note that errata does not change date on AC
  - Make sure you are using the latest version with every project
  - [https://www.faa.gov/airports/resources/advisory\\_circulars/index.cfm/go/document.information/documentID/1035128](https://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.information/documentID/1035128)



U.S. Department  
of Transportation  
Federal Aviation  
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### Advisory Circular

Subject: Standard Specifications for  
Construction of Airports

Date: 12/21/2018

AC No: 150/5370-10H

Initiated By: AAS-100

Change:



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## **AC 150/5370-10H Standards for Specifying Construction of Airports**

- Part 1 – General Contract Provisions
- Part 2 – General Construction Items
- Part 3 – Sitework
- Part 4 – Base Courses
- Part 5 – Stabilized Base Courses
- Part 6 – Flexible Pavements
- Part 7 – Rigid Pavement
- Part 8 – Surface Treatments
- Part 9 - Miscellaneous
- Part 10 – Fencing
- Part 11 – Drainage
- Part 12 – Turfing
- Part 13 – Lighting Installation



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### **Part 1 - General Contract Provisions**

- Section 10 – Definition of Terms
- Section 20 – Proposal Requirements and Conditions
- Section 30 – Award and Execution of Contract
- Section 40 – Scope of Work
- Section 50 – Control of Work
- Section 60 – Control of Materials
- Section 70 – Legal Regulations and Responsibility to Public
- Section 80 – Execution and Progress
- Section 90 – Measurement and Payment



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## Part 2 - General Construction Items

- **Item C-100 Contractor Quality Control Program (CQCP)**
- **Item C-102 Temporary Air and Water Pollution, Soil Erosion and Siltation Control**
- **Item C-105 Mobilization**
- **Item C-110 Method of Estimating Percent of Material Within Specification Limits (PWL)**



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## Part 3 - Sitework

- **Item P-101 Preparation/Removal of Existing Pavement**
- **Item P-151 Clearing and Grubbing**
- **Item P-152 Excavation, Subgrade, and Embankment**
- **Item P-153 Controlled Low-Strength Materials (CLSM)**
- **Item P-154 Subbase Course**
- **Item P-155 Lime-Treated Subgrade**
- **Item P-156 Cement Treated Subgrade**
- **Item P-157 [ Cement ][ Lime ] Kiln Dust Treated Subgrade**
- **Item P-158 Fly Ash Treated Subgrade**



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## Part 4 – Base Courses

- Item P-207 In-place Full Depth Reclamation (FDR) Recycled Asphalt Base Course
- Item P-208 Aggregate Base Course
- Item P-209 Crushed Aggregate Base Course
- Item P-210 Caliche Base Course
- Item P-211 Lime Rock Base Course
- Item P-212 Shell Base Course
- Item P-213 Sand-Clay Base Course
- Item P-217 Aggregate-Turf Runway/Taxiway
- Item P-219 Recycled Concrete Aggregate Base Course
- Item P-220 Cement Treated Soil Base Course



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## Part 5 – Stabilized Base Courses

- Item P-304 Cement-Treated Aggregate Base Course (CTB)
- Item P-306 Lean Concrete Base Course
- Item P-307 Cement Treated Permeable Base Course (CTPB)



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## **Part 7 – Rigid Pavement**

- **Item P-501 Cement Concrete Pavement**



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## **Part 9 – Miscellaneous**

- **Item P-604 Compression Joint Seals for Concrete Pavement**
- **Item P-605 Joint Sealants for Pavements**
- **Item P-610 Concrete for Miscellaneous Structures**
- **Item P-620 Runway and Taxiway Marking**
- **Item P-621 Saw-Cut Grooves**



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## AC 150/5300-13C *Development of State Aviation Standards for Airport Construction*

- Released 12/6/2019
- [https://www.faa.gov/airports/resources/advisory\\_circulars/index.cfm/go/document.information/documentID/1036953](https://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.information/documentID/1036953)



U.S. Department  
of Transportation  
Federal Aviation  
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### Advisory Circular

Subject: Development of State Aviation  
Standards for Airport Pavement Construction

Date: 12/6/2019  
Initiated By: AAS-100

AC No: 150/5100-13C  
Change:



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## State Aviation Standards for Airport Pavement Construction

**1.2 Applicable Standards** *State Aviation Standards may be developed for airport pavement and related construction specifications for: subgrade, sub-base, base, pavement surface and related materials, drainage, fencing and turf.*

- **1.2.1 Construction Standards** *relate primarily to preparation of project specifications including materials and methods employed in the construction of airport pavements where aircraft operate.*

*The starting point for State Aviation Standards for Construction is AC 150/5370-10 Standard Specifications for Construction of Airports.*



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## State Aviation Standards for Airport Pavement Construction

### 1.4 FAA Approval of State Aviation Standards for Construction

*To request approval of use of State Aviation Standards:*

1. *The State submits for approval a copy of the proposed State Aviation Standards to the FAA Airport District Office or Regional Office for those Regions without Airport District Offices. The State must assure to the Secretary that:*
  - a) *Safety will not be negatively affected, and*
  - b) *The life of the airport pavement, with necessary maintenance and upkeep, will not be shorter than it would be if constructed using FAA Standards.*
2. *The FAA ADO forwards the request with recommended FAA action to RO.*
3. *The FAA RO forwards the request with recommended FAA action to AAS-1*
4. *The Director of the FAA Office of Airport Safety and Standards (AAS-1) will then issue an approval letter to the State. (if the standards are deemed acceptable to the FAA)*



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## State Aviation Standards for Airport Pavement Construction

### 1.5 Use of State Aviation Standards for Airport Pavement Construction

*Once approved by AAS-1, State Aviation Standards for Airport Pavement Construction may be used at any nonprimary public-use airport in the State for which the State Aviation Standards were approved.*

### 1.6 Revision of State Aviation Standards for Airport Pavement Construction

*The State may submit revisions to approved State Aviation Standards for Construction when deemed necessary, per the process under paragraph 1.4.*

### 1.7 Update of State Aviation Standards for Airport Pavement Construction

*The State must submit any updates to State Aviation Standards for Construction to the FAA approval within one year of any proposed update to underlying specifications that the State Aviation Standard is based upon*



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## State Aviation Standards for Airport Pavement Construction

- **Current states that have approved State Aviation Standards**
  - Wisconsin
  - Illinois
- **Several states have expressed interest in developing State Aviation Standards.**



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## Use of State Highway Material Specifications on Airports

### 2.1 General

*2. State Highway Material Specifications may be used at nonprimary public-use airports serving aircraft less than 60,000 pounds, if:*

- a. The State where the Airport project is located has requested and received FAA approval to use State Highway Material Specifications; or*
- b. An individual airport has an approved modification to standards to utilize State Highway Material Specifications in accordance with FAA Order 5300.1.*



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## Use of State Highway Material Specifications on Airports

### Notes about using State Highway Material Specifications

- Individual State Highway Material specifications are often not compatible with FAA projects without some modification to address
  - Terminology
  - Materials
  - Quality Control
  - Quality Assurance
  - Measurement and payment
- It is recommended to follow the format of AC 150/5370-10 when editing the pavement specifications to utilize materials meeting State Highway Specifications.
- DO NOT just write a “spec” that references a State Highway Material Specification. At a minimum include a copy of the reference spec.
- State Highway Paving Specifications are rarely the only specs on a project.



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## Use of State Highway Material Specifications on Airports

- Approval, Revision, and update to State Highway Material Specifications follows the same process as State Aviation Standards.
- To date no State has received approval to use State Highway Material Specifications.
- Some individual airports and projects have received approved MOS's to use state highway specifications.



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