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## Visual Acceptance of Aggregate Materials

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### Overview

- Why this discussion...
- Why is “visual acceptance” used...
- When it is employed...
- Things to look for...
- Procedures to follow when questionable materials are encountered



## Visual Acceptance Discussion

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- A practice that is employed by KYTC
  - Industry and KYTC personnel to be introduced to the same materials
  - Educate people on the procedures and decision-making process
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## Why is Visual Acceptance Used?

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Aggregates should be inspected at points of production, handling, storage, and use

- Visual Inspection
    - Small quantity jobs
    - Larger size aggregates that are more difficult to test
    - To maintain a level of confidence
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## When is Visual Acceptance Employed?

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- When material is being used in small quantities on a project
- Small quantities are based on the material and the application of the material being used

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## Definitions

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- Small Quantity Value is based on individual tests. If planned quantity is **one-tenth or less** of test frequency then material may be accepted visually for that property
- Quantity Overage Acceptance. Quantities exceeding the Engineer's original estimate by 10% or less require no further testing and may be accepted visually

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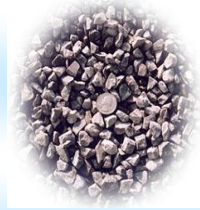
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## Most Common Applications

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- Base stone (traditional)
  - Crushed stone base (CSB)
  - Dense graded aggregate (DGA)
- Traffic bound base
  - DGA, 610s, or 710s (at Engineer's discretion)
- Erosion control
  - Channel Lining Class IA, II, III, and IV
  - Cyclopean Rip Rap
- Coarse Aggregate
  - Drainage Blankets (No. 57, No. 2)
  - Pipe Bedding (No. 9-M, No. 8)




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## Most Common Aggregates Visually Accepted

<u>Material</u>	<u>Test</u>	<u>Small Quantity</u>
DGA	Quality	5000 Tons
DGA	Grad/Delet	200 Tons
CSB	Quality	5000 Tons
CSB	Grad/Delet	200 Tons
Chan Lining	Quality	Any amount
Chan Lining	Grad/Delet	Any amount

\*Grad - Gradation  
\*Chan - Channel

\* Delet- Deleterious Group

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## Most Common Aggregates Visually Accepted (Cont.)

<u>Material</u>	<u>Test</u>	<u>Small Quantity</u>
Cyclo. Rip Rap	Quality	Any amount
Cyclo. Rip Rap	Gradation	Any amount
Pipe Bedding	Quality	Any amount
Pipe Bedding	Grad/SE	200 Tons
Trf Bound Base	Quality	5000 Tons
Trf Bound Base	Grad/Delet	200 Tons

\* Trf – Traffic

\* SE – Sand Equivalent

\* Cyclo – Cyclopean

\* Delet- Deleterious

\* Grad - Gradation

## Suspect Material Process

- Inspector suspects out-of-spec aggregate
- If necessary, lead inspector is consulted
- If necessary, Resident Engineer is consulted
- If necessary, District Materials Engineer is consulted
- If desired, Aggregate Section in Frankfort is consulted

## Things to Look for...

- Size
  - Must have a general knowledge of size
    - No. 57: 1" x 1/4"
    - No. 8: 3/8" x 1/8"
    - DGA is well-graded 1" x Dust
    - CSB is 2" x Dust
      - Less allowable fines than DGA

## Aggregate Products



Base Stone



ASTM No. 57



ASTM No. 8



ASTM No. 10 (Screenings)



Manufactured Sand



Natural Sand

## Rip Rap



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## Channel Lining



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## No. 2 Coarse Aggregate



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## CSB & DGA



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## Things to Look for...

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- Segregation
  - Separation of material by particle size



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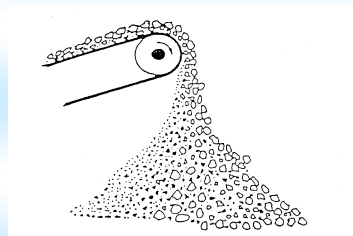
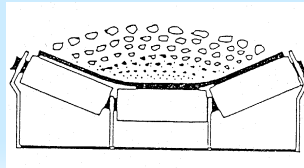
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## Segregation

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