

A large pile of dark, jagged shingle scrap is being processed by a conveyor belt at a recycling facility. The conveyor belt is tilted upwards, dumping the scrap into the pile. In the background, there are trees and industrial equipment, including a green structure and a white building.

Tear-Off Shingle Scrap: The Journey

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Humble Beginnings

A photograph showing a large pile of dark, jagged shingle scrap. A green conveyor system is visible, dumping more scrap onto the pile. The background shows trees and a clear sky.

- Use of manufactured shingle scrap in bituminous begins in the early 1990s.
- MnDOT adopted a specification to allow up to 5% manufactured shingle scrap to HMA in 1996.
- Early 2000s, tear-off shingle scrap is used in research hosted by the University of New Hampshire.

Baby Steps

A large pile of dark, jagged shingle scrap (TOSS) is being processed by a conveyor belt system at a recycling facility. The conveyor belt is blue and is dumping the scrap into a large pile. The background shows trees and a building.

- Tear-off shingle scrap (TOSS) first used in 2005 in Dakota County.
- In 2007, MnDOT approved a provisional spec to allow for the use of TOSS in the Lower Afton Trail in Ramsey County.
- Hennepin County overlay in 2008
- Ramsey County overlay in 2009

Facing the Challenges



- Asbestos concerns
- Debris
- Cracking
- Mix design
- Provisional v. permissive specification
- Financial investments
- Recycling infrastructure
- Community support

Approaching the Problem

- Elected officials in the metro at the local and state levels were increasingly showing interest in TOSS.
- County Commissioners were asking staff why there wasn't a spec.
- Legislators were being asked what they could do to make a spec happen.



Industry and Government Showcases

- Dem-Con hosted a very informative demonstration to promote a private installation of TOSS in addition to the sorting, grinding and mixing of TOSS.
- The Lower Afton Trail was an excellent opportunity to highlight the use of TOSS on a pedestrian trail and to test the mix design and product quality.



Draft Legislation

- In the winter of 2008-09, Rep. Phil Sterner drafted legislation which would have required the creation of a “permissive” spec for TOSS by October 2009.
- Other legislators expressed interest in supporting this bill.



Minding Matters

A photograph showing a large pile of dark, fragmented material, likely asbestos waste, being processed by a conveyor system in an outdoor industrial setting. The material is piled high, and a conveyor belt is visible at the top, dumping more material onto the pile. The background shows trees and a clear sky.

- MnDOT hosted a meeting of at least 30 people with interest in the “permissive” spec for TOSS.
- Outcomes of the meeting included a working group on asbestos concerns and a commitment from MnDOT and metro counties to pursue additional demonstration projects for TOSS.

Competing Interests?

- Quality of pavement
- Durability of pavement
- Cost effectiveness
- Environmental protection
- Education



The Final Lap

A large pile of dark, crumbly material, likely asphalt or bitumen, is being processed by a conveyor belt system in an industrial setting. The material is piled high, and a conveyor belt is visible at the top, dumping more material onto the pile. The background shows trees and a building.

- QA/QC and certification for TOSS providers
- Response to MnDOT on paving successes and barriers
- MnDOT published draft spec on their website for TOSS this week!

www.dot.state.mn.us/materials/bituminous.html

Leading the Way

A photograph showing a large pile of dark mulch being loaded by a green excavator. The mulch is piled high, and the excavator's bucket is visible at the top. The background shows trees and a clear sky. The ground in the foreground is dark and appears to be covered in mulch or soil.

- Only 5 other states have approved the use of TOSS - SC, GA, AL, MO and WI.
- With MnDOT poised to add a “permissive” specification amendment to the spec book for 2010, MN would become the 6th state in the nation to support this significant innovation.

What's Next?

A photograph showing a large pile of dark, recycled shingles. A conveyor belt is visible at the top, dumping more shingles onto the pile. The background shows trees and a clear sky.

- Local C&D processors will start marketing TOSS.
- 150,000 tons of TOSS will be recycled over and over and over again in road material instead of wasting space in a landfill.
- Consumers who have been asking how to recycle shingles will now have a choice when they re-roof their homes.