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Asphalt Millings: Physical and Mechanical Properties

Asphalt Millings Source: NYC's Department of Transportation (DOT), Roadway Repair and Maintenance

- Asphalt Millings Stockpile Locations:**
- 2300 Conner Street, Bronx
 - 78-88 Park Drive East, Queens
 - 6080 Flatlands Avenue, Brooklyn
 - 3551 Richmond Terrace, Staten Island

- Reported Uses:**
- Anti-tracking pads at construction site entrances/exits,
 - Backfill outside foundation walls,
 - Excavation grading and ramp construction,
 - Sub-base aggregate for concrete slab-on-grade, sidewalks and asphalt parking surfaces,
 - Trenching and drainage,
 - Landscaping (swales, berms and change in grade).
 - Other uses as substitute for conventional aggregate above the water table.

Physical Properties¹

Asphalt millings are also known as Reclaimed Asphalt Pavement (RAP), which is a mixture of 93-97% mineral aggregates and 3-7% asphalt cement binder (% by weight). The unit weight of milled RAP ranges from 120 to 140 lb/ft³. The aggregate size of millings generally varies from 0.3 to 1.5 inches (10-40 mm). Smaller size particles may also be included in the millings. The moisture content of RAP stockpiles varies due to weather exposure, but generally varies from 5% to 8% by weight.

Mechanical Properties¹

When RAP is blended with natural aggregate for use in granular base, the asphalt cement in the RAP has a significant strengthening effect on the natural aggregate over time. For example, the California Bearing Ratio (CBR) of RAP is 20-25%, but a mixture containing 40% RAP and 60% natural aggregate can have a CBR of 150% or higher. Where specific geotechnical performance goals are desired, geotechnical characterization is recommended to determine the suitability of the material prior to transfer. As the binder used in asphalt pavement contains a family of organic compounds that has the potential to migrate to the surrounding environment, asphalt millings are not to be placed below the water table.

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¹The information contained in this Fact Sheet is based on information provided in the literature and is intended for general purposes only.