

MEMORANDUM

State of Alaska

Department of Transportation & Public Facilities
Office of the Commissioner

TO: Distribution

DATE: August 2, 2013

FROM: K. Kim Rice, P.E.
Deputy Commissioner

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SUBJECT: Hard Aggregate Usage
Policy

PURPOSE

Studded tire surface abrasion is a contributor to surface rutting on Alaskan pavements. Scandinavian and Alaskan research has shown that the use of hard aggregate in the asphalt concrete wearing course is the single most important factor to minimize studded tire surface wear.

POLICY

It is the policy of the department to require the use of hard aggregate in the wearing surface of high volume roadways ($\geq 5,000$ AADT/lane) exhibiting studded-tire wear. The intent of this policy is to cost-effectively improve rut resistance and prolong the life of roadway surfaces.

Hard aggregate may also be used in the wearing course when the "AADT per lane" is lower than 5,000, if there is a history of pavement rutting due to studded tire wear or when repaving an existing wearing course that incorporates hard aggregate.

Hard aggregate is not required for: temporary paving, or if it is expected to be replaced within five years, or where the roadway is underlain with unstable foundation, or where it can be demonstrated that studded tire abrasion is not a significant cause of rutting.

Definitions

Hard Aggregate: Hard coarse aggregate with a Nordic Abrasion Value (ATM 312) of 8.0% or less

High Volume Roadway: Annual Average Daily Traffic per lane in the construction year of at least 5,000. ($\geq 5,000$ AADT/lane in the construction year)

Resources and Studies

- AKDOT&PF, Cost Effectiveness of Hard Aggregate Sources, Prepared by Quality Engineering Solutions, Inc.; Report No. FHWA-AK-RD-02-10; June 2003. http://www.dot.state.ak.us/stwddes/research/assets/pdf/fhwa_ak_rd_02_10.pdf
- AKDOT&PF, Statewide Material Site Inventory, Site Inspections & Geological Investigations, Hard Aggregate Study; Prepared by R&M Consultants, Inc.; Project Number: STP-000S(823)/76149; July, 2013. http://www.dot.state.ak.us/stwddes/desmaterials/assets/pdf/hard_ashpalt_aggregate_study/hard_aggregate_all.pdf

Timeline and Effective Date

This policy is in effect for all applicable highway paving projects advertised or scheduled after January 1, 2014.

This policy will remain in effect until: Superseded by a new policy; formalized as a Departmental Policy and Procedure; or incorporated as a “Hard Aggregate Usage Policy” in the “Alaska Flexible Pavement Design” manual, under Chapter 2 titled “Policies and Required Considerations in the Pavement Design Process”:

<http://www.dot.state.ak.us/stwddes/desmaterials/assets/pdf/pvmtdesign/ch2.pdf>

(It can be added as “General Policy 14” (GP-14).)

IMPLEMENTATION RESPONSIBILITY

Regional Directors

DISTRIBUTION

All department employees via the DOT&PF website