Equipment Capabilities

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Reclaimer & Milling Machine Applications
Typical Milling Process
Milling Machines

- Built to remove asphalt with design priority given to surface pattern and material evacuation.
- Cutter tooling designed for less contact with ground surface
- Cutter Drum laced to auger material to the center for quick evacuation
- Kicker paddles in place to speed material evacuation
- Cutter Housing designed to contain removed material and quickly move to a conveyor
Milling Machine Drums

• Kicker Paddles
• Pattern to auger material to center
• Shorter Pedestals/Base Blocks
Bi-Directional Operation
Mill Cutter Housing

- Mold boards designed to keep pressure on the surface and contain material
- Max cut depth is significantly less than a standard reclaimer
Water System - Mills

- Dual Spray bars located at opposite sides of the cutter housing.

- Spray bars are ideally located for dust suppression and cooling of cutter teeth
Water System - Mills

- Mill water system is not meant as additive system
- Low flow
- No metering
A Typical CIR Process

Traffic Count determines depth of CIR and Overlay
Typical Depth = 2” (50mm) to 4” (100mm)
Mix with 3-4% emulsion, possibly add lime or cement
can also use foamed asphalt with cement
Overlay with 1.5” (35mm) HMA
Typical FDR Application
Roadtec Reclaimer-Stabilizer Product Line

SX-2e

SX-4e

SX-6e

SX-8e
Reclaimer-Stabilizers

- Built to remove material, remix, and leave a layer of uniform gradation in place
- Cutter Housing designed to easily change the volume of material traveling through the housing.
- Cutter Drum laced to auger material outward for better gradation control
- Longer pedestals
- Water system designed for precise control over flow rate to meet specified water contents for each project
Comparison of stabilizer/reclaimer and milling machine

**Reclaimer-Stabilizer**

- Breaks and mills the asphalt from underneath!
- Material stays

**Milling Machine**

- Mills the asphalt from top!
- Material is milled off
Comparing Options

Old Pavement
Rutted and cracked but structurally sound

Overlay
50% improvement on ruts, cracks reflect through

Mill and Overlay
Fixes ruts, cracks reflect through

CIR and Overlay
Fixes ruts, provides crack barrier

FDR and Overlay
Completely new base structure
Reclaimer Drums

- Much Longer Pedestals/Base Blocks
- Many different patterns but all are designed to leave material in place
- Designed for deeper cuts
Drum Comparison
Reclaimer-Stabilizer Cutter Housing

- Built to allow a variable volume of material to pass through for optimum gradation control
- Front and rear mold boards are hydraulically adjustable with a more lateral range of motion
A Typical FDR Process
Aggregate and RAP added
Curb line pre-milled with small mill
Cement Spreaders
Stabilizer
Water Additive System
Water/Emulsion Additive System

Easily control & monitor additive system parameters such as:

- Individual spray nozzle activation
- Overall system activation
- System mode selection
- Additive flow intensity
Reclaimer Water/Emulsion Additive System

System Overview

• Designed with more flexibility for use with water, emulsion, and other additives
• Suitable for both soil and asphalt
• Enhanced flow control to meet project specifications
Compaction is **Critical**

- **Initial (breakdown)**
  Single drum vibratory pad-foot Compactor

- **Intermediate**
  25-30 ton rubber tire roller or smooth single or double drum vibratory compactor

- **Finish**
  Single or double drum roller operating in static mode
Sub-grade Preparation for New Pavements

• After final grading, the sub-grade elevation should generally conform closely to the construction plan sub-grade elevation.

• Large elevation discrepancies should not be compensated for by varying pavement or base thickness because:
  – Mix is not cheap
  – Thicker areas compact more than thinner areas, which affect final pavement smoothness.
Roller Compacted Concrete