

AMERICAN CERAMIC SOCIETY

bulletin

emerging ceramics & glass technology

SEPTEMBER 2009



Ceramics in South America



Special Focus: BRAZIL

Practical Progress in Brazil

Expertise in nanotechnology and other advanced ceramics is building, but practical applications fuel ceramics in South America's largest nation.

By Alex Talavera and Randy B. Hecht

Each year, we dedicate one of the issues of the Bulletin to look at the state of ceramics in important areas outside the United States. In 2008, the Bulletin explored the world of ceramics in China because of that nation's enormous influence on science and industry. This year, we decided to focus on South America and, particularly, on Brazil.

Similar to China, Brazil is another nation described as an "emerging market." And, as in the case of China, the words emerging market perhaps understate the significance that Brazil is having on South America and the world. Brazil is rich in raw materials; contains several developed ports within its borders; and has a large and relatively well-educated population, a growing system of higher education and state-of-the-art manufacturing capabilities in fields that include steelmaking and automobile manufacturing.

Other nations, such as Chile and Argentina, also are experiencing strong economic growth, while some less-developed countries, such as Bolivia (see the August 2009 Bulletin), possess key strategic resources and large workforces.

Those that ignore Brazil and the rest of South America do so at their own risk.

- Peter Wray

Alex Talavera and Randy B. Hecht have collaborated on many English-Spanish bilingual research, reporting and writing projects, from National Geographic books to content created for a portal that covers foreign trade requirements and resources in 50 countries. They are partners in Aphra Communications, which maintains offices in Santa Cruz, Bolivia, and in New York City.

In May, the *International Journal of Applied Ceramic Technology* published online a paper that reveals the results of a new study of bioceramic/bioglass implants, with a specific focus on materials being tested as bone substitutes used in dental implants. (See page 18 an abstract of the study.) Authors Juliana Marchi, Carina S. Delfino, José C. Bressiani, Ana H.A. Bressiani and Márcia M. Marques are all affiliated with universities in Brazil. Their research was supported by the National Council for Scientific and Technological Development and the State of São Paulo Research Foundation.

Practical Progress in Brazil

The paper is the latest example of efforts being made in Brazil to expand the scope of technological capability within its ceramics industry. Although most of the industry's revenue continues to be generated by the ceramic tile-making sector, Leonardo Curimbaba Ferreira, president of the national professional group Associação Brasileira de Cerâmica, is monitoring the technology-related sectors for signs of advancement.

"We see a lot of movement here in Brazil in nanotechnology," says Curimbaba Ferreira. "There are some institutes in Brazil that are gearing up a lot of money in nanotechnology, which is quite new."

"Nanotechnology and Ceramics Products: Big Opportunities and Risks," is the subject of a seminar being conducted this month by Rafael Salomão, professor and docent of the post-graduate program in nanosciences and advanced materials at the Universidade Federal de ABC in Santo André, São Paulo. His presentation will cover such topics as methods of synthesizing and growing nanoparticles and nanotubes, as well as a variety of applications of the technology.

Salomão is co-author, with Victor Carlos Pandolfelli, of a paper entitled, "Polypropylene Fibers and their Effects on Processing Refractory Castables." That work analyzed rheology, dynamic permeability, drying and the likelihood of explosion of polypropylene fibers containing castables. Pandolfelli, a professor in the Department of Materials Engineering at the Universidade Federal de São Carlos, says Brazilian

academic research in the materials engineering area of ceramics is "focused on solving industrial needs and developing new products ... If you go to mathematics, physics, perhaps they're still trying to be at the forefront of knowledge. But on the engineering side, it's focused on doing research for solving problems or developing new materials." This emphasis on research that has practical application is part of what makes the current atmosphere in the Brazilian ceramics sectors attractive, he adds.

Pandolfelli also is anticipating significant growth within the production of heat-resistant and fireproof ceramics. A driving force is Brazil's plans to double steel production in the next four years. That expansion will create parallel opportunities in that sector of the ceramics industry, which he says will experience a sharp increase in requirements for graduating students and new professionals.

That's good news for students, because, according to Curimbaba Ferreira, in the current climate, many who complete their studies in ceramics engineering subsequently take jobs in better-paying fields. "Most of them do not stay in ceramics. They go to work in banks and financial institutions, because they pay more than most of the ceramic industry." His alma mater, Universidade Federal de São Carlos, which he estimates graduates 10–15 ceramic engineers each year, has a strong curriculum in heat-resistant and fireproof ceramic technologies.

Asked what he regards as other top universities for the industry, he

cited the Universidade de São Paulo, which has an institute dedicated to research of uses of nuclear science in the development of ceramics materials. In addition, he mentioned the Universidade Estadual Paulista, whose chemistry department works with the Universidade Federal de São Carlos to develop ceramics for use in nanotechnology.

Noteworthy university research also has been conducted at the Federal University of Rio Grande do Sul, where a research team published a paper entitled, "Porcelain Casting Slips Formulated with Waste Glass." The study investigated what happens when waste glass is introduced into the composition of a ceramic body in an industrial slip-casting process.

Collaboration among teams at multiple universities and institutes also is common, as was the case with the publication of, "Mixture Design and Response Surface Analysis of Densification of Silicon Carbide Ceramics with $(\text{SiO}_2\text{-Dy}_2\text{O}_3\text{-Al}_2\text{O}_3)$ Additives." That study was the work of a team whose members included faculty from the Centro de Ciência e Tecnologia de Materiais at the Instituto de Pesquisas Energéticas e Nucleares, the Centro de Ciências Naturais e Humanas at the Universidade Federal de ABC and the Instituto de Química, IQ Universidade Estadual de Campinas, all located in São Paulo.

Knowledge sharing often crosses borders to take advantage of the international knowledge base. Curimbaba Ferreira says that, at this stage, Brazilian ceramics technology development is heavily dependent on use of foreign knowledge shared via networking with universities and institutes worldwide. Foreign funding generally is not the focal point, he says, although companies from other countries have provided funding or become joint venture partners on certain projects. However, for the most part, Brazilian companies have adequate domestic sources for funding. "They look for technology from foreign partners," he says. "They don't look for money. They look for different ways to improve productivity, reduce costs and

Abstract: Cell Proliferation of Human Fibroblasts on Alumina and Hydroxyapatite-Based Ceramics with Different Surface Treatments

Biocompatibility is an important characteristic of dental implant material, and in-vitro tests are required to elucidate the interaction between these materials and human tissues. Cell proliferation assays were done with fibroblasts plated on the surface of alumina- and hydroxyapatite-sintered samples, each with a different surface treatment (sintered, rectified or polished). After one, two and three days, the samples were prepared for scanning electron microscopy observations. The data were compared by analysis of variance followed by Tukey's test. It was concluded that neither the hydroxyapatite nor alumina substrate is cytotoxic, and hydroxyapatite is more biocompatible than alumina.

– Juliana Marchi, Carina S. Delfino, José C. Bressiani, Ana H.A. Bressiani and Márcia M. Marques
International Journal of Applied Ceramic Technology

be more competitive ... with foreign products."

One area in which Brazilian products are competing very successfully is ceramic tile. The Associação Nacional de Fabricantes de Cerâmica para Revestimento (ANFACER), Brazil's professional association for ceramic-tile manufacturers, promotes Brazil as "one of the major international players in the ceramic-coverings market. The country is currently the second-largest producer and consumer, and the fifth-largest exporter in the world."

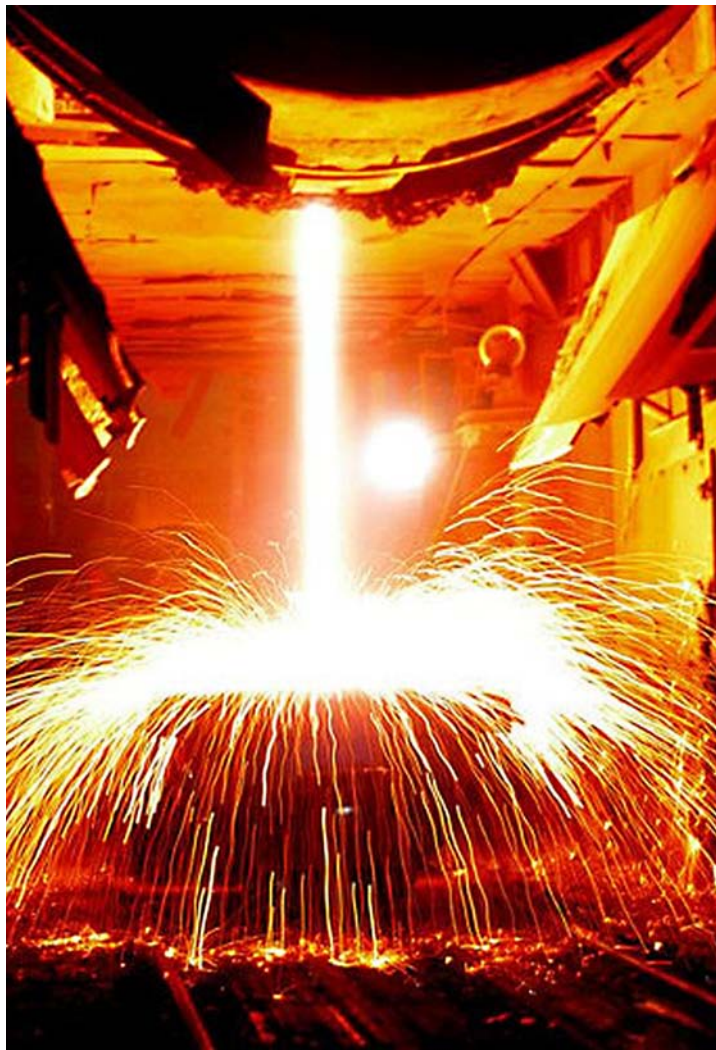
Antonio Carlos Kieling, the association's CEO, is particularly optimistic about the growth of porcelain tile. "Brazilian producers are aligned with the best technology available in the world, and almost all of its production is in accordance with international standards of quality," he says. In 2007, the country published NBR 15463rd, the Brazilian standard for porcelain, "the first global initiative to standardize the production process of porcelain." In addition, he says, tile manufacturers are working on continued design enhancements that already have established Brazil's international reputation for distinct design quality. Another trend in this sector of the industry is environmentally friendly products, another area that Brazilians think will increase international appeal.

As has been the case throughout the world, the construction industry in Brazil has been hurt by the global economic crisis, and the level of opportunity in the industry will be determined to some extent by the speed of global economic recovery. However, Kieling says the country offers a wide variety of advantages to foreign companies that are interested in investments, joint ventures or other business dealings with ceramics companies in Brazil. Those advantages include "a modern industrial park, capacity management [and] availability of energy and raw materials of all kinds." Brazil also is home to 14 percent of the world's renewable fresh-water supply.

Curimbaba Ferreira also cites Brazil's mineral wealth as one of its most attractive attributes for companies in North

America, Europe or Asia that are interested in engaging in international trade in the region. "We have good raw materials. It's a key for competition," he says. The country needs that competitive edge, he adds frankly, because, at this stage of the industry's evolution, "We can't do really good technical ceramics and compete right now with the United States, Japan and Germany."

That lack of world-class competitiveness on the technology side plays a key role in keeping the majority of the industry focused on traditional ceramics – for now. However, university studies on the technical side of ceramics are on the rise, helping to develop the human resources capacity that will be needed to move ahead in other sectors. Although nontraditional ceramics sectors remain in their infancy in Brazil, the industry already is preparing for its next generation of technological trends. ■



Large-scale steelmaking continues to fuel the demand for refractory products and innovation in Brazil.

The Brazilian Market

The United States is Brazil's number-one trading partner in exports and imports, followed by Argentina and China. The State Department also offers this assessment of the Brazilian market: "Growth estimates for the second half of 2009 and 2010 are positive. Brazil is now a net creditor nation, and the current crisis notwithstanding, has in recent years experienced sustained growth, strong exports, healthy external accounts, moderate inflation, decreasing unemployment and reductions in the debt-to-GDP ratio. ... However, significant vulnerabilities remain in the Brazilian economy. The total tax burden is high, income distribution remains skewed and the private business community complains of burdensome regulation."

The U.S. Commercial Service, a division of the U.S. Commerce Department, provides a 2009 country commercial guide to doing business with Brazil at www.focusbrazil.org.br/ccg/.

Ceramics in South America



Alex Talavera and
Randy B. Hecht

Historically, the South American ceramics industry has been concentrated in tile, flooring, construction materials and white line products. As worldwide demand increases in the industry's technology-related sectors, South American ceramics leaders are beginning to position themselves for a role in this growth. Companies are making investments that will qualify them for participation in the worldwide ceramics market, such as adopting the industry's best practices and achieving ISO 9001 and ISO 14001 certification.

Together, Brazil and Venezuela account for 70 percent of ceramics production in the region, followed by Argentina (14 percent), Uruguay,

Paraguay and Bolivia. However, companies throughout the region are experiencing growth. For example, Peruvian ceramics export volume grew by 44 percent in 2008.

Conscious of emerging opportunities in the sector, even family-owned traditional ceramics companies are looking for ways to improve their market position. Esteban Argerich, one of the proprietors of Cerámicas Il Bel Bagno of Buenos Aires, Argentina, wrote his university thesis about “the possibility that the Argentine ceramics industry could assume the role of agent for economic, academic and social development.”

The company, similar to many in the region, is focused on style innovations, such as mixed uses of ceramics, marble, stone and glass, that are establishing South America as a global leader in ceramics design.

Alejandro Coronado, general manager of one of Bolivia’s largest producers, distributors and exporters, Cerámicas Gladymar, is seeing the same design trend toward more high-end ceramics. “The production segment that is most selective regarding designs is being influenced by the European market,” he says. The company has formed strategic partnerships with vendors in Spain, Italy and Brazil to meet the growing demand for ceramics that represent the latest design trends and are characterized by a sense of “design harmony equal to what is found in nature.”

Although South America has developed little in the way of new ceramics material technologies, it already is implementing the use of technologies developed in other parts of the world. In Chile, for example, the Fondo de Fomento y Desarrollo Científico y Tecnológico has completed a study entitled, “Advanced Ceramics: Technology Development for the Improvement of Industrial Productivity.” Given the region’s economic disadvantage relative to North America, Europe and Asia, the industry in South America is particularly concerned with technology advances that can enhance its productivity and efficiency.

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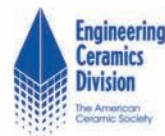
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Ceramics in South America

However, for the moment, the region will remain largely dependent on foreign development of the technologies necessary to meet those objectives. University degree programs in industrial ceramics are highly specialized and not widely available. For the most part, only the largest universities located in centers that produce a high volume of ceramics offer specialized programs of study in industrial ceramics. Although these conditions will impede ceramics industry research and training at least for the short term, particularly in view of the worldwide economic crisis, they also create potential opportunities for companies outside the region that are interested in exploring partnerships with South American companies. ■

South American Ceramics Directory

The following online resources provide information about the scope and breadth of activities within the South American ceramics industry, as well as contacts to assist U.S. companies in networking within the region. Many of the Brazilian resources, including many individual companies' websites, are available in English and Spanish as well as Portuguese.

core objective is to unite "those with an interest in the science, art and technology of the ceramics, glass and related industries and share, by way of congresses, conferences, courses and publications, each sector's research and developments."

Address:
Perú 1420 - (1141) Buenos Aires, Argentina

Phone: None provided
Fax: +54 (11) 4362-4510
email: atacer2@yahoo.com.ar
Website: www.ceramicaycristal.com/atac.htm

President: Gregorio Domato

Note: According to the Website, ATAC maintains only part-time business hours, Monday–Friday from 2:00 p.m. to 6:00 p.m. ATAC also has a London-based European delegate who is a member of ACerS and can field inquiries in English:

Aldo Boccaccini
Imperial College
Department of Materials
Prince Consort Road, London SW7 2BP, England
Phone: +44 (20) 7594-6731
Fax: +44 (20) 7584-3194

email: a.boccaccini@imperial.ac.uk
Revista Cerámica y Cristal (Ceramic and Crystal Magazine) is ATAC's official publication. It is published twice a year, and back issues are available online at www.ceramicaycristal.com.

Address:
Esteban de Luca 2252 dto.2 - (1246)

UNITECR Coming to Brazil

One sign of Brazil's standing in the world of ceramic materials is that the 11th Unified International Technical Conference on Refractories will be held Oct. 13–16, 2009, in Salvador, Brazil. UNITECR is a biennial international conference held to contribute to the progress and exchange of industrial knowledge and technologies concerning refractories.

It isn't surprising that Brazil will be the stage for the 2009 conference. That country's active steel industry has made it a major player in the world of refractories. Another factor is that the Asociación Latinoamericana de Fabricantes de Refractorios – the Latin American Association of Refractory Manufacturers – is one of the four "Founding Member Organizations" of UNITECR (the other three are ACerS, the German Refractories Association and Japan's Technical Association of Refractories). Indeed, Brazil also was host to the 1993 UNITECR meeting.

UNITECR technical sessions themes include Nanoengineered Refractories, Carbon Refractories, Blast Furnace/Coke Ovens Refractories, Advances in Refractories Basic Science, Globalized Education, Raw Materials, Ex-Situ and In-Situ Characterization, Modeling and Simulation, Refractories for Cement and Lime, Refractories for Nonferrous Metallurgy, Refractories for BOF/EAF, Advanced Testing and Manufacturing, and Installation and Equipment. Participants will be attending from around the world, and, as early as June, organizers said that more than 240 papers had been accepted for the program.

Besides technical sessions, UNITECR features a welcoming cocktail reception and a gala dinner. The venue also serves as a meeting location for related refractories meetings, such as the ISO TC 33 Committee, the International Standards Organizations Technical Committee on Refractory Standards and the Federation for International Refractory Research and Education.

For information about the schedule and registration for UNITECR, visit www.unitecr2009.org.

Buenos Aires, Argentina
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email: ciclo@ceramicaycristal.com.ar
Website: www.ceramicaycristal.com/

Editorial Director: Luis Arnoldo Alonso Ibáñez

Brazil

The **Associação Brasileira de Cerâmica** (ABC), the Brazilian Ceramics Society, was founded in 1953 to promote the interests of companies and professionals involved in ceramics science, technology and teaching as well as entrepreneurial activities within the sector. ABC's website is published in Portuguese only, but its executives and staff members include professionals who can reply to inquiries in English.

Address:
Av. Prof. Almeida Prado, 532
Cidade Universitária - IPT
Prédio 36 - 2º andar - sala 3
05508-901 - São Paulo - SP - Brasil

Phone/Fax: +55 (11) 3768-7101 or 3768-4284
email: abceram@abceram.org.br
Website: www.abceram.org.br/asp/abc_0.asp

President: Leonardo Curimbaba Ferreira
Cerâmica, the association's official journal, is published bimonthly for distribution to more than 700 members

of the organization as well as libraries worldwide. The magazine "accepts original (and review) articles in the entire field of ceramic science and technology." A brief English-language description of the magazine is accessible at www.scielo.br/revistas/ce/aboutj.htm.

The **Associação Nacional de Fabricantes de Cerâmica para Revestimento (ANFACER)** is Brazil's national association of ceramic-tile manufacturers. Founded in 1984, it represents a sector composed of 94 companies that operate 117 industrial plants in 17 states. ANFACER's members represent 85 percent of production and 95 percent of exports of ceramic tile in Brazil.

The organization's website is trilingual (Portuguese, Spanish and English).

Address:
Av. Paulista 453 / 7º andar - Cj. 71
São Paulo - SP - Brasil
CEP: 01311-907

Phone: +55 (11) 3289-7555
Fax: +55 (11) 3287-9624
email: info@anfacer.org.br
Website: www.anfacer.org.br/

The **Laboratório Interdisciplinar de Eletroquímica e Cerâmica**, sponsored by the Universidade Estadual Paulista, was founded in 1988 to explore joint ventures in electrochemistry and ceramics utilizing niobium. Its

Professional Associations and Publications

South America

The **Asociación Latinoamericana de Fabricantes de Refractorios** is a nonprofit civil association with its secretariat located in Rio de Janeiro, Brazil. Founded in 1967, the main goals of ALAFAR are to give technical assistance to Latin American refractories companies, promote scientific exchange among its members, promote regional interests of its refractory industry, develop technicians and a specialized workforce, publish scientific literature, participate in related conferences, establish correct nomenclature and classification of refractory products, and maintain statistics on the refractory industry.

Phone: +55 (31) 3411-8183
Fax: +55 (31) 3411-8183
email: alafar@terra.com.br
Website: www.alafar.org

Argentina

The **Asociación Técnica Argentina de Cerámica** is Argentina's professional association for the ceramics industry. Founded in 1962, its

**Identifies company websites with English translations.*

principal line of research is the synthesis and development of new ceramics and electronics materials.

Website: www.liec.iq.unesp.br/portal/

Venezuela

CINVICRE (Cámara de la Industria del Vidrio, Cerámica, Refractarios e Industrias Afines) is Venezuela's chamber of commerce for the glass, ceramics, fireproof and related industries. The organization describes itself as a coalition of "sectors whose processes and products are varied, aligned in their purpose and in the goal of continued advances in the development of this industrial sector."

Address:
Calle Los Laboratorios, Torre Beta, Piso 3, Oficina 301
Los Ruices, Caracas1070, Venezuela

Phone: +58 (212) 232-9563 or 238-3061
Fax: +58 (212) 232-9563
email: cinvicre@cantv.net
Website: www.cinvicre.com

Executive Director: Abogada Miriam Briceño Pellín (Note: "Abogada" means lawyer in Spanish and is used here as a title, in accordance with the manner in which Sra. Briceño Pellín's name is listed on the website.)

According to CINVICRE, no one on staff speaks English. Therefore, a Spanish speaker is needed to communicate with the organization.

COMPANIES

Argentina

ATAC Vendor Guide

www.ceramicaycristal.com/c-guia-b.htm
This extensive listing, prepared by ATAC, provides contact information for vendors of ceramics materials, machinery and services in Argentina.

Carbo San Luis*
Products: Refractory products and thermal insulating materials

Phone: +54 (11) 4373-4439
Fax: +54 (11) 4372-3331
ventas@carbosanluis.com.ar
www.thermalceramics.com/_offices/offices.asp?office=Argentina

Cerro Negro Cerámicas Argentinas*

Products: Roof and flooring tile
Phone: +54 (11) 4790-0200
Fax: +54 (11) 4790-2772
www.cerronegro.com.ar

San Lorenzo - Cerámicas Argentinas*

Products: Roof material, panels, and floor and wall coverings
Phone/fax: +54 (11) 5777-2200
email: info@ceramicasanlorenzo.com
www.ceramicasanlorenzo.com

Bolivia

Gladymar

Products: Floor and wall tile
Phone: +591 3 346-6110
Fax: +591 3 346-3877
gladymar@gruporoda.com
www.gladymar.bo

Faboce

Products: floor and wall tile
www.faboce.com.bo

Brazil

Alfagrês*

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www.angelgres.com.br

Anhanguera

Products: Floor and wall tile
Phone: +55 (19) 3556-9500
info@anhanguerapisos.com.br
www.anhanguerapisos.com.br

Antigua*

Products: Floor and wall tile
Phone: +55 (19) 3543-4201
www.antigua.com.br

Atlas*

Products: Floor and wall tile
Phone: +55 (19) 3673-9600
Fax: +55 (19) 3673-1132
www.ceratlas.com.br

Arte 27

Products: Floor and wall tile
www.arte27.com.br

Batistella*

Products: Floor and wall tile
Phone: +55 (19) 2113-4833
Fax: +55 (19) 3442-4758
email: export@batistella.com.br
www.batistella.com.br

Biancogrès

Products: Interior and exterior tile
Phone: +55 (27) 3421-9000
Fax: +55 (27) 3421-9045
www.biancogres.com.br

Buschinelli

Products: Floor and wall tile
Phone: +55 (19) 3545-9999
www.buschinelli.com.br

Carbus

Products: Floor and wall tile
Phone: +55 (19) 3546-9100
Fax: +55 (19) 3546-3759
carbus@carbus.com.br
www.carbus.com.br

Casagrande*

Products: Floor and wall tile
Phone: +55 (41) 2106-8228
Fax: +55 (41) 2106-8230
rcasagrande@rcasagrande.com.br
www.rcasagrande.com.br

CECAFI

Products: Floor and wall tile
Phone: +55 (19) 3556-9600
Fax: +55 (19) 3556-9601
www.cecafi.com.br

CECRISA

Products: Floor and wall tile
Phone: +55 (48) 3431-6333
Fax: +55 (48) 3431-6003
www.ceramicaportinari.com.br

CEDASA

Phone: +55 (19) 3545-8700
Fax: +55 (19) 3545-8707
suporte@cedasa.com.br
www.cedasa.com.br

Cejatel*

Products: Roof and floor tile
Phone: +55 (48) 3624-1001
Fax: +55 (48) 3624-1001
pisos@cejatel.com.br
www.cejatel.com.br

CERAL

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adriane@ceralpisos.com.br
www.ceralpisos.com.br

CEUSA*

Products: Interior and exterior floor and wall tile
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Fax: +55 (48) 3441-2031
www.ceusa.com.br

Chiarelli

Products: Floor and wall tile
Phone: +55 (19) 3891-9200
Fax: +55 (19) 3891-9290
www.chiarelli.com.br

Duragres

Products: Floor and wall tile
Phone: +55 (19) 3522-3700
contato@deltaceramica.com.br
www.duragres.com.br

Eliane Revestimentos Ceramicos

Products: Floor and wall tile
Phone: +55 (11) 2122-7272
www.eliane.com

Elizabeth

Products: Tile and sanitaryware
Phone: +55 (83) 2107-2000
elizabeth@ceramicaelizabeth.com.br
www.ceramicaelizabeth.com.br

Embramaco*

Products: Floor and wall tile
www.embramaco.com.br

Escurial

Products: Floor and wall tile
Phone: +55 (79) 3279-2400
Fax: +55 (79) 3254-1305
escurial@escurial.com.br
www.escurial.com.br

Formigrès*

Products: Floor and wall tile
Phone: +55 (19) 3545-8880
Fax: +55 (19) 3545-1130
dirceu.rh@formigres.com.br
www.formigres.com.br

Gabriella*

Products: Floor and wall tile
Phone: +55 (48) 3431-7000
sac@gabcer.com.br
www.gabriellanet.com.br

Gail Arquitetura Em Cerâmica

Products: Interior and exterior tile
Phone: +55 (92) 3611-4582
casabella@argo.com.br
www.gail.com.br

Giseli

Products: Floor and wall tile
Phone: +55 (48) 2101-1856
cagiseli@giseli.com.br
www.giseli.com.br

Gyotoku*

Products: Floor and wall tile
Phone: +55 (75) 3616-4515
danilo.bastos@oi.com
www.gyotoku.com.br

Henry Mosaicos

Products: Floor and wall tile
Phone: +55 (48) 3447-0924
Fax: +55 (48) 3447-1621
henrycer@terra.com.br
www.henryceramicos.com.br

INCEFRA*

Products: Floor and wall tile
Phone: +55 (11) 2942-0395
export@incefra.com.br
www.incefra.com.br

INCEPA

Products: Floor and wall tile, and sanitaryware
Phone: +55 (41) 2105-2500
www.incepa.com.br
www.incepa.com.br

INCESA

Products: Floor and wall tile
Phone: +55 (33) 9984-0345
geraldarepresentacoes@yahoo.com.br
www.ceramicaincesa.com.br

INCOPIPOS*

Products: Floor and wall tile
Phone: +55 (19) 3545-8660
Fax: +55 (19) 3545-8660
www.incopisos.com.br

Inti*

Products: Floor and wall tile
Phone: +55 (48) 3628-1222
Fax: +55 (48) 3628-1562
vendas@intinet.com.br
www.intinet.com.br

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Products: Floor and wall tile
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Fax: +55 (48) 3631-2020
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Fax: +55 (19) 3826-7618
comercial@jatoba.com.br
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Kardenia*

Products: Floor and wall tile
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Fax: +55 (19) 3534-0644
www.kardenia.com.br

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www.lef.com.br

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Phone: +55 (11) 5506-1390
Fax: +55 (11) 5506-1584
www.lepriceramicas.com.br

Magnesita Refratários

Products: Refractory materials
Phone: +55 (31) 3368-1111
www.grupomagnesita.com.br

MAJOPAR

Products: Floor and wall tile
Phone: +55 (19) 3545-8700
Fax: +55 (19) 3545-8707
www.majopar.com.br

Mazza Cerâmicas

Products: Floor and wall tile
Phone: +55 (11) 3673-1018
www.mazzaceramicas.com.br

Moliza*

Products: Floor and wall tile
Phone: +55 (48) 3434-8500
Fax: +55 (48) 3434-1110
www.moliza.com.br

Morganite Brazil LTDA*

Products: Thermal insulation
Phone: +55 (21) 3305 7400
Fax: +55 (21) 2418 1205
fibras@morganitethermal.com.br
www.thermalceramics.com/_offices/offices.asp?office=Brazil

Mosarte*

Products: Floor and wall tile
Phone: +55 (48) 3345-3000
Fax: +55 (48) 3345-3036
www.mosarte.com.br

Nina Martinelli*

Products: Floor and wall tile
Phone: +55 (19) 3673-1015
vendas@ninamartinelli.com.br
www.ninamartinelli.com.br

PAMESA

Products: Floor and wall tile
Phone: +55 (11) 3972-5499
edilaine@pamesa.com.br
www.pamesa.com.br

Pisoforte*

Products: Floor and wall tile
Phone: +55 (48) 3431-5555
Fax: +55 (48) 3431-5522
pisoforte@pisoforte.com.br
www.pisoforte.com.br

Porcellanati*

Products: Floor and wall tile
Phone: +55 (48) 3631-2000
Fax: +55 (48) 3631-2020
www.porcellanati.com.br

Porto Ferreira

Products: Floor and wall tile
Phone: +55 (19) 3589-4000
Fax: +55 (19) 3589-1221
www.ceramicaportoferreira.com.br

Porto Velho

Products: Floor and wall tile
Phone: +55 (92) 8155-1838
farias8000@yahoo.com.br
www.cerbras.com.br

Portobello*

Products: Floor and wall tile
Phone: +55 (48) 3279-2222
Fax: +55 (48) 3279-2232
www.portobello.com.br

Strufaldi*

Products: Interior and exterior tile
Phone: +55 (15) 3322-2222
comercial@strufaldi.com.br
www.strufaldi.com.br

Studio Marmo

Products: Floor and glass tile
Phone: +55 (19) 3545-2453
Fax: +55 (19) 3545-4387
studiomarmo@studiomarmo.com.br
www.studiomarmo.com.br

Super NGK*

Products: Automotive parts, technical ceramics, tile
venda_ceramica@ngkntk.com.br
www.ngkntk.com.br

*Identifies company websites with English translations.

Tecnogrés*

Products: Floor and wall tile
Phone: +55 (0800) 701-3553
www.tecnogres.com.br
www.tecnogres.com.br

Unigrés

Products: Floor and wall tile
Phone: +55 (19) 2113-4700
Fax: +55 (19) 2113-4729
www.unigres.com.br

Videira

Products: Tubes and plugs
Phone: +55 (19) 3673-1015
Fax: +55 (19) 3673-1015
www.organizacaovideira.com.br

Vidro Real Pastilhas De Vidro

Products: Floor and wall tile
Phone: +55 (19) 3869-8928
Fax: +55 (19) 9774-8500
Email: elzordan@uol.com.br
www.vidroreal.com

Villagres

Products: Floor and wall tile
Phone: +55 (19) 3545-9000
Fax: +55 (19) 3545-9000
fabiana@villagres.com.br
www.villagres.com.br

Chile

Carbo Chile, S.A.*

Products: Refractory products, thermal insulating materials and wear resistant materials
Phone: +56 (2) 854-1064
Fax: +56 (2) 854-1962

carbochile@carbochile.cl
www.thermalceramics.com/_offices/
offices.asp?office=Chile

Refractarios lunge Ltda.

Products: Refractory materials
Phone: 56 (2) 745-3613
Fax 56 (2) 745-3614
www.iunge.cl

Colombia

ERECOS

Products: Refractory materials and cements
Phone: 232 26 00
Fax: 262 06 58
erecos@erecos.com
www.erecos.com

Thermal Ceramics de Colombia SA

Products: Refractory materials
Phone: +57 (2) 228 2803
Fax: +57 (2) 237 2205
thermal@ert.com.co
www.thermalceramics.com/_offices/
offices.asp?office=Colombia

Paraguay

Cerámica Paraguaya, S.A.

Products: Roofing tile and brick
Phone: +595 (21) 290-596
Fax: +595 (21) 290-560
ricardomaluff@ceramicaparaguay.com.py
www.ceramicaparaguay.com.py

Peru

Repsa Refractarios Peruanos

Products: Refractory materials
Phone: (511)5151100

Fax: (511)4641181
E-mail: ventas@repsa.com.pe
www.repsa.com.pe/

Uruguay

Grupo Acher Uruguay

Products: Floor and wall tile
Phone: +005982 487-5630
www.acher.com.uy

Venezuela

Balgres, C.A.

Products: Floor and wall tile
Phone: +02 (39) 500-3111
Fax: +02 (39) 500-3185
export@balgres.com
www.balgres.com/

Calderys Refractarios Venezolanos, S.A.

Products: Industrial ceramics
Phone: +58 (286) 994-1211
Fax: +58 (286) 994-1634
venezuela@calderys.com
www.ve.calderys-group.com/

Cerámica Carabobo, S.A.C.A.*

Products: Tile, tableware and refractories
Phone: +0241 813-4299
Fax: +0241 813-4194
www.ceramica-carabobo.com/

Cerámicas Caribe

Products: Floor and wall tile
Phone: +58 (212) 7000-227
vanessa.molina@ceramicascaribe.com
www.ceramicascaribe.com/

Revestimientos Venezolanos De Cerámica, S.A. (REVESTIVENSA)

Products: Floor and wall tile
Phone: +58 (212) 614-1288
ventas@revestivensa.com
www.revestivensa.com/

Vencerámica

Products: Floor and wall tile
Phone: +58 (0800) 737-8423
www.venceramica.com/

Thermal Ceramics de Venezuela CA

Products: Refractory materials
Phone: +58 (241) 878 3164
Fax: +58 (241) 878 6712
tcgerencia2@cantv.net
www.thermalceramics.com/_offices/
offices.asp?office=Venezuela

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