

USE IN ALL TENDERS SPECIFYING ASPHALT CONCRETE PAVEMENT (EPS)

(i) **AMENDMENT TO SPECIFICATION 3.50, ASPHALT CONCRETE PAVEMENT (EPS), RE: MOISTURE SUSCEPTIBILITY TESTING AND DESIGN CRITERIA**

Subsection 3.50.3.2, **Requirements for Mix Design**, is revised as follows:

i) The first paragraph is replaced with the following:

Asphalt mix designs shall follow the Marshall method of Mix Design as described in design procedure TLT-301. The mix design, at the Design Asphalt Content, shall meet the requirements in Table 3.50.3.2 for the Asphalt Concrete Mix Type specified, and the following.

All mixes shall be evaluated for moisture susceptibility in accordance with AASHTO test procedure T-283, Resistance of Compacted Bituminous Mixture to Moisture Induced Damage, using either gyratory or Marshall compacted specimens. All specimens shall be formed using the same procedure. All mix design submissions shall include the test results as outlined in test procedure T-283, including the visual estimate of the degree of moisture damage.

The target minimum value for Tensile Strength Ratio (TSR) shall be 75%. Mixes with a TSR value meeting the target minimum will be considered suitable for mix production and will not require the use of a liquid anti-strip additive. In such case, the Contractor may, at his option, elect to still use an anti-strip additive. All costs associated with the use of an anti-strip additive in these cases shall be at the Contractor's expense, and no separate or additional payment will be made by the Department..

Mixes with a TSR value less than the target minimum shall be treated with a liquid anti-strip additive at an additive rate of not less than 0.4% and not greater than 0.8% by weight of binder, and re-tested for moisture susceptibility. The treated mix will be considered suitable for mix production if the TSR value is 60% or higher, and is improved over the untreated TSR value. If the TSR value for the treated mix is less than 60% or less than the untreated TSR value, the mix will be considered unsuitable and shall not be used for mix production.

Liquid anti-strip additives acceptable for use are listed on the Alberta Transportation Products List. Warm Mix Asphalt (WMA) chemical products which display anti-stripping characteristics and are listed on the Alberta Transportation Products List will be treated as a liquid anti-strip additive for payment purposes.

When a liquid anti-strip additive is used, the Contractor shall include the following information with the mix design submission:

- *Full details on the type of liquid anti-strip additive to be supplied, including product name, product manufacturer/supplier*
- *Additive rate*
- *TSR values for the treated and untreated mixes*

- *The proposed method for incorporating the additive into the plant produced mix.*

When the liquid anti-strip additive is added to the asphalt cement at the mixing plant, a separate pumping and metering system calibrated and electronically interlocked with the operating controls of the mixing plant shall be used. The Contractor shall have the necessary procedures in-place to safely sample the treated asphalt including, where practicable, an in-line valve and sampling system.

Where moisture susceptibility test results indicate that the use of a liquid anti-strip additive is required, measurement of liquid anti-strip additive incorporated into the mix will be on a per kilogram basis. The Contractor shall supply the Consultant with a copy of all invoices or bills of lading for the anti-strip additive.

Payment for liquid anti-strip additive will be made at the rate shown in the Special Provisions. This payment will be full compensation for the supply and incorporation of the anti-strip additive into the asphalt mix; including all labour, equipment, tools and incidentals necessary.

- ii) The “Retained Stability % (min)” column is deleted from **Table 3.50.3.2 Asphalt Concrete Mix Types and Characteristics**.

THE FOLLOWING SPECIAL PROVISION IS TO BE INCLUDED IN ALL TENDERS USING THE ABOVE SPECIFICATION AMENDMENT:

(ii) **PAYMENT FOR THE SUPPLY OF LIQUID ANTI-STRIP ADDITIVE**

Payment for the supply of liquid anti-strip additive where required based on the results of moisture susceptibility testing, will be made at the rate of \$9.00 per kg.