

## NSSGA INSTA-GUIDE

The National Stone, Sand and Gravel Association designed the NSSGA INSTA-GUIDES to provide the industry salespeople with a simple, basic and instant overview of sales issues within the industry. The NSSGA INSTA-GUIDES will show you where to find detailed and expanded background information highlighting a particular selling topic.

### Topic #5 Selling Aggregate for Use in Hot Mix Asphalt Pavements

This INSTA-GUIDE will:

1. Define hot mix asphalt pavements.
2. Discuss aggregate quality.
3. Highlight liquid asphalt.
4. Discuss customer requirements.
5. Provide more detailed hot mix asphalt pavement references.

---

#### 1. **The Hot Mix Asphalt Pavement**

In its simplest form, the hot mix asphalt pavement is a proportioned combination of aggregate and asphalt that's been heated in a central mixing plant. It is then transported to a project and spread and compacted on a road surface before cooling. Typically, aggregate comprises 93 – 96% of the paving mixture and the “liquid” asphalt comprises the remaining 4 – 7% (depending on the size and grading of the aggregate).

#### 2. **Liquid Asphalt**

Liquid asphalt is derived from distilling crude oil and is the heavy residue remaining after other petroleum products have been removed.

#### 3. **Aggregate Quality**

<b>Feature</b>	<b>Advantage</b>	<b>Benefit</b>
<b>Size and consistency</b>	Less problems attaining compaction	Lower rolling cost better quality pavement
<b>Cubicle particle shape-coarse aggregate</b>	Better stability	Lower cost, higher quality pavement, improved skid resistance
<b>Cubicle particle shape-fine Aggregate</b>	Higher strength	Lower cost, higher quality pavement, putting resistance
<b>Low moisture</b>	Less moisture to dry	Lower drying costs, stripping resistance

<b>Absorption</b>	Lower absorption, less asphalt used in the mix	Lower cost mix if lower absorption
<b>Specific Gravity</b>	Lower specific gravity, more volume per ton	More cubic foot of hot mix per ton

4. **Customer Requirements**

The hot mix asphalt pavement buyers usually know just what they want. So, here are a few things you should know:

- A. Products must be consistent from load to load. Gradation changes can often be accommodated if they're acknowledged before the asphalt mix is produced.
- B. Low moisture is desirable to reduce drying costs.
- C. Excessive dust (-200 sieve) can be a problem in an asphalt mix. If the surface of the coarse aggregate is coated, it will interfere with the bond between asphalt and the coarse aggregate.
- D. Absorption of the aggregate will affect the hot mix asphalt producer's cost. A higher absorption will require more asphalt liquid.
- E. Specific gravity of the aggregate will give different results. A lower specific gravity will result in a higher volume of final mix. This would be a lower cost mix to the customer due to larger area surfaced per ton.

5. **Asphalt/Concrete Pavement References**

Numerous articles have been published on this subject.

- A. NSSGA's Aggregate Handbook
- B. NSSGA's Aggregate Library
- C. Publications From
  - i. NSSGA
  - ii. International Center for Aggregates Research
  - iii. National Asphalt Pavement Association
  - iv. National Center for Asphalt Technology
  - v. Asphalt Institute