

# *Details Count!!!*

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# *What Is a Seal Coat*

- Bituminous surface treatment
  - Heavy asphalt binder membrane
  - Followed by aggregate chip

# *Seal Coat Design*

What does this design method do

1. Gives amount of stone to cover 1 yd<sup>2</sup> a single stone thick
2. Gives starting binder application rate
  - Starting rate should yield 60 to 70% embedment

## *Seal Coat Design Summary*

- **Design for 3/8 inch chip**
  - Without design av. 30 lbs./Yd.<sup>2</sup>
  - Without design av. Binder 0.30 gal./Yd.<sup>2</sup>
  - With design av. Binder 0.36 gal./Yd.<sup>2</sup>
  - With design av. 17 lbs./Yd.<sup>2</sup>

# *Seal Coat Design Summary*

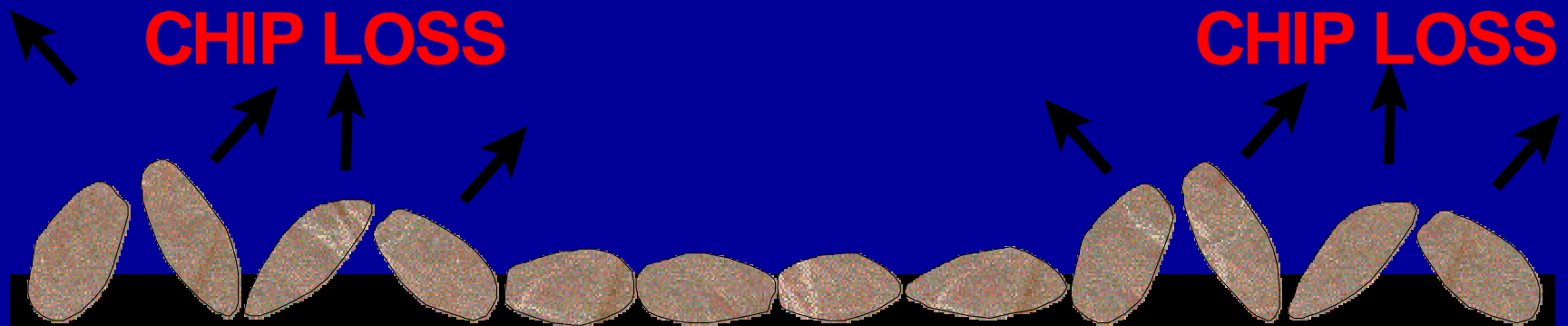
By designing and properly constructing your Seal Coats you can do more miles for less money with better results.

# *Aggregate Requirements*

- Must be clean
  - Clay free aggregate
  - Less than 1% passing #200
- Durable
  - LAR loss % max. 37%
- Flakiness index
  - Max. 25%

# *Flat Chips*

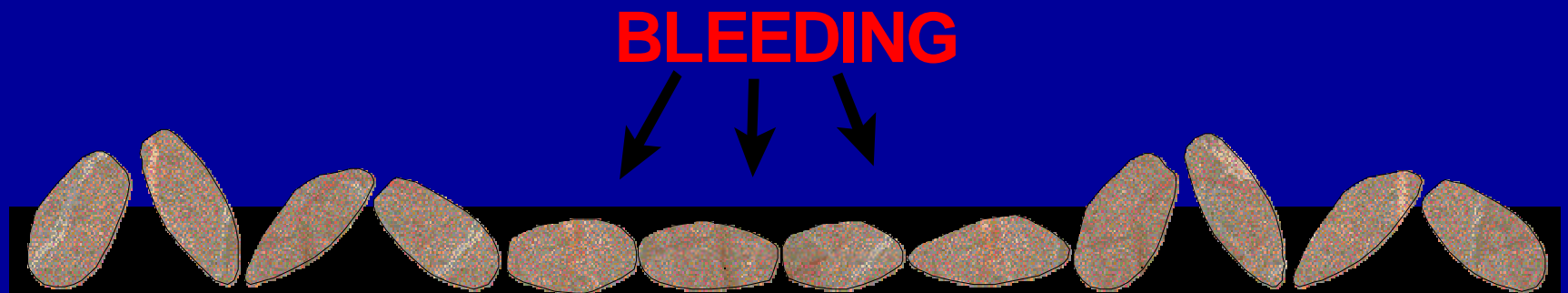
*If the seal coat is designed for chips in the wheelpaths:*



There is not enough binder in the non-traffic areas to prevent traffic and snow plows from dislodging the chips.

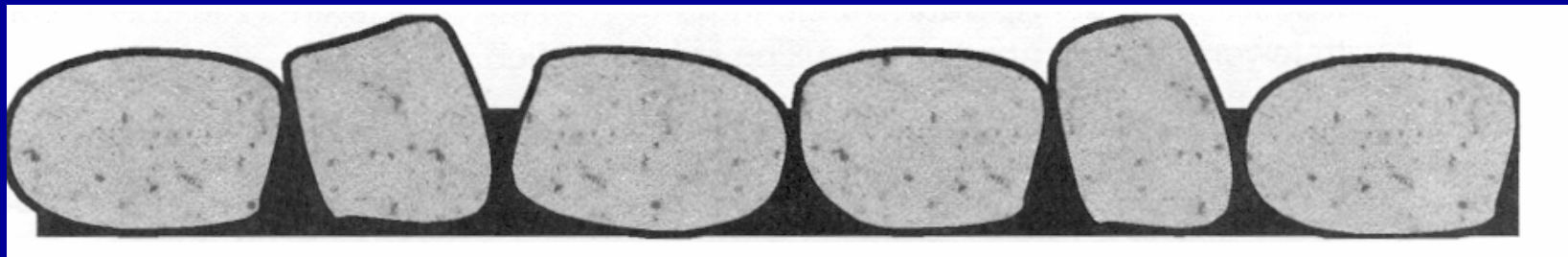
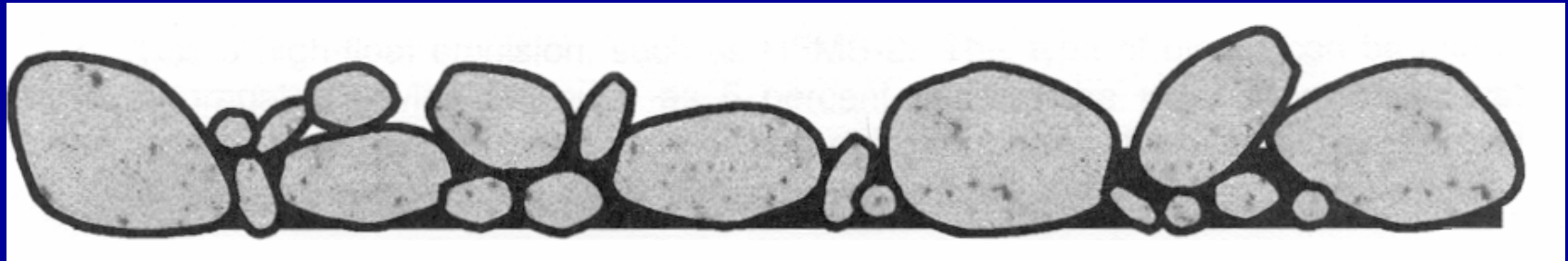
# *Flat Chips*

*If the seal coat is designed for chips in the non- traffic areas:*



There is too much binder in the wheelpaths after the flat chips lay on their flattest side.

# *Dense Graded Vs. Single Size!*



# *Advantages of Single Sized*

- Single sized aggregate
  - More uniform height
  - Weighs less per cubic foot
    - 47% passing the #4 95.7 lbs/ft<sup>3</sup>
    - 8% passing the #4 84.5 lbs/ft<sup>3</sup>
  - More room for binder

# *Binders*

- CRS-2p (cationic rapid set polymer mod.).
  - Develops strength in hrs instead of days.
  - Can be swept same day.
  - Requires use of clean aggregates.
  - Must place aggregate within 1 min. Of binder placement.
  - Eliminates bleeding.
    - Higher softening point.

# *Construction Details*

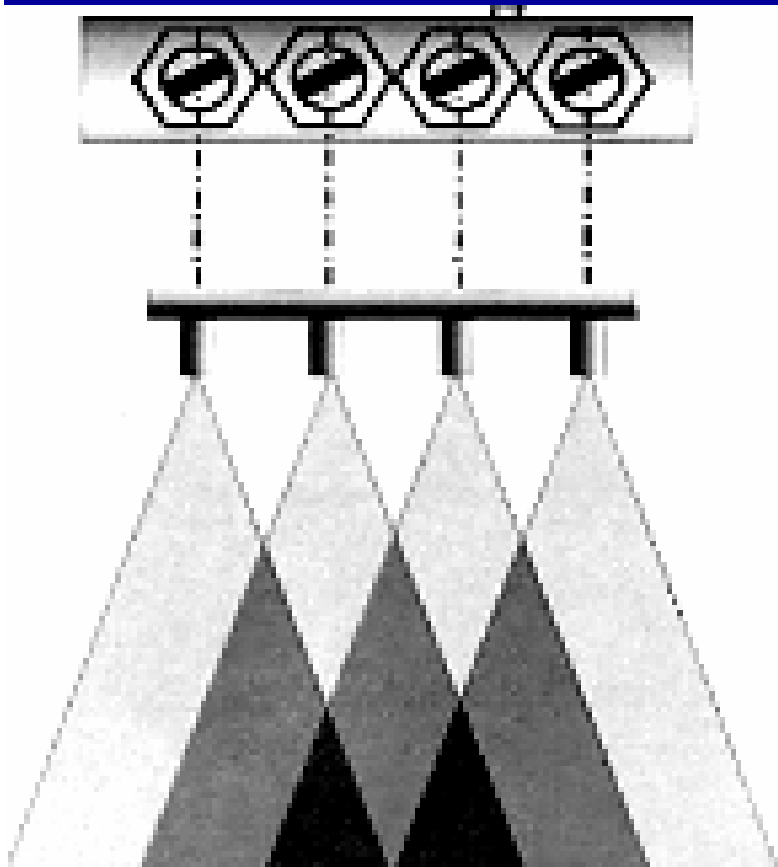


# *Distributors*



# YES

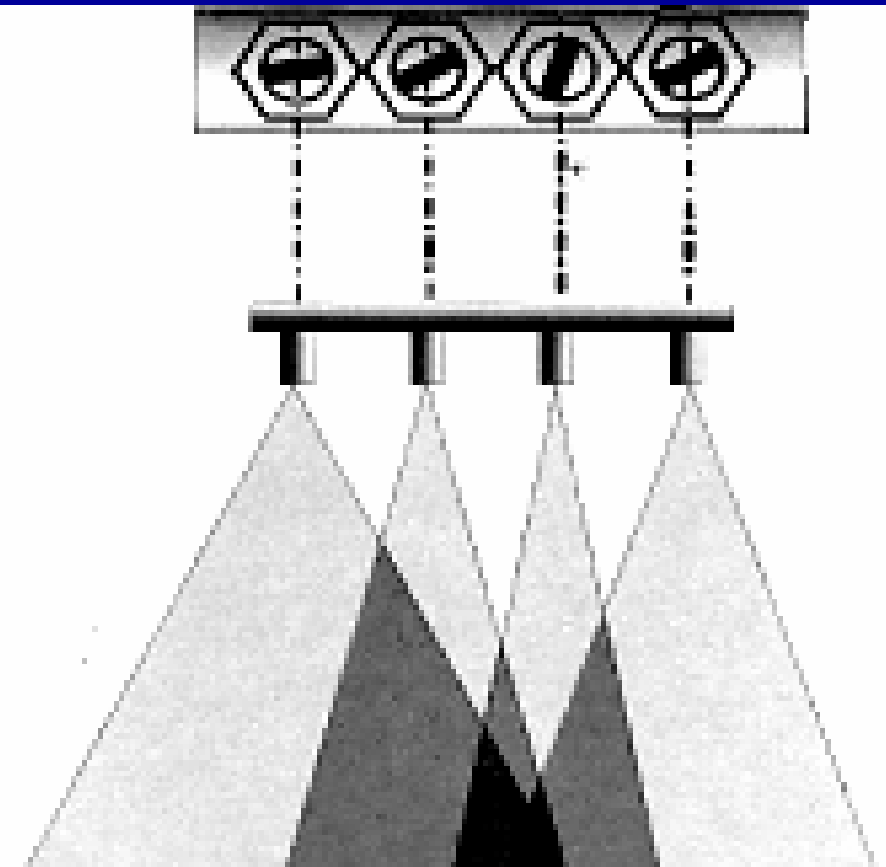
Same Angle



Fans are the same width

# NO

Different Angles



Fans are different widths





# Bar Height







# *Chip Spreaders*



***ASTM D5624-95***













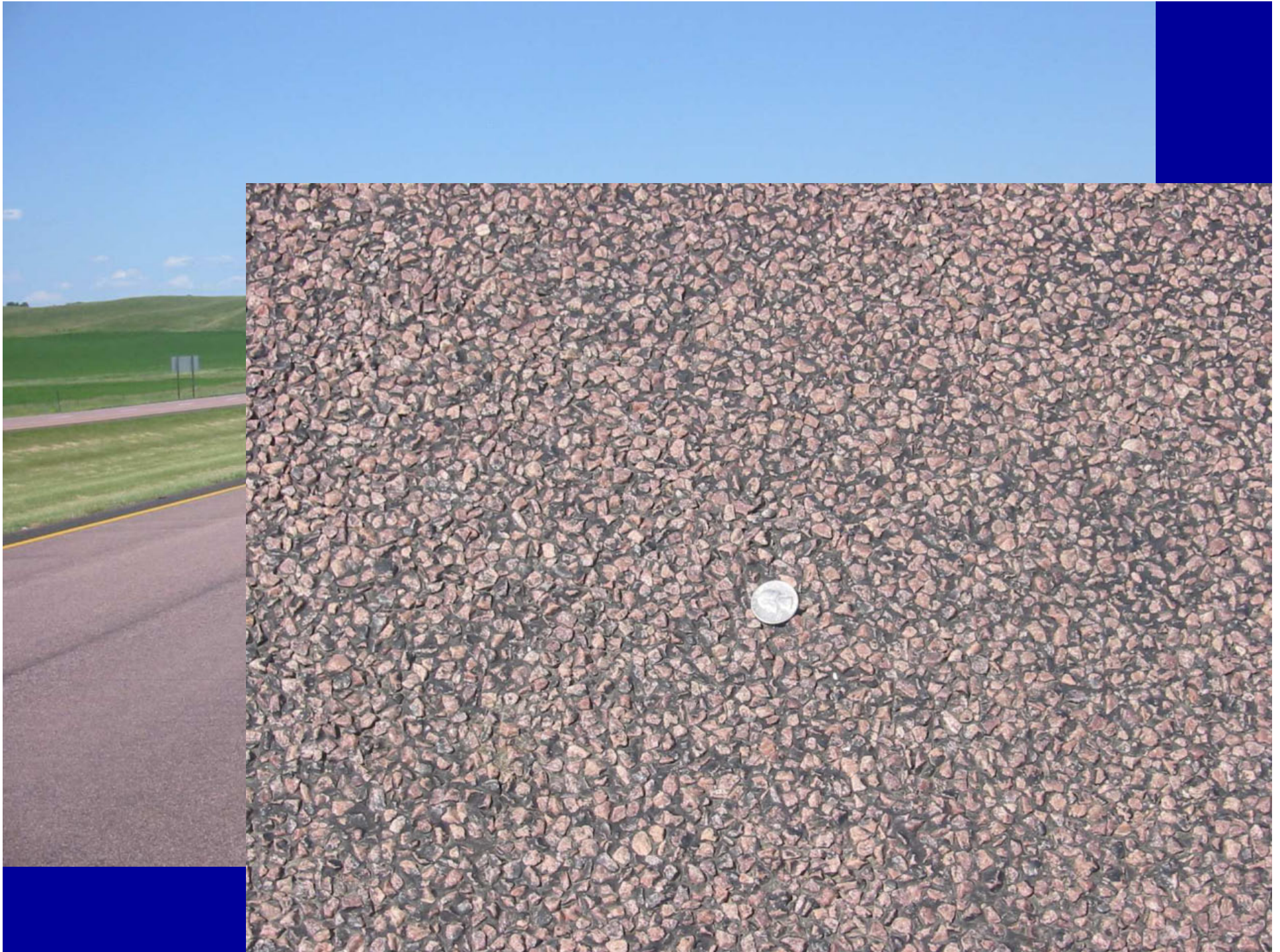
# Fog Sealing!



8/29/2001



11/12/2001



## *Tips for Successful Seal Coat*

- Make sure pavement is clean
- Use high quality materials
- Proper application rate for binder
- Proper application rate for aggregate
  - Excess aggregate only causes failure
  - Extra cost and waste

## *Tips for Successful Seal Coat*

- Minimum distance between distributor & chip spreader
  - Aggregate must be placed before emulsion starts to break
- Minimum of three rollers; Speed under 5 mph
  - Compaction must be completed before emulsion is broken

## *Tips for Successful Seal Coat*

- Final sweeping of roadway as soon as possible.
  - No later than next morning.
- Quality does not cost. It pays!
- Remember that **details** count.

# *Questions?*



Thank You!

