Coal Combustion Products

Coal combustion products (CCPs) are created in the electricity generating process at coal-fired power plants. We Energies CCPs have gained an international reputation for quality, performance, value and environmental benefits.

We Energies produces three types of CCPs:
Fly ash ▪ Bottom ash ▪ FGD gypsum

Fly ash

Description

Fly ash is fine powder collected from power plant flue gas and comes in two classes: Class C and Class F. We Energies produces both materials and consistently meets ASTM C 618 quality-control standards. Fly ash particles are spherically shaped and have an average diameter of approximately 10 microns.

Uses

Contractors and suppliers use We Energies fly ash for:

- Concrete (cement replacement)
- Grouts and mortars
- Structural fills
- Controlled low-strength material (flowable fill)
- Asphalt
- Mudjacking
- Roller-compacted concrete
- Soil stabilization

Benefits

- Improved workability and reduced heat of hydration
- Increased strength, durability, and acid and sulfate resistance
- Reduced cost, water demand, segregation and bleeding of fresh concrete
- Reduced permeability, corrosion and alkali-aggregate reactions of hardened concrete

Available products

Class C fly ash

- *Chemical:* High lime content
- *Distribution:* By tanker truck or rail from southeastern Wisconsin (Pleasant Prairie and Oak Creek) and northern Michigan (Presque Isle)
- *Color:* Buff

Class F fly ash

- *Chemical:* Low lime content
- *Distribution:* By tanker truck or rail from southeastern Wisconsin (Oak Creek)
- *Color:* Tan

Paul Owen

The Milwaukee Art Museum was constructed using We Energies fly ash.

Notable projects

- 311 S. Wacker Dr., Chicago
- Milwaukee Art Museum
- Bradley Center, Milwaukee
- General Mitchell International Airport, Milwaukee
- Miller Park, Milwaukee
- Marquette Interchange, Milwaukee
- More than 50 percent of all concrete placed in southeastern Wisconsin uses We Energies Class C fly ash

Bottom ash

Description

Bottom ash is a coarse to fine-grain, sand-like material collected from the bottom of coal-fired boilers. Bottom ash has a unit weight typically less than 90 lbs/ft^3 and compacts like sand. Screening operations for specific grain size distributions also are available. Bottom ash is distributed from power plants located in Oak Creek and Kenosha, Wis., and Marquette, Mich.

Uses

Contractors and suppliers already use bottom ash for:

- Structural fills
- Backfill
- Road bases and sub-bases
- Drainage media
- Aggregate for concrete, asphalt and masonry
- Abrasives/traction

Benefits

- Increased economy
- Low-density fill
- Replaces natural quarried sand and gravel, making it a green construction material

FGD gypsum

Description

FGD gypsum is produced from forced oxidation wet scrubber emissions control technology. We Energies FGD gypsum is of the dihydrate variety ($CaSO_4$*$2H_2O$) and has a free moisture content of approximately 8 percent. FGD gypsum is produced and distributed from power plants located in Oak Creek and Pleasant Prairie, Wis.

Uses

- Raw ingredient for products such as wallboard and plaster
- Cement manufacturing and concrete production
- Agricultural soil amendment and source of plant nutrients, calcium and sulfur

Benefits

- Replaces mined gypsum with local source
- Preserves natural sources and offsets greenhouse gas emissions associated with transportation and mining
- Controls time of set in concrete and improves soil structure, producing healthier plants and increasing crop yield

We Energies FGD gypsum can be spread using conventional machinery.

Try a sample and see for yourself

We are so convinced our products will benefit your projects, we will provide samples upon request. Call the appropriate number below for more information.

Distribution and sales

Fly ash
Lafarge North America
800-323-5949

Bottom ash
A.W. Oakes & Son
262-886-4474
(Southeastern Wisconsin)

Lafarge North America
800-323-5949
(Northern Michigan)

FGD gypsum
Agricultural use:
Beneficial Reuse Management
866-497-7645

Other uses:
Bob Paulson
414-221-3948
E-mail: robert.paulson@we-energies.com

www.we-energies.com/environmental/recycle_coalash.htm