August 2008

Usina de Notícias

Number 18

SPECIAL

Technology adapted to extreme conditions

ADVANCED SERIES
COUNTERFLOW ASPHALT PLANTS

EQUIPMENTS THAT MEET
ALL THE NEEDS OF YOUR WORKS.

Compact, easy transport and install,
with a high-quality productivity

30 years CIBER
Leadership for half a century

LEADING TECHNOLOGY

Ciber is a company that belongs to the Wirtgen Group, which is continuously investing in research and development in order to offer to the market innovative solutions in asphalt mixtures production. The results are reliable, safe and environment-friendly equipments. Furthermore, it offers CIBER SERVICES, an efficient after-sales service associated to a qualified customer support by specialized engineers.

Accurate and easy-to-operate control system

External mixer with double shaft that ensures an excellent mixture

Filtration system through bag filters:
Solutions that exceed the most rigid environmental standards

Find your dealer at: www.ciber.com.br - e-mail: africa@ciber.com.br

WIRTGEN GROUP

CIBER

TABLE OF CONTENTS

Editorial staff

THE "USINA DE NOTÍCIAS" MAGAZINE IS A QUARTERLY PUBLICATION OF CIBER EQUIPAMENTOS RODOVIÁRIOS LTDA. - A WIRTGEN GROUP COMPANY.

Rua Senhor do Bom Fim, 177
CEP 91140-380
Porto Alegre - RS - Brazil
Phone: (55-51) 3364-9200
Fax: (55-51) 3364-9222
ciber@ciber.com.br
www.ciber.com.br

Editors:
Stella Richetti and Douglas Dall'Agnol (Comunicação e Publicidade)

Production and execution:
temática PUBLICAÇÕES

Phone: (55-51) 3346-1194
redacao@tematica-rs.com.br

Publication:
Fernanda Reche (MTb 9474) and Svendla Chaves (MTb 9698)

Reports:
Patricia Campello

Revision:
www.pos-texto.com.br

Translated by:
www.traduzca.com.br

Artwork:
Eduardo Mello and Lucas Ladwig

Printing run:
4,000 copies (Portuguese)
1,800 copies (Spanish)
1,000 copies (English)

Free distribution.

Dealing with Adverse Weather Conditions

Whether in the torrid heat or freezing cold, Ciber equipment has been designed to operate in the most adverse weather conditions

Page 8

Benefits beyond Productivity

Ciber's plant acquired by the Mexican company Concretos Reciclados is producing warm asphalt mix, which helped earn an environmental award in the country

Page 18

OPINION

Transcending Frontiers

Walter Rauen de Souza
Director-President of Ciber

Ciber, a subsidiary of the German group Wirtgen, has much to celebrate in 2008. We are now a half a century old and we received the RS Exports Award. New paths have opened up and the expansion of the activities abroad, despite the dollar devaluating, is one of the company's greatest victories. We are the leaders in Latin America in manufacturing and selling equipment for paving, construction, and repairing roads, and since 2004 we are taking broad strides toward the African market, exporting mainly asphalt plants. Currently Africa represents 18% of exports.

The result could be no different. The company invests heavily in research—it has already registered 15 patents up until now—and in a diverse product line that can adapt to all weather conditions or geographic adversity.

The international market has also found in Ciber a partner that observes the various cultures and local languages, providing assistance in all the selling stages. We are always prepared to meet the clients independently of the country they may be. All this concern in offering successful solutions has contributed to ship continually more equipment beyond Brazilian borders. Exports today have already reached half of Ciber's revenue. This solid "road" built over these 50 years bring together some special values: effort, state-of-the-art technology, and commitment with our clients.

New corporate site

Institutional and market information can be accessed in Ciber Equipamentos Rodoviários' new corporate site (www.ciber.com.br). From the site it is also possible to access the other German companies in the Group (Wirtgen, Vögele, Hamm, and Kleemann) with intuitive navigation in Portuguese, Spanish, and English and a single line of web design for the entire group. The page was reformulated by the German web design agency Kernpunkt in order to facilitate the customer's access to the group's solutions, putting them in contact with the line of more than 200 products from the five companies as well as the dealership network spread throughout the world.

Technical norms published for the sector

Ciber participates in the research commissions from the Brazilian Committee of Mechanical Machines and Equipment, which is a member of the Brazilian Association of Technical Standards (ABNT). The company has worked alongside this group since 2006, participating in standardizing nomenclatures for the sector. There have already been published seven terminology standards and commercial specifications in all. One of these standards refers to the classification of machines. The standards developed with the company's help will make it possible to define standards for the sector.

Terminology and sales specifications

Reference	Title
ABNT NBR ISO 15642	Equipment for building and maintaining roads – Asphalt Mixing Plants – Trade terminology and specifications
ABNT NBR ISO 15645	Equipment for building and maintaining roads – Highway milling machines – Trade terminology and specifications
ABNT ISO/TR 12603	Machinery and equipment for structures and buildings - Classification
ABNT NBR ISO 15688	Equipment for building and maintaining roads – Soil Stabilizers – Trade terminology and specifications
ABNT NBR ISO 15689	Equipment for construction and maintaining roads – Distributors of powder binding agent – Trade terminology and specifications
ABNT NBR ISO 16039	Equipment for building and maintaining roads – Slipform Pavers – Trade definitions and specifications
ABNT NBR ISO 15643	Equipment for building and maintaining roads – Distributors of hot binding agent – Trade terminology and specifications

GRW 18 Rollers Capture Brazil's Heart

Ciber Equipamentos Rodoviários represents the Hamm product line in Brazil, and it has reached excellent results with the GRW 18 compactors in the Brazilian market. Several units have already been sold in Brazil.
The acceptance of the compactors can be seen in different places of the country where the static rollers on wheels are in operation. Due to the strong demand of highway projects, the largest percentage of machines can be found in the Southeast region, followed by the South and Northeast.
The models GRW 18 are used with asphalt surface finishes (seal off the pores).
Not only does the Hamm brand bring with it tradition and trust, the success of the equipment is a result of the excellent performance in the work of compaction, reducing the number of passes, which also reduces fuel consumption. "It combines the vertical force of its heavy static weight with the horizontal forces typical of the "crushing" characteristic resulting from the deformation of the tires," explains Cristiano Lameira, Ciber's Application engineer.

Advantages of the GRW 18 compactors

Find out why they captured the hearts of the Brazilian consumer

High-Performance
Versatility
Excellent drivability with two steering wheels, one on each side of the equipment
Greater stability
Operational simplicity
Easy maintenance
Equal distribution of the weight on each tire
Various ballast options

UACF 17 P Advanced operates in road net pole

The UACF 17 P Advanced has shown good results for SBS Engenharia e Construções as it has had continual use for paving in the city and for repair and maintenance of the 620 kilometers of road net pole in Pelotas, which is a city in the south part of Rio Grande do Sul (Brazil). The company has its headquarters in the city of Porto Alegre and it purchased the equipment to meet the high demand in its building projects. "It has been three years since we have worked on the streets of that region and we needed a more powerful plant."
"Its production capacity (120 metric tons an hour) met our expectations," affirms Nelson Sperb Neto, the contractor's president-director. SBS is a shareholder of Ecosul, which is the road concession company responsible for administrating the highways that make up the road net pole in Pelotas.
The importance of the undertaking is the fact that the section is the main access to the Rio Grande Port.
The building project has 600 employees involved directly in the work to maintain the pavement. "The highway has to be always kept in good conditions because it is an area of heavy truck traffic," points out Sperb.

Interchange of knowledge

The Ciber brand is present in various events for its sector in Brazil. From May 28 to 30 the company participated in the 15th Urban Paving Meeting that took place in Salvador, Bahia.
The company was present with a stand distributing information material to a diverse public made up of academic researchers, technical engineers in the paving area, and specialists from national and international entities. The meeting's objective was to promote an exchange of experiences and knowledge between the visitors and exhibitors. Workshops, papers, and projects were presented on the topic.

Half a century in celebration

With the theme, "You are part of this family," Ciber celebrated half a century of existence on May 29 with a dinner that brought together around 200 employees in the city of Porto Alegre. At the occasion, the company's director-president, Walter Rauen, spoke to the employees about the Wirtgen group and also expounded on the improvements made to the infrastructure by the company in the last years. A presentation of Ciber's new institutional video was also given.

The participants then participated in a motivational and interactive workshop given by consultant Márcio Mancio, a specialist in administration and team motivation.

KMA 200 starts up operations in Brazil

A company in **São Paulo** has chosen this plant because of its **capacity to rationally** and **intelligently** reuse milled material

The first cold recycling mixing plant KMA 200 sold by Ciber in Latin America already starts up operations in Brazil. The equipment was sold to Ane Pavimentação e Construção Ltda., a company with headquarters in the city of Barueri in São Paulo, and today is working on the construction project to build an overpass at km 262 on highway SP055 - Railway – along the Cônego Domenico Rangoni Highway situated in the state of São Paulo. The machine works at making a cemented layer with RAP (Reclaimed Asphalt Pavement) mixture, new aggregates, and cement.

According to Armando Morilha Junior, a consultant for the Ane Group and Mecpavi Engenharia Ltda., the KMA 200 makes it possible to have a mixture with different additives with emulsion or asphalt foam. "Asphalt foam technology is this plant's outstanding feature," he affirms. Among other advantages, the consultant highlights the equipment's mobility, which makes it possible to produce milled material previously deposited in strategic points along the highway. "The KMA 200 makes it possible to make aggregates/RAP mixtures with hydraulic and/or emulsified asphalt binding agents or in the form of foam. This flexibility of the different additive options makes it possible to make mixtures of different rigidity that provide the designer with more options to prepare his design," explains Morilha, pointing out that by using milled material can result in saving virgin aggregates, which are difficult to be extracted from the large urban centers.

For him, the performance of the plant has surpassed their expectations due to the qualified production of raw material and the evident gains in terms of sustainability and preserving the environment. The consultant points out that its high performance is guaranteed by two aggregate bins and a powerful pug-mill that processes mixtures with precision. "A relevant detail is that the KMA 200 is mobile and self-sufficient and does not need to be connected to electrical energy nor to an external fuel tank for its operation," he adds. The KMA does not need external energy: it has a diesel engine that powers all the equipment's functions by hydraulic pumps and motors.

Quality Guarantee

Check out some KMA 200 characteristics

- Semi-trailer platform that facilitates transportation
- Two aggregates dosing bins
- Vibratory sieves for removing clots
- Mixer Pug-mill type with double shaft
- Unloading floodgate hydraulically adjusted in order to adjust volume from the mixer
- Pressure gauge for continually monitoring the volume
- Injection system to connect with additives and water
- Single panel for controlling all the plant's operation

Company in the Central-west part of Brazil invests in a plant

The **UACF 15 P Advanced** worked on a highway **repair** project in the Brazilian state of **Mato Grosso do Sul**

The equipment sold by Ciber gains market share in Mato Grosso do Sul (Brazil). The Brazilian company CGR Engenharia Ltda bought a UACF 15 P Advanced plant for working exclusively with repairing the MS 080, which is one of the highways with the most vehicle traffic in the state.

The repair began at the height of kilometer 22 between the cities of Campo Grande and Rochedo.

The project covered an extension of 70 kilometers of asphalt repair and it was completed in four months. The state government invested R$ 6.9 million in highway improvement programs in order to increase the highway quality in the region.

After this job was done the equipment also undertook another important project for CGR. The company provided Hot Mix Asphalt (HMA) according to Level C of the National Department of Infrastructure and Transport (DNIT) for paving the Moreninhas III housing development in the city of Campo Grande, which has approximately 200,000 inhabitants. The plant is still being used to build the Intermodal Load Terminal in the city for the production of asphalt surface.

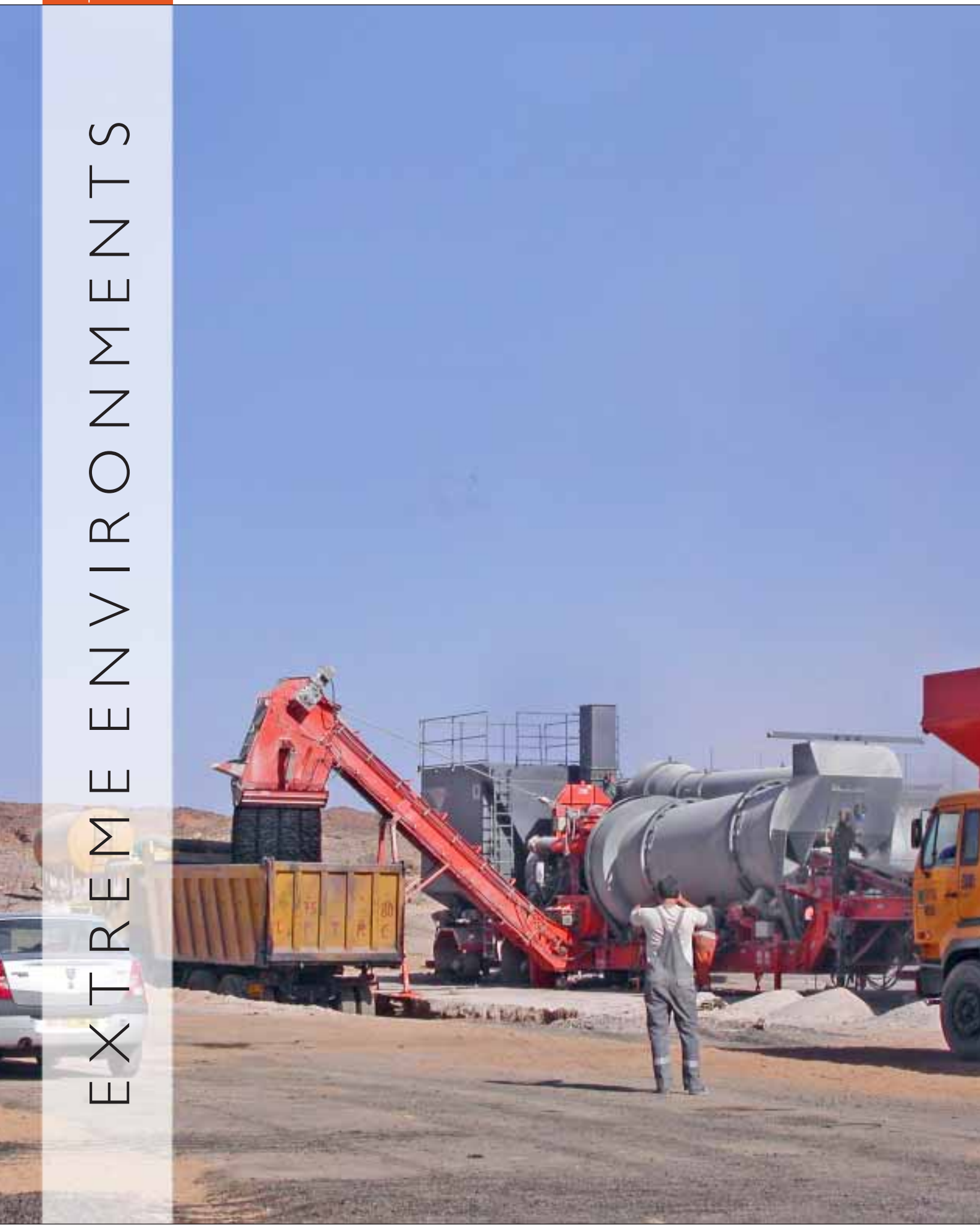
For Carlos Gilberto Recalde, Infrastructure and Sales Director for CGR Engenharia, the equipment represents a great investment due to the benefits in terms of productivity, with the production of homogeneous asphalt mixture, and for the exclusive bag filter system. "The qualified filtering makes it possible to control gas emissions. It is a machine easy to license. In Campo Grande it is the only one in activity," affirms Recalde, who also sub-contracts asphalt for third-party companies. "It is still a small market, but we believe it will grow in the near future." The company's headquarters are in São Paulo (Brazil) and serves the Brazilian regions of Mato Grosso do Sul, as well as parts of the states of São Paulo and Santa Catarina.

Highlight

The UACF 15 P Advanced joins practicality with preserving the environment. It is part of Ciber's family of plants with a single platform. With only one chassis, the machine can carry all of its components, which makes it possible for customers to choose the items that are most adequate for their needs. It can produce up to 80 metric tons of asphalt mix per hour.

Plant purchased by CGR Engenharia

EXTREME ENVIRONMENTS



Technology to overcome adversities

The **climatic** and **geographic singularities** of the most diverse corners of the plant **are faced** by **Ciber asphalt plants** with a flexible **design and state-of-the-art technology**

The line of counter-flow plants manufactured by Ciber Equipamentos Rodoviário in Brazil is adapted to the most adverse climate conditions. At high altitudes, in the terrible cold, or at beating high temperatures, the machines can operate maintaining excellent levels of productivity independent of the local reality. This flexibility is what keeps the company as market leader in Latin America and gaining market share in Africa. Ciber's asphalt plants are already in activity in regions such as Ushuaia (Argentina), the Sahara Desert (Africa), Lesotho (Africa), the Atacama Desert (Chile), Bolivia, and Peru.

Designed in standard modules, the Ciber equipment offers advantages such as the possibility of configuring it according to customer needs. The machine adjustments take place at the moment of installation, following the climatic and geographic peculiarities of each environment. Because they are portable, the plants can be dislocated easily and quickly by simply making adjustments according to the conditions of the new project location.

Thermal efficiency

The systems that are the most affected by the extreme conditions are combustion, drying & heating, and purification of gases. Altitude, temperature, and moisture generate unfavorable operating conditions, which results in lowering the plant's production capacity. To minimize these negative effects, Ciber is continually working at improving its design focused on keeping up the efficiency of its equipment. One of the solutions found by Ciber's engineering team was to develop burners that operate with practically all types of fuels without compromising the success of the process. "The fuel is used to its fullest, which results in the maximum generation of heat for drying the aggregates, and less of a specific consumption (liters per ton produced)," explains Rafael Zuchetto from Ciber's Application Engineering team.

The counter-flow dryer is designed to ensure adequate energy transfer (produced in the burner) to the aggregates in

Itinerary of adversities

Get to know some places Ciber plants have had to face

Ushuaia: extremely low temperatures. Environment demands greater generation of thermal energy

Bolivia and Peru: Altitudes higher than 3,500 meters. Environment with scarce oxygen requires the equipment to have great availability of flow of gases

Brazilian seacoast, Amazon River basin, and lowlands in South America: High level of humidity. Requires that the equipment have a high power for drying the aggregates

Sahara Desert: Wide thermal amplitude. Region requires that the systems and automation be robust

Atacama Desert: region with a great amount of dust. Requires that the purification system (bag filter) be robust and efficient to protect the control systems

situations of severe moisture, lack of oxygen, or low density of atmospheric air. The main components responsible for the unit's level of efficiency are the dryer's internal fins. They are removable and can be quickly and easily configured in order to adapt to the environment.

Technological Advantages

The asphalt mix production process known as counter-flow with external mixture used by Ciber also contributes so that the environmental impact does not negatively affect the equipment's performance. The reason for this is that the dryer is dedicated exclusively for drying and heating the aggregates since the injection and mixture of bitumen is done in the external mixer.

Also according to Zuchetto, the asphalt plants have a gas purification system designed with the proportion sufficient to allow the necessary flow of air and oxygen to the burner and dryer, as well as ensure the lower emission rates into the atmosphere. "This characteristic is essential for the equipment to operate in extreme climates with fewer impacts on production. This design brings with it also high efficiency in purification capacity: absolute emissions less than 50 mg/Nm³ of air expelled, which is an efficiency higher than 99.5%," he explains.

It is also important to point out that the Advanced line has automation mechanisms that are resistant to harsh weather conditions. The microcontrollers are protected by systems of atmospheric seals and air conditioning. According to Guilherme Ratkiewicz Rodrigues, the person at Ciber responsible for the African market, along with these technical adjustments for production, it is also important to protect the electronic components: "All the switches and closed electric circuits must be kept closed in an air-conditioned panel with adequate temperature."

Facing the African extremes

The African continent presents high thermal amplitude due to its geographic location. These climate peculiarities, however, are not a hindrance for Ciber's plants. A UACF 17 P-2 plant has been in the Sahara Desert for eight months in a region of wide temperature changes.

The equipment is being used 12 hours a day to build a highway that connects the city of Tamanrasset (far South) to the North of the Sahara. "The burner operates at its lowest settings, but produces maximum capacity: 1,400 tons a day," affirms Guilherme Ratkiewicz Rodrigues, Ciber's manager for this area.

In Lesotho, an independent kingdom situated in the south part of Africa, there are two plants working that face below-zero temperatures and altitudes of approximately 3,000 meters. The climate diversity (intense cold in the winter and extreme heat in the summer) characterizes the country, which has 78% of its land area covered with mountains. The equipment is owned by Aryan Asphalt Ltd., which belongs to entrepreneur Umang John, and it produces an average of 500 metric tons a day of asphalt.

Dealing with high altitudes

Ciber's counter-flow plants have also had to deal with high altitudes in some regions of Latin America. In Bolivia, a UACF 19 P-2 Advanced is in activity in a building project close to the city of Potosí.

"The equipment has to deal with the lack of oxygen needed to burn the fuel. The machine, however, is the result of a project dedicated to clients in the Andean countries," points out Bernardo Ronchetti, Ciber's R&D Manager.

In Peru the application of this plant when building the Interoceanic Highway saw absolute success. This road connects the Atlantic Ocean in Brazil with three Pacific ports in Peru.

The machine was installed near Cuzco, needing to travel through a long highway stretch through a mountainous region.

Another point that favors the use of machines built on two chassis is that displacement becomes easier. Windy roads are part of the scenery in these parts of almost 4,000 meters high. "The curves are very sharp and the equipment needs to be agile in the transportation," explains Ronchetti.

The **pavers manufactured** by **Ciber** in Brazil **are ideal** for projects of all sizes that **demand high-performance** and **mobility**

Paving quality

The line of pavers produced by Ciber includes models AF 4000 (on crawler tracks), AF 4500 (on tires), AF 5000 Plus (on crawler tracks), and AF 5500 Plus (on tires). This equipment can meet the needs of different project sizes. Stability and robustness are characteristics that bring with it efficient performance and high profitability.

High-performance in adverse conditions of operation is guaranteed by the modern hydrostatic transmission system. This mechanism eliminates the need for chain and gear transmission of mechanical tractions, which results in greater precision and reduction of maintenance costs. The perfect finish and homogeneity of the asphalt layer bring about a high-quality end result that begins with the pre-compacting process.

The automatic leveling control system ensures a consistent layer thickness and a superb surface finish. This occurs because of the constant monitoring of the screed's position in relation to the reference surface. Another advantage of the line is the easy access of all the operation's functions by means of a modern and ergonomic panel. Operational diagnostics are provided in real-time during the operation and a graphic symbology of international standard is used.

The AF 4000 and AF 4500 pavers were developed for building projects that require greater mobility from the equipment. Since they are compact, they offer ideal solutions for paving services of locations with reduced dimensions such as urban centers or smaller projects of highway repair. The series Plus equipment, on the other hand, operates with high performance on projects of any kind.

The AF 50000 Plus can withstand high tension levels due to its crawlers that have a wide contact with the soil. The AF 5500 Plus, on the other hand, is highly mobile due to its undercarriage designed exclusively for pavers and a good displacement speed for machines of this size.

Technical Characteristics

AF 4000 and AF 4500	
Production	300 t/h
Hopper capacity	10,500 kg
Extending screed	ES360 V
Paving width	1.7 to 4.2 m
Thickness	20 to 250 mm
AF 5000 Plus and AF 5500 Plus	
Production	450 t/h
Hopper capacity	11,500 kg
Extending screed	SME405 V/TV
Paving width	1.9 to 5.3 m
Thickness	20 to 300 mm

Pavers AF 5000 PLUS

Control panel
A modern and ergonomic control panel that allows easy access and control of all operation functions. The totally innovative control panel is made up of controls and systems that provide total ease during the job as well as total control and interaction between the operator and the machine.

Location of the operator
The control platform was designed to give comfort and safety to the operators. The control panel can be positioned on both sides of the platform in order to give full view of the operation.

Hopper
The asphalt hopper is designed to ensure work autonomy and make it easier for different kinds of trucks to unload.

Automatic lubrication system
There is automatic lubrication in the main areas of the machine, reducing the wear on the components and downtime for lubrication. Greater productivity and usable life of the components.

Hydrostatic transmission
All of the equipment operations are done hydraulically. It provides more precision, smoother handling, and a greater usable life for the components, and consequently, reduces maintenance costs.

Brace rollers of the truck
There are two brace rollers with a self cleaning system assembled on a pivoted shaft that provide excellent stability when maneuvering the dump truck and make it possible to align on curves and easily control the steering.

Traction system
The traction system is made up of two crawler tracks with a wide contact area with the ground, providing excellent weight distribution and traction force. It also comes with shoes that are made out of high resistant material.

Material transportation
The system is made up of two independent transporters and chains to transport material in high performance that are driven by a proportional system with a variable velocity control.

Lighting system
It has a system of front and rear floodlights that give perfect visualization during the machine's night operations. It also has the option of assembling an auxiliary lighting system.

Material distribution
This system is made up of augers driven by hydraulic motors, bearings and roller bearings, external lubrication, and protection lids.

Material flow control
This ultra-sonic automatic system is responsible for the material flow control in front of the screed. Distribution quality and precision.

Engine
A high performance diesel engine that gives the paver more power and efficiency and with all this has a low consumption of fuel.

Hydraulic traction system
- Independent hydraulic systems
- Excellent directional stability and precise control during operation movements
- The cylinders work with directional valves with LEDs to check the actuation of the functions

Automatic leveling system
The automatic leveling control can be configured according to each paving project's needs.

Extending screed
A telescopic extending screed with controls on the ends that allow you to carry out the opening, closing, elevation, and lowering operations, as well as to control the manual and automatic thickness by using the electronic leveling control. Eccentric vibrators and a tamper with a variable rotation adjustment give the compacting system excellent compacting levels and finishing.

Ciber receives RS Export Award

Company's performance in the international market is recognized by **award** sponsored by **ADVB-RS**. In 2007, the **company exported approximately US$ 40 million**

Ciber Equipamentos Rodoviários was given the RS Export Award in the category of machines/equipment, promoted by the Association of Marketing and Sales Directors of Brazil (ADVB-RS). The award recognizes the company's performance in the international market. The award has existed for 36 years and is a reference for companies in the state of Rio Grande do Sul that export goods or products made and sold in the state.

In 2007 Ciber recorded more than US$ 40 million in total sales from exports. The acceptance of the machines around the world has been the driver of intense investment in research and development, which keeps the company on the cutting edge in various areas in relation to an attractive cost-benefit in the new markets. "We do a lot of research before developing products that meet the needs of consumer demands and to reach niches not yet covered. More than 15 patents have been filed and most of them related to asphalt plants," affirms Ciber's CEO Walter Rauen. "Other than new product launches, we have invested in the continual improvement of our products and in specialized marketing and media for each market."

Walter Rauen (left) with Award Trophy

The 26% growth in shipments abroad last year was also a result of some actions taken by the company in order to ensure customer service excellence. The agility to assemble asphalt plants, for example, has built loyal customers beyond the Brazilian borders. "We depend heavily on the training of the sales and after-sales team as well as on the technical capacity of our dealers," he says.

Latin America, Africa, and the Unite States are the main regions that buy the products sold by Ciber. The company has 13 dealers distributed throughout Latin America to give sales support and services, as well as offer all the coverage with teams in the sector of application engineering and after-sales.

Ciber has also built a broad network of dealers on the African continent, and one of them is Wirtgen South Africa, which is a subsidiary of the Wirtgen Group. There are more than 40 pieces of equipment construction and maintaining roads in Africa. The machines used to prepare bases and produce asphalt mixtures represent the highest export volume. Soon the company intends to ingress into new markets.

Vögele pavers in activity

Contractors bet on the **S1600-2** model to develop **high-yield paving** during restructuring projects on roads in **São Paulo**

Duplication of Highway SP 333

Units of the Vögele pavers model S1600-2 are already operating in different locations in the state of São Paulo. Of compact size, the equipment can be used for a vast array of applications. The innovative concept of ErgoPlus Vögele controls makes the machine easier to operate and its ergonomic resources contribute to the operator's well-being. The pavement quality is also guaranteed by the automatic leveling system, which makes it possible to meet the specifications of the building project's specifications, complying with regularity and thickness requirements.

These and other characteristics won over the confidence of Contern Construções e Comércio Ltda., the company in São Paulo that purchased the model S1600-2 from Vögele to expand its fleet of machines. "This contractor is growing and looking for larger contracts, which calls for resources of this size," affirms André Franchin, mechanical engineer of Contern's Equipment Nucleus. The paver worked up to the end of July in the city of Campinas (SP) repairing the asphalt finish of a cloverleaf intersection located on the Via Anhangüera Highway, km. 103. "The material is already spread with a high level of compaction and its unloading speed contributes to high levels of productivity," he summarizes.

Leão Engenharia S.A., on the other hand, put a Vögele S1600-2 paver to work at duplicating the SP 333 highway from kilometers 123 to 142 between the cities of Jaboticabal and Taquaritinga. "The paving is being done with Hot Mix type 4B with a final compacted finish of 5 centimeters," explains Thales Hélcio de Souza Borges, the engineer for this company whose headquarters are in the city of Ribeirão Preto in Brazil.

According to the Administrative Director of Leão Engenharia, Antônio Carlos Frederico, the choice for this model was due to its state-of-the-art technology. "We needed a machine that would meet the needs of our contractor that operates with large projects." Paving projects for highway concessionaires, says this businessman, require a high-quality product and consequently equipment capable of living up to these demands. "The paver has been around to various job sites and has lived up to our expectations, working adequately and with good production," emphasizes Frederico.

Technical data for the Vögele paver model S1600-2

Maximum paving width: 8.5 m
Production: up to 600 t/h
Paving thickness: up to 30 cm
Transportation width: 2.55 m
Paving speed: up to 24 m/min
Travel speed: up to 4.5 km/h
Perkins Engine of 135 hp
ErgoPlus concept of easy operation and ergonomics
Fiberglass protective canopy of good coverage

World representatives of the Wirtgen Group get together in Brazil

Executives from **Europe** and **Latin America** get together to align marketing policies, **trends**, and **technology** paving

Wirtgen Group brought together around 100 of their world executives for another edition of its Marketing Meeting. The event took place from April 24th to 26th in Porto Alegre, a Brazilian city located in Rio Grande do Sul. This meeting is held periodically on three of the five continents where the group is present and every three years the meeting takes place in Porto Alegre, Brazil. Along with the Wirtgen team, there were Ciber, Hamm, and Vögele representatives also present.

In order to make the information access to the participants from other nationalities easier, the Marketing Meeting was transmitted into the following three languages: English, Spanish, and Portuguese.

The time was used to discuss and fine tune the global policies of marketing, trends, technology, and design in the area of construction and paving roads. The group also participated in a demonstration of equipment sold by Wirtgen along with presentations, roundtables, and workshops.

Ciber was host for Latin America Meeting

Presentations were part of the program

For the closing there was a cocktail in celebration of Ciber's 50 years and an award ceremony for the dealers and employees highlighted from the Wirtgen Group in Latin America. "The main point of the meeting was to add sustainability to the technology embedded in the economic segment in which the group operates through its 50 subsidiaries worldwide," affirmed the meeting host and Ciber's president, Walter Rauen.

The agenda also included a visit to the factory at which time the public was able to get to know the changes being made to the company's infrastructure, a completely renovated manufacturing unit, a testing area, and the training center (go to page 20). In 2007 Ciber made changes to the internal layout of its plant, making sure the industrial reengineering was in compliance to international standards of quality, productivity, and management.

Company from São Paulo bets on WR 2000 recyclers

Wirtgen Recyclers worked on an important highway in **the Brazilian state of Paraná** on **pavement improvement** sites on a highway section with **intense traffic**

Paulifresa Fresagem e Reciclagem Ltda. Located in the city of Bragança Paulista (Brazil) purchased four WR 2000 recycling units and one WR 2400 for carrying out various activities ranging from cold recycling and soil stabilization to milling pavement. A Ciber partner for over 18 years, the company has been loyal to the brand and currently has the largest fleet of Wirtgen recyclers and milling machines in Latin America.

The option for these models is due to the fact that the equipment reaches a working width of 2 meters (WR 2000) and 2.4 meters (WR 2400) as well as being able to reach a depth of 50 centimeters. These characteristics meet services both in the lane as well as on the shoulder.

Of the recyclers purchases, two WR 2000 operate simultaneously on highway BR-376, the so-called Coffee Highway in the state of Paraná between the cities of Mauá da Serra, Califórnia, and Marilândia do Sul. This project consists of recycling the entire 17-centimeter asphalt layer above the soil-cement. In all, the equipment recycled a stretch of approximately 12 kilometers with a total highway width of 12.2 meters including the shoulder, and stabilization was reached

Two Wirtgen recyclers working on Highway BR-376

Júlio César Arantes: WR 2000 has more applications

by adding cement and rock dust. "In the case of WR 2000, it is more compact equipment and has a wider range of applications and can adapt very well to the shoulders", affirms Júlio César Arantes, the company's executive director.

Alexandre Machado Corrêa, engineer and Paulifresa's Recycling Coordinator, points out that an important difference of the WR 2000 is the recycled layer quality. According to the Engineer, the reason for this is its microprocessor adjustment system that controls the water added, emulsion, or asphalt cement in the case of recycling with foam asphalt. "We input the data needed and the components are processed with precision thanks to the technological resources made available by the equipment," completes Corrêa.

The repair project includes a series of actions focused on preserving the highway. The Coffee Highway, administrated by Concessionaire Rodonorte, is very important to the regional economy. This road connects, for example, the Paranaguá Port to the north and northeast parts of the state as well as being a link between Paraná and the states of São Paulo and Mato Grosso.

Recycling, preservation, and business on Mexican soil

The **Mexican company** Concretos Reciclados takes on a **leading role** by earning environmental recognition and new business with SemMaterials. The **Ciber plant** purchased two years ago had a **fundamental role** in the **new products presented**

Maximize benefits for its clients by selling durable, economical, and highly technological equipment is Ciber's main objective. Sometimes, even more than this, the quality of the products results in client-companies reaching other advantages such as awards and partnerships. This is the case of Concretos Reciclados, a Mexican company with a pioneering spirit dedicated to recycling concrete and construction debris.

Concretos Reciclados (CR) has done work in its country and region that has given it leadership in the "Potentially applicable project" category in the First Emission of National Recognition of Waste Recycling in Mexico. This award was given by the National Department of Environment and Natural Resources (Semarnat) and by the Protection Confederation of the Mexican Republic (Coparmex). "With this recognition, more companies – socially responsible or in search of an international certification – will make an effort to comply with the current regulation," points out Arturo Valdez, an engineer from CR.

The winning project related to the recycling of building and/or demolition debris is innovative since the company is one of the few to carry out this type of service in Latin America.

The debris from construction, once recycled, can be used by the paving or metallurgy industry. Concrete recycling machinery is still not very common on the continent.

Environment in first place

The ecological character is spread throughout all of CR's process. It not only serves as a pick-up point of building debris, but the company also promotes reusing the materials by using a Ciber asphalt plant that reduces the impact on the environment. The control of emission and transfer of contaminants (fuels and dust) permitted by the equipment made it so that CR complied with all the normative requirements for Mexico City.

Asphalt plant reduces environmental impact

The Ciber counter-flow asphalt plants have a drying process that is separate from the mixing process, which keeps the asphalt from being exposed to the high temperatures that are reached inside the drying drum and could cause its premature oxidation and the production of toxic gases. The filtering system, made up of a static separator and bag filter, allows only the emission of particulates smaller than 50 mg/Nm3, but recent measurements in the field indicate levels as low as 25 mg/Nm3. These factors are essential for the task in this Mexican megalopolis where pollution is an issue of public interest. "The requirements of the federal and local government on the environment are continually stricter. In this sense, the Ciber plants have no rivals," highlights Francisco Bucheler from Dimaquin, the company that represents the brand in the country.

Warm asphalt

The asphalt plant also provided new business for Concretos Reciclados. "When we purchased the equipment, SemMaterials offered to elaborate and jointly sell cold and warm mixtures," shares Arturo Valdez. SemMaterials is one of the largest asphalt producers in the United States and Mexico, adopting strict quality criteria for its production. It has several technologies patented and today is the main producer of asphalt modified with polymer and with asphalt emulsions in a Latin country.

According to Valdez, the base to elaborate warm or cold asphalt concrete is basically the same with the inclusion of additives that allow lower temperatures than the hot mixtures, which opens the possibility of packaging, storing, and using it up to six months after it is made, with excellent results. "When smaller recapping is needed, hot mix is more difficult to manage due to the small volume. The cold mixture comes in 25-kilogram bundles and can be used in relatively small volumes," explains Valdez. The other change is that recycled materials can be added that were removed by milling top asphalt layers and they consume less fuel when produced in the plant. Valdez celebrates the results: "The partnership with SemMaterials has worked well. Furthermore, the product elaborated, thanks to its quality, has slowly won over consumers even in faraway places where asphalt mixtures are not an option."

Mexico in ascension

According to Francisco Bucheler, da Dimaquin, Ciber's dealer in the country, the growth expectations for the Mexican building market are high: "The federal government has investment plans that are very ambitious for this term." One of the important projects is federal highways and concessions along with reservoirs for irrigation and hydroelectric plants. "We are expecting excellent repercussion on the good results reached with Ciber plants since these large building projects require equipment with easy mobility and production of high-quality asphalt mixture that is proper for the work," affirms Bucheler. One of the main economies on the American continent, Mexico is also among one of the most populated regions. This emerging country has its economic base on trade, industry, agriculture, and mining, and is also suffering with the high prices in general of food that affects the planet.

Ciber inaugurates a new training center

The **center** has **air-conditioned rooms** with **technological resources** such as operation simulators **for Wirtgen's equipment**

Ciber Equipamentos Rodoviários is setting high stakes on the training of clients, employees, and dealers. One of the concerns of the company is to share knowledge and continue giving support after the sale, and for this reason, in the month of May, it inaugurated its Training Center at the factory site located in Porto Alegre (Brazil). New resources and professionals dedicating full-time to training should double the number of people participating in courses in 2008.

This area has 255 square meters and has two air-conditioned, sound-proof classrooms. The center is equipped with multimedia equipment, teaching resources, and simulation rooms with devices to simulate the operation and maintenance of asphalt plants, pavers, milling machines, and compactors. The course participant also has the possibility of accessing internet using connection points with the company. The project received investments in the order of R$ 26,000.

The courses offered are in the areas of sales, but also mostly about the correct application of the equipment manufactured by the companies in the Wirtgen Group. "The goal is to provide the clients with maximum output for their machines," affirms Derli Alecindo Macagnan, Ciber's After-Sales Manager.

Professionals can simulate operations

With this Training Center, Ciber increases it contribution to the development and updating of professionals, which makes it possible to access the most advanced highway paving techniques. According to Macagnan, this effort is going to fill a gap that exists in the market: "The sector is lacking greatly in specialized workers due to many years of little activity in this segment." After years of stagnation, the area once again became an attractive niche, using very advanced techniques, equipment, and technologies. That is why it has been necessary to train teams. "All of this calls for training, which can be done in regular schools or by initiative from the manufacturers themselves, contractors, and trade associations," he explains.

Up until August, 109 people had been through courses in the Training Center. In June a group from Algeria received training on the Application, Operation, and Maintenance of Ciber Asphalt Plants. The class was given in French, which is the most common language in that country after Arab.

Focus on technical training courses

Efficiency in the production of RCC

A **USC 50E** unit is working in the **development** of a hydroelectric plant in the Brazilian state of **Goiás** that will be able to **supply energy for 1.2 million inhabitants**

The building of Serra do Facão Hydroelectric Plant in Goias (Brazil) has the support of a USC 50E sold by Ciber Equipamentos Rodoviários to the Brazilian company Camargo Corrêa, a contractor present in 12 countries and headquarters at *centro empresarial* located in the city of São Paulo (Brazil). It is the result of a joint customization project between Ciber and Camargo Corrêa to meet the needs of this building project. The plant is producing Rolled Compact Concrete (RCC) with fixed installation and presents a production capacity of up to 450 metric tons an hour.

Different than conventional concrete, RCC is less fluid due to less water and cement. The high level of dosing control gives the mixture high-quality and ideal homogeneousness for the application in jobs such as dams for hydroelectric plants. "The aggregates, cement, water and additives are mixed in at very controlled proportions so that there is full knowledge and guarantee of the dose with all components," affirms Rafael Zuchetto from Ciber's Application Engineering Department. The company customized the design according to the machines application in order to make this plant model. "For the production of RCC to be used as a highway base, a plant similar to USC is enough. But a greater level of control and automation is needed with dam building projects due to the level of the project's responsibility," he explains. The building of the Serra do Facão Plant began in February 2007. With investments of R$ 800 million, the undertaking is part of the Brazilian Government's Growth Acceleration Program. According to Serra do Facão Energia S.A. (Sefac), the forecast is that a total of 4,800 direct and indirect jobs be created. The hydroelectric plant situated between the cities of Catalão and Davinópolis in the state of Goiás will generate 210 megawatts beginning in 2010. The energy will have the capacity to supply a city of 1.2 million inhabitants. The area of its reservoir will cover 227 square kilometers, partially bordering five cities in the state of Goias (Catalão, Campo Alegre de Goiás, Cristalina, Davinópolis, and Ipameri) and one in Minas Gerais (Paracatu).

WORD FROM THE SPECIALIST

Asphalt pavement milling

Valmir Bonfim Civil Engineer and Sales Director for the Ane Group

The introduction of special equipment and drums provides new types of interventions

The growing internal market and globalization has made it possible to make new investments in the sector and equipment recently launched in Europe and the United States is introduced into our country at the same time.

An example of this are the W50 milling machines with a 500 mm drum and the W100F with a 1000 mm drum and front loading presented at Bauma in Munich last year when within months were found working in Brazil.

The milling of pavements has been used in practically all the repair projects and at a cost continually lower due to the introduction of new, modern, and more versatile equipment, making it therefore possible to have higher productivity and more speed in executing services.

The milling drum is what has evolved the most in the last years and today there are standard milling drums, fine milling drums, and micro milling for small, medium, and large equipment, which makes new types of interventions possible such as milling for correcting irregularities on the road without the need to apply any type of coating later on.

The difference between the types of roughness is in the side distance between the cutting tools, which is approximately 15 mm for standard milling and 8 mm for fine milling. For micro milling, however, this spacing is in the order of 2 to 3 mm.

As for the application of the types of milling, the best application for places where the project calls for applying a new surface finish is the standard milling due to resulting roughness and better adherence of the new layer to the remaining layer. For the application of microsurfacing, the most recommended is to use a fine milling drum with half the side spacing when compared to standard milling, resulting in savings in the application due to smaller grooves. Specific microsurfacing drums are the best for services of making the longitudinal profile regular without the application of any type of finish later on.

Special microsurfacing drum

There are other types of drums for milling such as for milling ditches at various angles and drums for the resulting bumpy milled surface for making gutters, which will be introduced to the Brazilian market shortly.

Valmir Bonfim is a civil engineer and holds a Master's Degree in Engineering from the Polytechnic School in the University of São Paulo. Currently he works as sales director for the Ane Group and is the author of the book "Fresagem de Pavimentos Asfálticos" (Milling Asphalt Pavements), reedited in 2008 into Portuguese and Spanish with Ciber's support.

LEADING TECHNOLOGY IN PAVING

50 years CIBER
50 years of leadership

LEADING FOR HALF A CENTURY AND THINKING FORWARD

Ciber, a company of the German Group Wirtgen, world leader in its segment, offers the best solutions in equipments applied to paving. Thus, it makes available a wide range of products that comply with the strictest environmental requirements offering quality and safety.
Furthermore, it counts on Ciber services, an efficient after-sales service, associated to application engineering, specialized in the most advanced paving techniques.

KNOW OUR INTEGRATED SOLUTIONS IN:

- ASPHALT PLANTS
- COMPACTORS
- PAVERS
- COLD PRE-MIX PLANTS/ ROLLER COMPACTED CONCRETE
- COLD MILLING MACHINES
- RECYCLERS / STABILIZERS
- SLIPFORM PAVERS
- SURFACE MINERS

www.ciber.com.br

WIRTGEN GROUP

CIBER

MEXICO, NEW CONCRETE HIGHWAY: A LONG-TERM SOLUTION, MILE FOR MILE.

WIRTGEN GROUP

Close to our customers

ROAD AND MINERAL TECHNOLOGIES

High traffic density, increasing volumes of heavy goods vehicle traffic: Mexico is in need of strong traffic links in the north. Technologies from the Wirtgen Group ensure the high quality and long life of the road network. Economical methods, calculated to last a whole motorway lifetime.

www.wirtgen-group.com