

What is RAS?

Recycled Asphalt Shingles

Type 1 RAS = Manufacturers Scrap/Pre-Consumer

Type 2 RAS = Tear-off/Post Consumer.



RAS is a product created to utilize the highly versatile and valuable components in asphalt roofing shingles. Asphalt, also known as bitumen, is a very sticky, black, highly viscous, semi solid form of petroleum. It's widely known that on average, 11 million tons of asphalt shingles are disposed of annually.

Using all of the ingredients from the chart below, the annual monetary values for 11 million tons of shingles reaches into billions of dollars, \$5,500,000. per day. *I wouldn't throw that away!*

Average Asphalt Roofing Shingle

Ingredient	%
Crushed Limestone	40
Igneous Rock	33
Bitumen	25
Fibers	2



Solid Base

Material Used: Type 1 RAS

Prep: smoothed and rolled gravel.

Application Method: asphalt paver, skid-steer.

Compaction: 20 ton vibratory roller, regular traffic.

What we've learned from both sections:

- Proper surface prepping is important.
- Material needs the heat from the sun to create a solid surface.
- Base remained successful for 20 years, top photo @ 18 years.
- Can be installed with other equipment.
- It's a beneficial and marketable product.



Gravel Stabilizer

Material Used: RAS

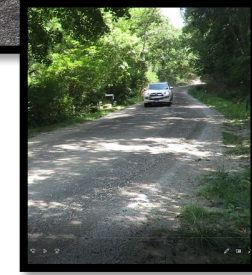
Prep: Potholes and bumps smoothed, slight crown

Application Method: tailgate dumped, Motor grader, Drag

Compaction: None, Regular Rural Traffic.

What we've noticed:

- Compacting the material with a vibratory roller may improve results
- Mix Ratio's may differ with size of aggregate.
- Installation only to be performed when area and material is dry.
- Pre-mixing may help provide a consistent application area.
- It's a beneficial and marketable product.



BiTMAX Demo

BiTMAX Specifications

Material Used:

Manufacturers Scrap: 1.5" minus
Tear-off Scrap: passing a #4 sieve.

Qty of material need:

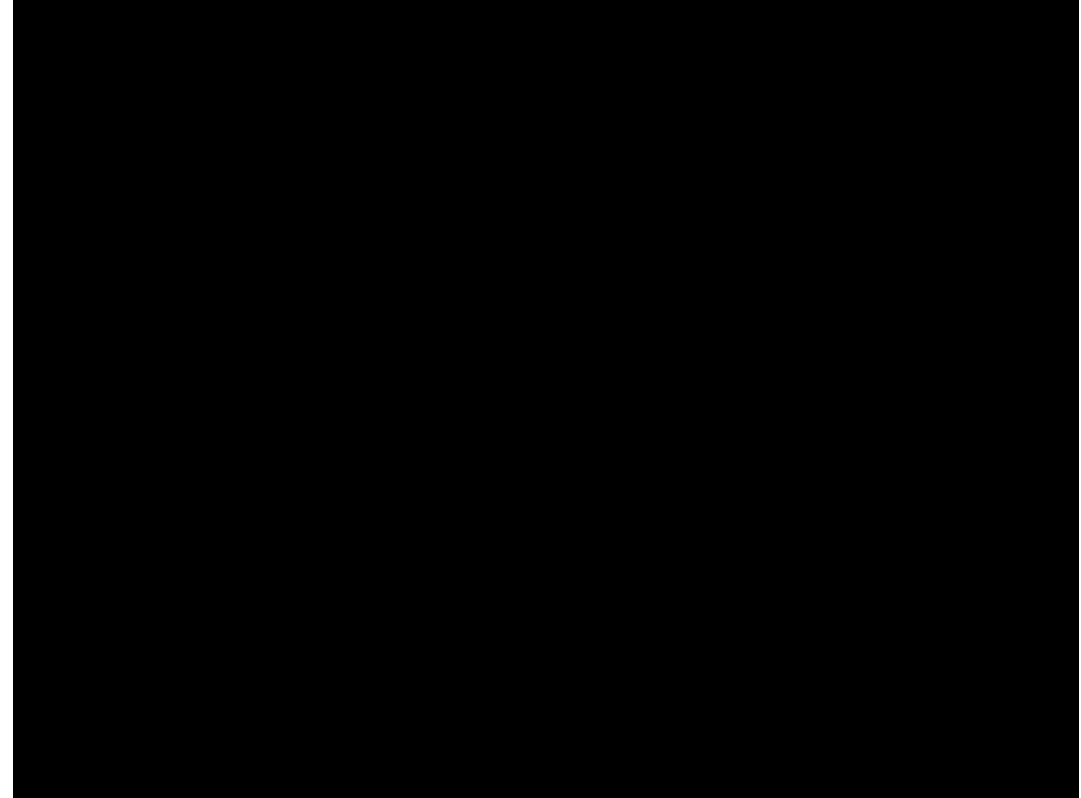
3-5 lbs. per sq. ft.
300' X 18' = 13.5 tons

Various Application Methods:

Grader, Drag, Skidsteer.

Compaction:

20 ton vibratory roller, regular traffic.



Multiple sections were laid down in front of homes. This video shows just how dramatic the reduction of dust can be.



Benefits when Using RAS for Dust Suppression / Gravel Stabilization

What we've learned:

- Stabilization for up to 4 years from just one application (photo) >
- Treated area needs less maintenance.
- Good erosion control, forms a bond with the gravel, keeping it in place.
- Environmentally friendly, ND for hazards from the following tests: SPLP PNA/PAH, VOC 8260, SVOC/PNA 8270, Pest/PCB 8081/8082, 23 metals, Cyanide, pH
- Less Dust
- Provides a smoother ride
- Reduces bumpy wash-boarding.
- 100% recycled product
- Recovers from Spring thaw quicker.
- Good money saving investment, made to last.
- Conserving/Reusing a non-renewable natural resource.
- Use on roads, road shoulders, driveways, parking lots, construction sites.



Create A Quality Product .

- Clean Feed Stock/Shingles
- Good Cleaning/Sorting
- Proper Processing Equipment
- Quality Control on Product

Market / Product Development Tips





Your Presenter

Kathy Powles

- **1999:** Recycled asphalt shingles for the 1st. time.
- **2002:** FGR received a six-figure grant, to purchase equipment and start recycling asphalt roofing shingles. 18 years later, that horizontal grinder, continues to shear asphalt roofing shingles.
- **2005:** FGR received the Outstanding Leadership in Business Recycling award from the Illinois recycling association for their efforts.
- **2013:** FGR opened their first Tear-off shingle recycling facility.
- **2021:** FGR continues to perfect all the many facets that go into creating an outstanding, dependable RAS product. We, look forward to spreading the knowledge that we have accumulated over the past 20+ years, exposing to all ,“that hear”, the usefulness of Recycled Asphalt Roofing Shingles.

Want more Join the CDRA's Shingle Recycling Committee!

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