



Thin Bituminous Surface Runways

Advisory Circular 300-021

Presented by Drew Dutton



Transport
Canada

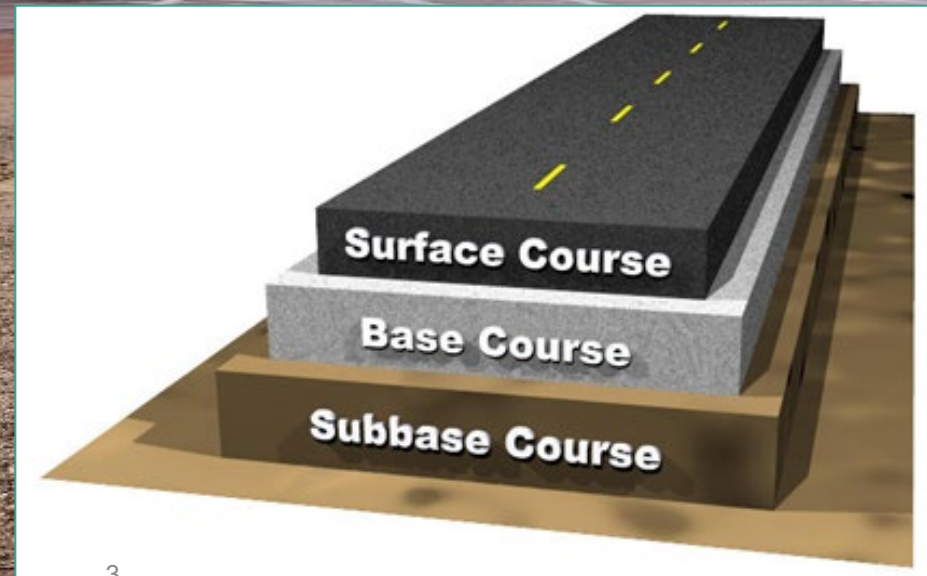
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Canada

- **Background**
- AC 300-021
- Next steps
- Questions

What is pavement?

- Pavement is an engineered structure which transmits vehicular load to the underlying sub-grade



Background

TP312 5th edition

AERODROME STANDARDS **and RECOMMENDED** **PRACTICES**

Land Aerodromes

5th Edition

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Advisory Circular

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Background cont'd

- AC 300-004 defines **Unpaved Runway Surface** as *“a runway surface comprised of gravel, turf, clay or hard packed soil mixtures. Unpaved runway surfaces can be manually constructed pavements or naturally occurring unprepared surfaces.”*
- AC 300-004 defines **Surface Treated Runway** as *“a gravel pavement structure covered with a thin layer of asphalt stabilized material to prevent the penetration of water and facilitate drainage.”*



Background cont'd

- Government of Saskatchewan requested consideration of their sealed granular pavement
- Several runways in operation over the past 20 years
- State practice review concluded use of TBS prevalent in Australia including for use by A320 and 737-800



Background cont'd

- Transportation Association of Canada recognizes 3 classes of Thin Bituminous Surfaces (TBS)
 - Class 1 (surface treatment applied directly to unimproved subgrade)
 - Class 2 (light duty treatment applied on top of minimal prepared base)
 - Class 3 (treatment applied on top of a designed and prepared base)



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- AC effective 10 June 2022
- Defines acceptable TBS pavements
- Specifies:
 - Strength measurement and reporting
 - Friction Measurement
 - Pavement Markings
- Provides guidance on construction and maintenance best practice



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- Two layers (25-30 mm total)
- Asphalt emulsion
- Graded aggregate
- Engineered base and subbase







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- TBS runway strength should be reported as a Pavement Classification Number (PCN)
 - Specify pavement type as flexible, and include a note to indicate TBS
- Publication of the surface type as 'Paved – TBS' in the Canada Flight Supplement
- Supporting CBR values may also be included in publication

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9.1.2 Pavements

9.1.2.1 For a runway serving turbojet aircraft, measurements of the friction characteristics of a runway surface are made periodically with a continuous friction-measuring device using self-wetting features.

Note: New, reconstructed or resurfaced paved runways would typically have friction characteristics measured prior to or as soon as possible following the return to service to establish a baseline for trend measurements of friction characteristics.

9.1.2.2 Corrective maintenance action is taken when:

- (a) the average coefficient of friction (COF) for the entire runway is below 0.50; or
- (b) any portions of a runway surface that are 100 m or greater in length have an average COF less than 0.30.

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Next Steps

- Aerodrome operator decision
- Monitoring and feedback
- Incorporation into next amendment of TP 312



QUESTIONS?