




Minnesota Department of Transportation

**Memo**

May 26, 2009

To: Mn/DOT Construction Managers, Resident Engineers, Materials Engineers, Project Engineers/Supervisors, Lab Chiefs

From:  Bernie Arseneau, Division Director  
Policy, Safety and Strategic Initiatives Division

Robert C. Winter, Division Director   
Operations Division

Subject: Incorporation of Tear-Off Shingle Scrap in Asphalt Paving,  
2009 Season

In 1995, Mn/DOT provided the opportunity to use ground shingle manufacture waste into asphalt paving. The current asphalt paving specification allows up to 5% ground shingle manufacture waste and when used in combination with conventional RAP, requires that no less than 70% of the asphalt cement in the mixture come from a non-recycle source.

Within the last year, several recycling operations have developed the ability to sort and process tear-off shingle scrap. (TOSS) The resulting product has similar characteristics to the manufacture waste. The TOSS product contains stiffer asphalt at a slightly higher percentage due to aging and the loss of granules. Test sections have been built with this product within the last few years including the shoulder paving at the Mn/ROAD facility last year. Preliminary lab studies at the Office of Materials and Road Research have shown that acceptable mixtures can be produced using the TOSS product. Other states, such as Missouri and Wisconsin, have permissive specifications for the use of TOSS in asphalt paving.

Working with the MPCA, a protocol has been developed for the TOSS processors to submit a Quality Control plan that addresses limitations on the source of the scrap shingles, requires testing for asbestos and documents processing into a product suitable for asphalt paving applications including the removal of deleterious materials. It is anticipated that three to six companies will be submitting Quality Control plans to obtain MPCA approval. Concurrent to obtaining approval of their Quality Control plans, the shingle processors will be working with asphalt mix producers to develop mix designs.

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**Asphalt paving contractors will be submitting proposals to project personnel for the use of TOSS in their mixes. The use of TOSS from an approved facility is strongly encouraged on Mn/DOT projects. This is most easily achieved using the current language for manufacturer waste and Standard Specification 1605, Substitute Materials. TOSS uses for consideration should include temporary work, shoulders, non-wear layers and wear layers on low volume facilities. Project personnel should work with their District Materials Engineer and the Office of Materials and Road Research Bituminous Unit to evaluate all proposed uses of TOSS paving mixtures. This season's efforts will provide a framework for proper incorporation into specifications for the 2010 season.**

**CC:**

**Representative Phil Sterner MN House**

**Paul Eger, Commissioner MPCA**

**Tim Sherkenbach, Assistant Commissioner MPCA**

**Victoria Reinhart, Ramsey County Commissioner, Vice-Chair Solid Waste Management Coordinating Board**

**County Engineers**

**City Engineers**

**Rich Wolters, Minnesota Asphalt Pavement Association**

**Scott Peterson, Mn/DOT Government Relations**