



LILLA GAZETTE

CCL Products (India) Ltd.

OPUS 40 CONTRIBUTES TO THE SUCCESS OF ONE OF THE COUNTRY'S BIGGEST COFFEE COMPANIES.

India is the world's second most populous country, with a population of 1.2 billion people. With its industry expanding at an average rate of 7%, India is considered one of the greatest examples of success among developing economies. In this context, one of India's largest coffee companies is CCL- Products India. The firm is dedicated to the production, commercialization and exportation of instant coffee, a product that in itself exemplifies modernity in terms of worldwide consumption. Behind CCL's success lies a basic element: Lilla roasters.

One of the indicators used by CCL to measure the market acceptance of their products is the steady growth of demand - an indication of the excellent quality of their coffees, a measure of their expertise and

manufacturing equipment. A predecessor to CCL, led by the same management team, purchased the first two Opus 40 roasters in 1993. Increasing demand for the product led to the formation of CCL, who first purchased an Opus 40 in 1996, and a second one in 2004. Its choice of state of the art equipment has enabled CCL to supply not only the domestic market, but also important consuming areas such as North America, Europe, the Far East, Oceania, Russia, and other countries of the former Soviet Union.

The major influence in the success of CCL is its founder and President, Mr. Challa Rajendra Prasad, a highly respected entrepreneur with vast experience in the soluble coffee industry. He was a pioneer in the introduction of Indian instant coffee to several markets, including the United States. Thanks to his vision, CCL products became industry standards for soluble coffee quality reflecting his expertise and in particular his judgment in continually upgrading the technology and equipment CCL employs. That judgement has led to CCL being awarded the prestigious and hard-earned ISO 9001. Mr. Prasad had been recognized as an industry leader by being appointed for three consecutive periods to be part of the Coffee Board of India.

LILLA EQUIPMENT IS NOW IN 40 COUNTRIES

In 2005 the Lilla Company completed its 87th year in business. We celebrated the anniversary with the sale of an Opus roaster to France, which became the 40th country to have our state of the art industrial equipment. This represents another landmark reached by Lilla on its long trajectory of success. We began in 1918 in Brazil, and now have a presence on four continents.

Throughout our history we have striven to develop our own knowhow and technology. Among the 40 nations cited above, many are developed countries: the United States, Japan, the United Kingdom, France etc., evidence that our technical expertise, fair prices and customized service are accepted at the most sophisticated levels of the worldwide coffee industry.

In this new edition of the Lilla Gazette, you will find news and information of interest, including descriptions of our latest installations, demonstrating how vigorously Lilla is celebrating its 87th anniversary.

I would like to take this opportunity to thank our customers, collaborators and suppliers for the confidence shown in Lilla over the years, and to wish you all continued success.

Sincerely yours,

Ciro de Campos Lilla

approval

THE WORLD'S LARGEST FOOD COMPANY BUYS LILLA EQUIPMENT

The Nestlé Group has recently inaugurated in Brazil its largest and most modern plant for the production of soluble coffee. It is equipped with five automatic Opus 40 roasters, as well as Lilla conveyors and silos for green and roasted beans. Other branches of the group in Canada and Mexico also use Lilla roasters. At the beginning of this year, Nestlé Chile acquired an Opus 40 - third generation roaster for its soluble coffee unit. The new equipment will help increase the production capacity of the plant, which already had one Opus 40- second generation roaster, installed in 1998. This trend, the increasing purchase by Nestlé of Lilla equipment for manufacture of one of its main products, indicates a clear endorsement of Lilla's expertise.



BRASIL COFFEE HOUSE: LOVE GENERATES COMPROMISE TO QUALITY

One of the most important references we should take into consideration at the moment of choosing a productive equipment is its use by companies and people that are really committed to quality. This credential, common to all Lilla's line of products, becomes particularly evident in the roaster HBE-30, preferred by the major part of the suppliers of fine and differentiated coffees, generally profound connoisseurs of sipping secrets and recognition of a first line product.

Among the clients that can be addressed at this category is Katia Santana-O'Malley, born in the city of Águas Novas, State of Minas Gerais, Brazil, who used to run and play among the coffee trees of the farm where she was born and raised. She loved to feel the sweet taste of the ripe beans picked from the plant. At the age of 13, she was crowned "Coffee Queen" of that region. This familiarity with the plantings of what was already called in Brazil "Green Gold", developed a passion which led her to find out everything about the cultivation, industrialization and commercialization of coffee.

She has been living abroad for 20 years, and today, more than ever, she is drawn back to her roots and to the passion which she never gave up. Brasil Coffee House, the coffee shop founded by her in 2001, stands a proof of that. The decoration of the store reveals a project done with much love and objectives that go beyond the natural desire of obtaining commercial success. Besides the opportunity of tasting 49 types of beverages with coffee as ingredient, the clients can learn about the Brazilian coffee and even about the culture through the paintings spread on the walls.

Due to the great success of the undertaking, now, Katia presides over 3 companies which constitute the Brasil Coffee House Group: Brasil Coffee House, Brasil Coffee House Franchise and Brasil Coffee Distribution. The coffee served in the store, supplied to the franchisers and sold in the market is totally imported from Brazil, and after that, roasted, ground and packed in Brasil Coffee Distribution in Long Island City. And on that process, Katia never forgets the quality, and attitude absolutely coherent with the feeling she manages the corporation with. "I think it is important to love what we



Katia Santana-O'Malley

do, this is one of the main keys to success in any business."

The roaster HBE-30 she currently uses was purchased in 2003. In her opinion, "the machine presents an excellent performance, achieving a perfect homogeneous roast."

Any future project? "I have several", reveals Katia. The work of spreading around the world, through Brasil Coffee House Group, the quality of Brazilian coffee has just begun".

The promotion of the Brazilian Coffee is part of Brasil Coffee House's decoration.



SPECIALTY COFFEES-LILLA SHOWS THE INTERNATIONAL MARKET ITS NEW ROASTERS

Shop Roasters

Following the market trend, Lilla is introducing the Super 10 roaster. With a production capacity of 50 kg/hr, and occupying an area of 2 square meters (24 square feet), the Super 10 is ideal for installation in retail coffee shops. It is the first and only small roaster to incorporate the technological features of large scale roasting equipment. The result is a high quality roaster with outstanding performance and user friendly concept.



Super 10

Small Batch Industrial Roasters

Lilla is now introducing worldwide two new small roasters: the Opus 2, with a capacity of 110kg/hr of green coffee, and the Opus 4, with a capacity of 225 kg/hr. The new equipment has several features



Opus 4

that make the roasting operation safer and far more consistent. They are controlled by PLC, with touchscreen interface on the panel board. The new Opus 2 and Opus 4 also feature the Profile Roasting System, which allows the roast master to pre-program and control all the important parameters of the roasting process. This sophisticated control system provides high flexibility, consistency and versatility, since each roasting cycle is repeated exactly as programmed. Thus one can produce several varieties of finished products, all reproducible, using only electronic adjustments.

Visit us at
lillaroasters.com

France - Lilla presence now in 40 countries

DRIE MOLLEN HOLDING BV COMMISSIONS ITS 1ST LILLA OPUS ROASTER.

Lempdes- France: Drie Mollen Group, a traditional Dutch Roaster with operations in several european countries now has in operation its first Opus 40 roaster. With this new plant, Lilla is present now in 40 countries.

This new roaster, full automatic, smoke free, gives Drie Mollen a production of 2.5 tons of green coffee per hour and will be an important resource for the future plans of the group in France.



COFFEE HOLDING BRANDS AND BLENDS ON DEMAND

Coffee Holding Company is one of the principal suppliers of private label roasted coffee in the United States, and markets seven brands under their own labels as well. This operation requires importation of as much as 70 types of green coffee from producing countries, blending, roasting and grinding coffee to each customer's specifications, packaging and shipping the coffee to locations in the United States, Canada, and Pacific Rim countries.

To handle this diversity of roasts and blends,



Coffee Holding has three Opus 40 roasters. The first was purchased in 1992, and the second, fully automatic, in 1998 - both for their plant in Brooklyn, New York. The first was upgraded in 2003, and in 2005 they purchased the third for their new plant in Colorado.

It is interesting to note that Brooklyn, as one of the five boroughs of greater New York, has some of the most stringent enforcement of environmental regulations in the country. Despite the large volume of coffee roasted by Coffee Holding, they have

never been cited for violation of the regulations. Lilla Opus 40 technology manages complete elimination of smoke and odor, so only water and inert gases are released into the atmosphere.

Coffee Holding was founded in 1971 by Mr. Sterling Gordon, an entrepreneur with 50 years experience in the coffee industry, a man known and respected for his expertise in blending and roasting coffee. His sons and daughter, Andrew, David and Karen are now involved in the management of the company.

CIA IGUAÇU CHOOSES LILLA

After several years of research and exacting comparison of roasters, automatic storage and green coffee blending systems available on the world market, Cia. Iguaçú purchased an Opus 40 3rd Generation as well as two silos for green coffee with a capacity of 215 tons each. The numerous blends demanded by Iguaçú's

many customers will be formulated by a computer attached to the roaster, and conveyed automatically to the desired roaster. The roast profile for each blend is preset for the customer's requirements in quality. The system can accommodate identical blends with different roast profiles for different customers.

Café Iguaçú Facility



THE SCIENCE OF THE ROASTING PROCESS

AN EXAMINATION OF HOW THE WAY YOU ROAST YOUR COFFEE AFFECTS THE PROFITABILITY AND QUALITY OF THE FINAL PRODUCT

During the roasting cycle, the coffee goes through distinct stages, transforming it from green to roasted beans. Learning the details of these stages may help the roaster in controlling them to produce a coffee of optimum quality. The stages are as follows:

DRYING PROCESS:

1. Free water extraction
 - The moisture content of the green bean is reduced until a temperature slightly above 100 degrees C is reached.
 - A weight loss of 8 to 10% occurs due to the water elimination.
2. Practically no chemical reactions occur during this stage of the roasting process.



PYROLYSIS INITIAL STAGE (160°C – 180°C)

1. Pyrolysis is characterized by chemical reactions usually associated with organic products when heat is applied in an oxygen starved atmosphere. It is like a controlled burning, where several other intermediate products are formed before the organic compounds change completely into CO₂, H₂O and ashes. It is interesting to note that these actions are exothermic, that is, from the beginning of this stage, the beans begin to produce heat.

2. Beginning of caramelization of the sugars.
3. The first "crack" of the coffee begins at the end of this stage. It is followed by the expansion of the beans and rupture of the cells due to the escape of gases.



PYROLYSIS - STAGE 2 (180°C – 230°C):

1. The pyrolysis reactions become more intense.
2. Weight loss from 4% to 6%, depending on the final roast point.
3. A great quantity of water and CO₂ is produced due to the chemical decomposition reactions of the organic compounds.
4. The beans volume increases from 40% to 60% and, in some cases, doubles.
5. The sucrose, the main sugar in the coffee, is changed; the darker the roast, the more bitter the taste.
6. The coffee's acidity increases in the beginning, but gets lower as the roast becomes darker. Due to the fact that acids are produced and then destroyed during the process.



PYROLYSIS - STAGE 3 (above 230°C):

1. The second coffee crack occurs.
2. Severe damage occurs to the cellulose, which is the main structure of the cell. It facilitates the migration of the coffee natural oils onto the beans surface.
3. Greater expansion of the beans.
4. Greater release of aromatic compounds.
5. The pyrolysis exothermic effect drops down from 250°C on, indicating that great part of the organic compounds is already totally carbonized at this temperature. The carbonized compounds present an undesirable bitterness and in most of the cases are harmful to health.

It is important to take into consideration that the heat transfer rates at each stage should be different from one another, in order to enable your coffee to develop its innate quality potential. Thus, the ability to control the process through its different stages can be a valuable tool in the enhancement of product quality and hence, customer satisfaction.

In the next edition of Lilla Gazette we will continue the subject "The science of the roasting process", providing the reader with further information on how to improve his product by knowing and controlling the various stages of the roast.