

GPC Management

Rain CII's commitment to quality begins with careful selection of green petroleum coke (GPC) from the refineries that make up our network of suppliers. GPC must meet Rain CII's standards for structure, size, volatile content, and purity. Selection standards are as follows:

- Structure – For anode production, GPC with “sponge” structure are preferred over isotropic structure, including “shot coke” – though today Rain CII has a patented process which enables the use of shot coke.
- Size – We carefully handle and process our GPC to preserve its sizing quality.
- Volatile Matter (VM) – Lower VM content is desired as it yields lower porosity and denser calcined petroleum coke (CPC).
- Purity – Lower elemental impurity levels are desirable for better anode performance. Vanadium, nickel, and other metals can negatively affect aluminum metal quality. Sulfur limits are dictated by environmental requirements.

Rain CII sources its GPC primarily from long-term suppliers.

It is our collaboration and partnership with these suppliers that keep those relationships strong.

Over 70% of Rain CII's GPC supply relationships exceed 25 years.

One Standard for Quality – One Rain CII

Supplier Relationships and the Origins of GPC

Our suppliers know that they can depend upon us in two critical areas.

First, we will manage our business and our contracts with suppliers to do the best we can to respond to, and to compliment their GPC production schedules. We won't let them down when it's time to take their product.

Second, they have learned over years of doing business with Rain CII that we are committed to finding ways to use a wider range of GPC in the anode-making process. They know that no other calciner matches our commitment to the research and development that is expanding the universe of anode-grade GPC. Rain CII's newly patented process that provides for the use of shot coke to be calcined for use in anodes is just one example. Our suppliers know there are more valuable developments to come.

GPC is produced in refinery coking units where residual oils from crude distillation are thermally cracked. It is the product of additional treatment given to a waste product of the refining process. Key Regions of GPC supply are North America, South America (primarily Brazil), Asia (primarily China and India), and the Middle East.

After recovering this cracked product, the refinery further processes the material to produce



Rain CII

Resourceful, Reliable, Responsible
<http://www.raincii.com>

motor fuels. The heavier components of this material form carbon-rich, solid GPC. Rain CII processes GPC by calcining in order to meet aluminum smelter requirements for the production of aluminum metal. GPC suitable for the aluminum industry is referred to as anode-grade.

No other calciner matches our commitment to the research and development that is expanding the universe of anode-grade green petroleum cokes. Rain CII's newly patented process that provides for the use of shot coke to be calcined for use in anodes is just one example.