Hot Mix Asphalt

A hot mix asphalt plant is basically a large mixing device that mixes different sizes of aggregate with asphalt cement.

The process:

Arrival

• When a dump truck arrives at the plant, its box is sprayed with biodegradable citric-based degreaser so the asphalt doesn’t stick to the box.
• The driver tells the operator what asphalt product is required.
• The truck backs under the discharge chute of the pugmill and awaits the required product.

Preparing the mix

• An asphalt mix starts at the aggregate cold feed bins, where different sizes of aggregate are stored.
• The aggregates are fed onto a conveyor at a specified rate to ensure the proper volumes for the mix design.
• The plant is computer controlled. The operator inputs the mix design and the aggregate is carefully measured from the bin.

Recipe for asphalt: the “mix design”

• Each asphalt product has a different mix design, depending on where it will be used.
• The design of a mix for a provincial highway is very different from that of a driveway.

Recycled Asphalt Pavement (RAP)

When a paved road is removed it can be ground up and fed into the asphalt plant as recycled asphalt. When RAP is used, less liquid asphalt is required.
**Drying**
- The aggregate moves to a large dryer where it is heated up and any moisture is driven off as steam.
- A baghouse is attached to the dryer to vacuum off any dust.

**Screening**
- Once the aggregate is dried it moves up and onto a vibrating screen.
- It is screened to the specific sizes required for the mix design and stored in bins.

**Pugmill**
- Specific weights of each size drop from the bin into a pugmill.
- A specific amount of liquid asphalt enters the pugmill with the dried stone.
- The pugmill mixes the stone with the liquid asphalt.
- The product is typically mixed at 150°C.

**Delivery**
- Once the mixing is complete the hot mix asphalt drops into the waiting truck.
- For the best quality paving asphalt needs to arrive at the job site and be laid at 140°C.

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**Storage silos**
Most asphalt plants have storage silos used to store hot mix asphalt to meet future customer needs. Silos come in handy for large paving jobs.