



### Carbon is Life

Carbon is the basic building block of all organic substances and is therefore the basis of all living things. Because carbon combines readily with oxygen, giving off heat as a by-product, it is also a vital energy source. Carbon is one of the most useful of all chemical elements and Asbury Carbons is the most experienced processor of carbon products for industry today.

Amorphous carbons such as coal, petroleum coke, pitch coke, active carbon and carbon black have unique physical and chemical properties. These properties enable us to process amorphous carbons for a myriad of industrial applications including chemical reducing agents, carbide forming reagents, metallurgical products, cathodic protection materials and adsorbing carbons just to name a few.

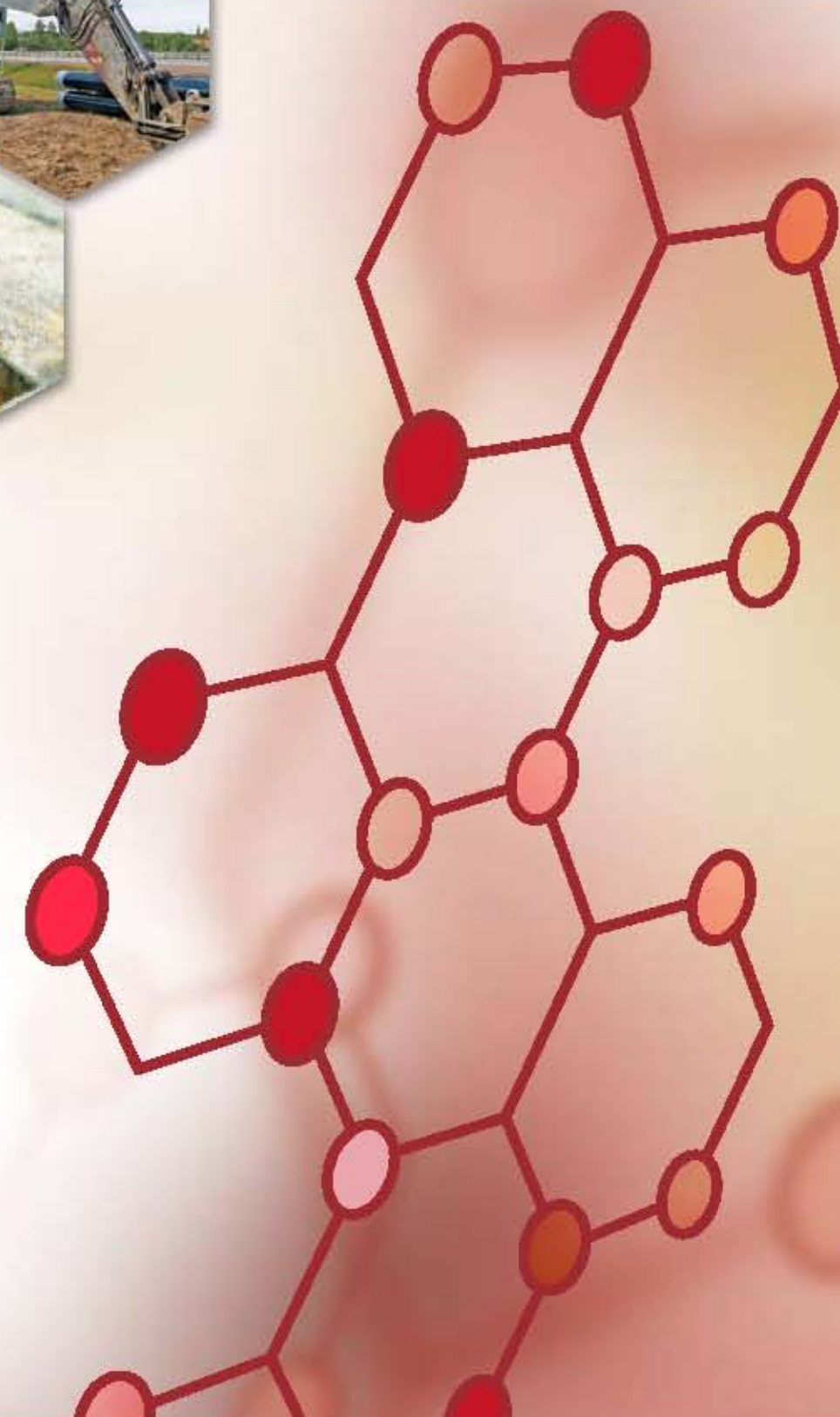
Carbon in the form of crystalline graphite possesses a combination of properties including lubricity, refractoriness, chemical inertness, as well as thermal and electrical conduction. These properties make graphite the material of choice for thousands of end-use applications including crucibles, refractories, cements, lubricants, chemical tank linings, powder metal parts, polymer compounds, drilling fluids, electric motor brushes, batteries, artificial diamonds, and others too numerous to mention.

### Cathodic Protection — Carbons are Asbury

Asbury uses only the highest quality carbon materials to provide the cathodic protection industry with advanced, engineered materials that provide a combination of properties including high conductivity, resistance to corrosive environments, environmental stability, and easy-pouring and cavity-filling characteristics. These properties and Asbury Carbons' 100+ years of experience make Asbury cathodic protection grades the experts' choice.



Carbon  
Anode  
Backfill





Asbury Carbons is the only supplier offering every type of anode backfill product currently available. We continually develop new product breakthroughs that make other industry mainstays obsolete.

THE MANUFACTURER  
*and* SUPPLIER OF CHOICE

- When it comes to carbon anode backfill products, Asbury has the answers:
- We offer the largest selection of the industry's finest cokes.
  - We ship from five plant locations in the U.S.
  - To help keep freight costs low, we engage a worldwide network of distributors.
  - Overseas shipments are available from East, West and Gulf coast ports.
  - Packaging choices include bags, bulk sacks, and bulk trucks and barges.
  - Asbury Carbons offers custom processing and packaging of your product or ours.

Asbury Carbons sets industry standards in the areas that matter most to our customers.

- Quality** — All of Asbury Carbons anode backfill products are made to precise specifications. Each of our manufacturing operations has on-site quality control labs to constantly monitor our anode backfill products.
- Variety** — Asbury Carbons is the only supplier offering every type of anode backfill product currently available. We continually develop new product breakthroughs that make other industry mainstays obsolete.
- Reliability** — Asbury Carbons is a well-established graphite and carbon company with proven excellence since 1895. Each shipment can be furnished with a no-charge "Report of Analysis" certifying particle size, resistivity and specially requested information.
- Availability** — Eight manufacturing plants in the U.S. and Canada, and 20 major warehouse locations from coast to coast, provide quick delivery and keep freight costs low.
- Packaging** — Asbury provides anode backfill products in 50 lb. bags (2,500 lbs. per pallet), one-ton super sacks, bulk or any other special packaging that you may require.

THE IDEAL CATHODIC PROTECTION

Carbon has anodic properties. When Calcined Fluid Coke, Metallurgical Coke Breeze, or Calcined Petroleum (Delayed) Coke is used as a backfill column, it effectively increases the available anode surface. This means that when carbon backfill is used, the total effective anode surface includes not only the sacrificial metallic component, but also the carbon. This configuration results in less consumption of the metallic anode since the carbon surface can oxidize in its place. Asbury Carbon's backfill products decrease anode-to-earth resistance, decrease gas blockage and drying tendencies, increase anode life, maintain hole integrity, and prevent cave-in.

The purpose of the coke backfill is to provide an electrical pathway for current flow. It is for this reason that low resistivity, particle size and specific gravity are important backfill properties. Low resistivity favors electric current flow to the backfill/ground interface. Small particle size and high density favor electric current flow between the anode material and backfill by improving contact between the two.

Asbury Carbons offers a full spectrum of carbon anode backfill products — varying in resistivity, particle size and specific gravity — for applications including conventional beds, top loading, small-diameter wells, deep wells, pumping as slurry and any combination.

Asbury also offers many magnesium backfill formulas as well as bentonite for your backfill purposes.

Grade Designation	Nominal Size	Carbon %	Bulk Density lbs/cu ft (numbers are typical)	Resistivity @150 psi
Calcined Fluid Coke				
4518	1/4 x 30 Mesh	99.9%	60	.10 Ohm/cm
250	4 x 200 Mesh	99.8%	60	.10 Ohm/cm
251	20 x 200 Mesh	99.8%	65	.10 Ohm/cm
251P	20 x 200 Mesh	99.8%	65	.10 Ohm/cm
Metallurgical Coke Breeze				
4649	1/4 x 0	88.5%	40	.15 Ohm/cm
Calcined Petroleum (Delayed) Coke				
218-L	3/8 x 1/8	99.0%	45	.10 Ohm/cm
218-R	6 x 12	99.0%	45	.10 Ohm/cm
218-F	3/8 x 0	99.0%	45	.10 Ohm/cm
218-XF	28 Mesh x 0	99.0%	60	.10 Ohm/cm
Information above is typical analysis. Data sheets are available for all products.				

