



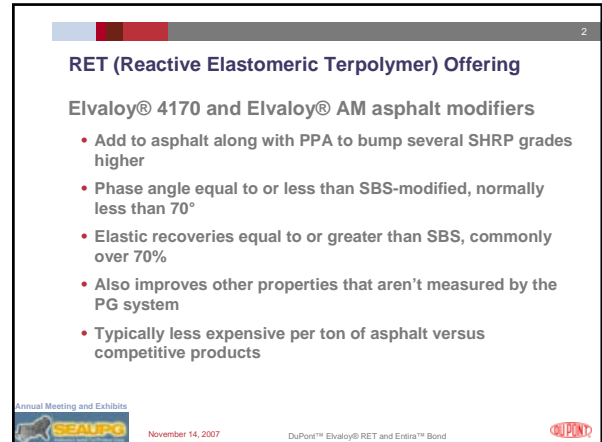
DuPont Innovative Asphalt Modifiers

How to save money with Elvaloy® RET and Entira™ Bond asphalt modifiers

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DuPont Packaging & Industrial Polymers
November 14, 2007



2007 Annual Meeting and Exhibits
San Antonio, Texas



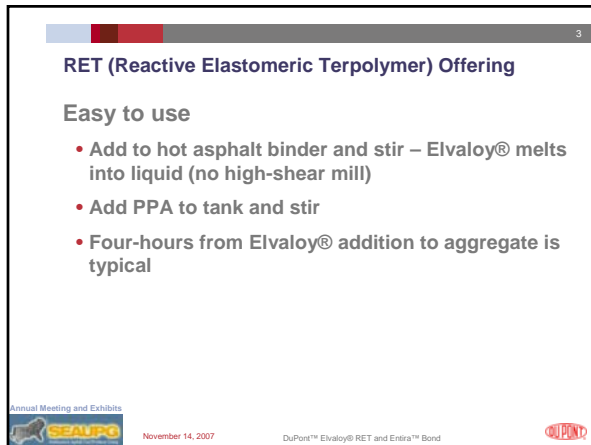
RET (Reactive Elastomeric Terpolymer) Offering

Elvaloy® 4170 and Elvaloy® AM asphalt modifiers

- Add to asphalt along with PPA to bump several SHRP grades higher
- Phase angle equal to or less than SBS-modified, normally less than 70°
- Elastic recoveries equal to or greater than SBS, commonly over 70%
- Also improves other properties that aren't measured by the PG system
- Typically less expensive per ton of asphalt versus competitive products



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DuPont™ Elvaloy® RET and Entira™ Bond



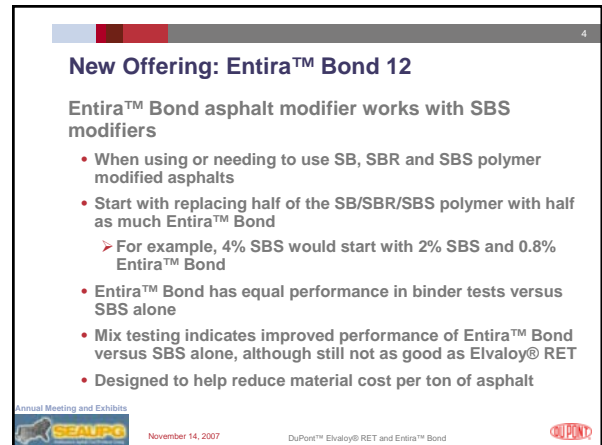
RET (Reactive Elastomeric Terpolymer) Offering

Easy to use

- Add to hot asphalt binder and stir – Elvaloy® melts into liquid (no high-shear mill)
- Add PPA to tank and stir
- Four-hours from Elvaloy® addition to aggregate is typical



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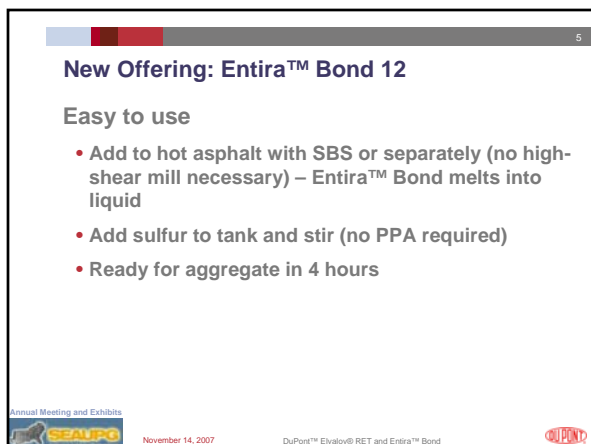
New Offering: Entira™ Bond 12

Entira™ Bond asphalt modifier works with SBS modifiers

- When using or needing to use SB, SBR and SBS polymer modified asphalts
- Start with replacing half of the SB/SBR/SBS polymer with half as much Entira™ Bond
 - For example, 4% SBS would start with 2% SBS and 0.8% Entira™ Bond
- Entira™ Bond has equal performance in binder tests versus SBS alone
- Mix testing indicates improved performance of Entira™ Bond versus SBS alone, although still not as good as Elvaloy® RET
- Designed to help reduce material cost per ton of asphalt



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DuPont™ Elvaloy® RET and Entira™ Bond



New Offering: Entira™ Bond 12

Easy to use

- Add to hot asphalt with SBS or separately (no high-shear mill necessary) – Entira™ Bond melts into liquid
- Add sulfur to tank and stir (no PPA required)
- Ready for aggregate in 4 hours

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Elvaloy® RET Other Benefits

Used in asphalt roads in United States and globally since 1991

Significantly less capital equipment than other polymer modifiers

Forms a stable product that can be stored for several months

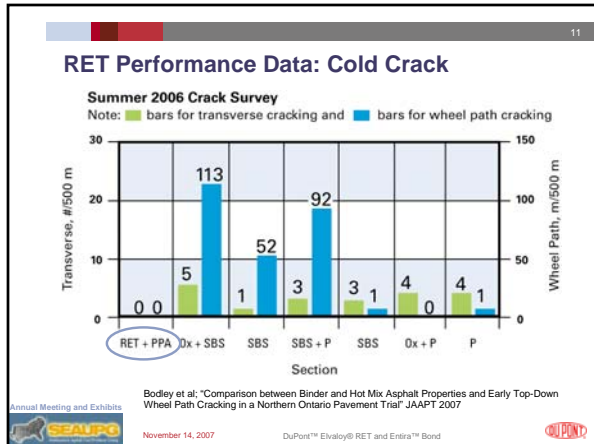
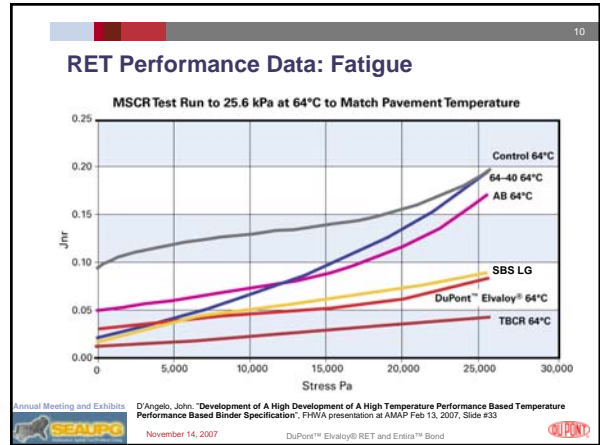
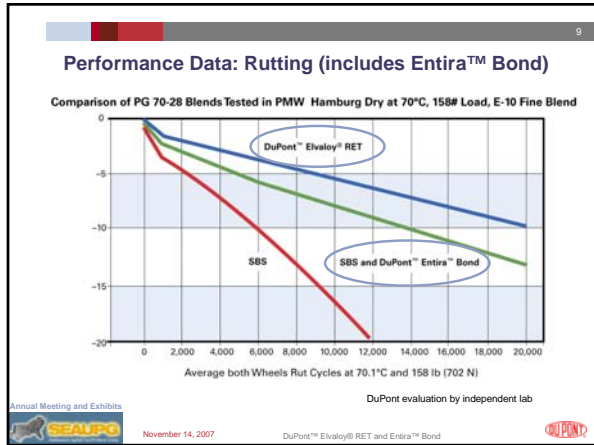
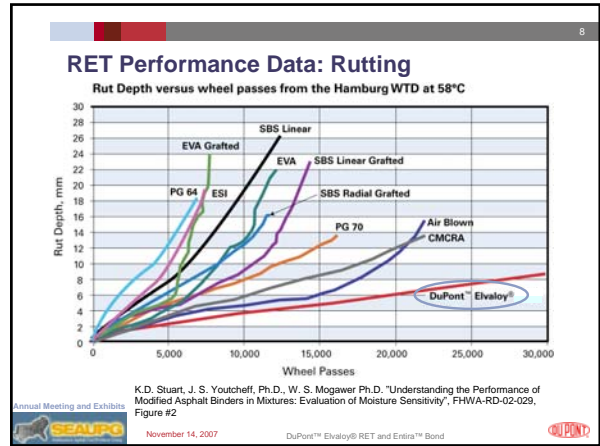
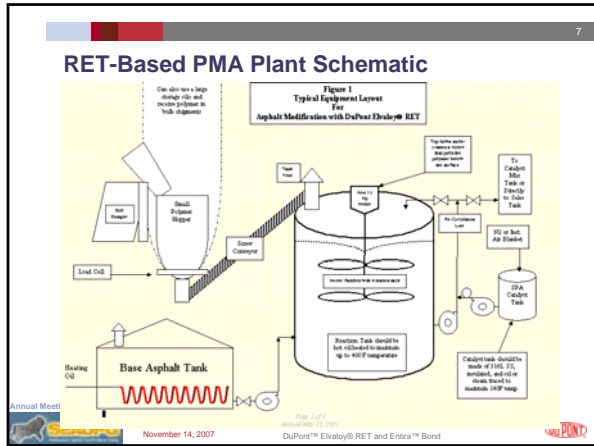
Can be easily incorporated into asphalt

Elvaloy® RET helps improve paving crew productivity

- Less sticky at paving temperatures than other polymers
- More workable at lower temperatures
 - ☐ Compactors can start sooner with less sticking, ready for traffic earlier




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Product safety information is available upon request. This information corresponds to our current knowledge on the subject. It is offered solely to provide possible suggestions for your own determination. It is not intended, however, to substitute for any testing you may need to conduct to determine for yourself the suitability of our products for your particular purposes. It is the user's responsibility to determine the level of risk and the proper protective equipment needed for the user's particular purposes. This information may be subject to revision as new knowledge and experience becomes available. Since we cannot anticipate all variations in actual end-use conditions, DUPONT MAKES NO WARRANTIES AND ASSUMES NO LIABILITY IN CONNECTION WITH ANY USE OF THIS INFORMATION. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any trademark or patent right.

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