

USINA DE NOTÍCIAS



Sustainability

Pavement recycling and its advantages

Asphalt plant combines technology and environmental responsibility



ROAD AND MINERAL TECHNOLOGIES

AUGUST | 2012 / / / NUMBER 26

NEW CIBER ASPHALT PLANT UACF iNOVA



Close to
our customers

The best asphalt mix and environmental responsibility



UACFiNOVA

1200 P1



ROAD AND MINERAL TECHNOLOGIES

www.ciber.com.br

www.wirtgen-group.com

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DID YOU KNOW? 1

As Ciber has always been at the forefront of developing green technologies, environmental preservation is one of the highlights of Ciber's UACF iNova 1200 P1: its levels of air emissions meet or exceed the strictest environmental standards for particulate matter.

This dust, which is an extremely aggressive pollutant to the respiratory system, is retained by the bag filter and reincorporated into the asphalt mix. In addition to cooperating to maintain a good quality of air, the CIBER Bag Filter operates so as to improve the characteristics of the final product.



**Ciber bag filters:
cleaner air and better asphalt mixture.**

Ciber bag filters have always been at the cutting edge of environmental protection technology together with using less aggregates.

The new PulsePleat® pleated filtering elements are more resistant, have a new and more efficient rubber seal, which all results in lower air emissions and easier maintenance.

The bag filter is composed of 144 PulsePleat® bags of 5 m² each, resulting in 720 square meters of total area: the largest filtering area in its class.

720 m² ÷ 120 t/h = 6 m²/(t/h) ▶ the highest rate in this category

The emission of particulate matter exceeds the strictest environmental standards.

Theoretical emission ≤ 50 mg/Nm³

Field measurements ≥ 15 mg/Nm³



Vortex Static Separator + Bag Filter

Vortex Static Separator

Collects and returns to the mixer the particulate matter of smaller granule size, usually retained in the sieve #200.

If desired, it allows granulometric separation in the process. It also greatly reduces the load of dust reaching the bag filter, making it possible for it to operate at optimum conditions.

Bag filter

Responsible for collecting and returning to the mixer the material passing through the #200 sieve, the particles of a small granule size. Allows the plant to operate near urban centers because the emission rates of particulate matter are practically negligible.

Luiz Marcelo Tegon President of Ciber >>>



EYES ON THE FUTURE

The great results of the M&T Expo – International Exhibition of Construction Equipment and International Exhibition of Mining Equipment, held May 29 to June 2 in São Paulo, demonstrated that the construction sector is invested in technology to meet its current and future demands. And that's no surprise. Considering the Brazilian context, there is a sea of opportunities and many highways to be paved. Over the next few years, we are sure to see great investments in infrastructure, especially due to the ventures related to the 2016 Olympic Games and the 2014 World Cup. Without a doubt, Brazil is already turning into a large construction site.

The outcome of the Wirtgen Group's participation at M&T provides evidence of this movement. The company achieved its ambitious equipment sales goal with growth of over 500% in comparison with the 2009 edition, surpassing the goal established for the trade show by a full 90%. Both Brazilian and Latin American companies bet heavily on the solutions being offered

by the group's brands, with the certainty of the importance of automating processes and fleets to improve construction values and increase business.

Ciber Equipamentos Rodoviários endorses these contractors' willingness to work based on management focused on excellence. Said premise justifies a willingness to keep an eye on trends, come up with unique projects and constantly invest in innovation, motivation that is stamped right on the cover of this edition of Usina de Notícias magazine. The launch of the Ciber UACF iNova 1200 P1 plant (besides other equipment by Vögele and Hamm) clearly expresses our concern with keeping up with market needs. It makes use of technology featuring special elements for working on new mixtures, making it possible to produce mixes using RAP and warm mix asphalt (WMA), in addition to a real-time monitoring system. It provides what the market needs: economy, lower pollutant emissions, precision and quality control. Irrefutable proof that we are working side by side with our customers. We continue working hard to stay on the cutting edge, offering the best solutions to the infrastructure sector!

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SEND INFORMATION ABOUT CONSTRUCTION WORK, WIRTGEN GROUP EQUIPMENT, CRITIQUES AND CONSIDERATIONS. TAKE PART!



special

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Ciber's new UACF iNova 1200 P1 plant operates with cutting edge technology and innovative systems to work on new mixtures and 24-hour monitoring



market

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Ciber's Advanced UACF 17P-2 plant operates on urban street projects in the country, which is working to improve its city infrastructure

EVENTOS

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Wirtgen Group made its presence known at the sector's largest trade show in Latin America, surprising the public with an innovative approach to its stand and with the introduction of the Ciber UACF iNova 1200 P1 plant, in addition to other Vögele and Hamm brand equipment. The sales volume achieved was five times larger than in the 2009 edition

infrastructure



23 BETTING ON THE AUSTRALIAN MARKET

Ciber asphalt plants have begun operating in Australian territory, where companies are investing in technology and specialization


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TECHNOLOGY IN RECYCLING

MÚTIPLA ENGENHARIA AND META SERVIÇOS E PROJETOS ADOPT
WIRTGEN GROUP SOLUTIONS FOR SUCCESSFUL CONTRACTS



The asphalt recycling system has shown itself to be fast, efficient, economic and sustainable on jobs aiming to reinvigorate Brazilian highways. The new equipment available on the market has contributed to the infrastructure sector achieving improved performance in its actions. The Wirtgen WR

2000 recycler is an example of technology with plenty to offer, having been the choice of Múltipla Engenharia and Meta Serviços e Projetos.

The Northeastern Brazilian state of Piauí has been betting heavily on expanding its highway network. According to data from the state government, from



2006 and 2011 the state extended its paved roads from 2,698.10 km to 4,732.34 km. Last year alone, investments in carrying out paving added up to BRL 76.387 million, bridge construction BRL 885,700 and highway maintenance BRL 1.535 million. One company among the group of contractors hard at work to get these projects off the drawing board is Múltipla Engenharia.

ALWAYS IN OPERATION

Múltipla Engenharia, with its headquarters in the city of Teresina, recently took part in road conservation in the city of Pico, located in southeast Piauí. The venture included a 19 kilometer long, 7 meter wide stretch where Wirtgen equipment worked on recycling a 20 cm road base. “The recycler never stops. Just now we did another 15 km in Pico and we’ve also taken it on jobs in Amarante and other locations as well,” stated Ricardo Mery Dantas, majority member and administrator of the company.



In July, Múltipla Engenharia began providing services on the Canto do Buriti ring road, which will connect state highways PI-140 and PI-141, the main roads for transporting the region’s agricultural production. The construction of this junction will reduce large truck traffic on the urban perimeter, avoiding inconveniences for the population and damage to the asphalt of city roads. “It’s such an important project and we’ll be working on the road base,” he added.

TECHNOLOGY ON SITE

For Dantas, expanded business arising from the new market demands is requiring the civil construction sector to invest heavily to prospect new opportunities and deliver services with excellence: “A piece of equipment like the WR 2000 confers the security of a service being finished with quality, since it makes unique features available, reduces costs and even goes beyond site leveling to operate on road bases.” For the business owner, its speed and ability to produce homogeneous material also stand out as operating advantages. “The recycler allows us to obtain precise incisions without variations in depth. We don’t have to depend on the operator,” he added.

The state of Goiás based Meta Serviços e Projetos, a new company in the paving field, also excels in competence and responsibility, seeking new techniques to reduce costs, tighten deadlines and protect the environment. Commanded by its members Fernando Caldeira and Davi Barbosa, the company operates in highway conception and repair, with an emphasis on milling machine and recycler rentals. In order to ensure customer satisfaction, Meta invests in updating its fleet, which includes Wirtgen Group equipment like the Wirtgen WR 2000 recycler. “This model stands out with its system for controlling the addition of water, emulsion or even AC (asphalt cement) used in recycling with asphalt foam, which is automatically adjusted regardless of the travel speed. It is able to maintain perfect homogeneity, in addition to the mixture presenting the ideal moisture level for compaction,” explained Caldeira.

◀◀◀ Múltipla Engenharia: trusts
Wirtgen equipment

TEICHMANN HARD AT WORK IN ZAMBIA



CIBER EQUIPMENT OPERATING ON PROJECTS TO MODERNIZE
ROADS IN AFRICAN COUNTRY



Located in Southern Africa between Angola and Malawi is the Republic of Zambia. Teichmann is one of the contractors responsible for guaranteeing urbanization and modernization of that country's cities. Founded in 1995, the company operates in the Civil Engineering sector throughout the African continent.

Teichmann recently completed a project in Lusaka, Zambia's capital and most important city, with approximately 1.7 million inhabitants. The job consisted in building and improving city streets. In all, 37 kilometers of roads were paved, including main streets and ones with less traffic as well. Each stretch varied between one and three kilometers long. In order to carry out the work, a Ciber UACF Advanced 17P-2 plant was used.

According to Gert Meyer, the contractor's asphalt manager, the work has contributed to well-being and quality of life for Lusaka residents and visitors. In

his opinion, creating the roads was "essential to local infrastructure." Meyer also pointed out the UACF 17P-2's performance: "In my opinion, it's the best asphalt plant I've come across in my fifteen year career in the sector. It has cutting edge technology and its operating system is very easy to learn. Without a doubt, this plant would be a success in any country."

Zambia – which has a tropical climate and used to be a colony of the United Kingdom – currently has one of the world's fastest growing populations. There are thirteen million inhabitants and half are sixteen years old or less.

This country of young people is experiencing difficult times. It is estimated that two-thirds of the population lives in poverty, the result of a socialist regime that lasted until the beginning of the 1990s. However, Zambia is changing. Political reforms have democratized the nation. For its part, the country's economy, previously strongly centered on copper mining, is now being reinforced by areas like agriculture and tourism. In this context, infrastructure work like that being done by Teichmann is important towards guaranteeing better living conditions for inhabitants.

The Ciber UACF Advanced 17P-2 Plant
produced asphalt mixture for paving 37
kilometers of roads





Wirtgen Group
technology on Caravelas
construction site



REVITALIZATION OF CARAVELAS AIRPORT IN BAHIA

BRAZILIAN ARMY'S ENGINEERING BATTALION INVESTING IN WORK
TO FOMENT REGIONAL TOURISM



The 11th Construction Engineering Battalion (BEC), known as the Mauá Battalion, has been working on two jobs in the southern Bahian city of Caravelas. The Brazilian Army unit specializes in the construction field and uses a variety of Wirtgen Group equipment.

One of their current jobs is the revitalization of the runway at Caravelas Airport, being carried out through an agreement with Aeronáutica. After having been shut down by the Brazilian Civil Aviation Agency (ANAC) due to the poor condition of the runway, when it's reopened the airport will be able to receive large aircraft. The runway has just received its second layer of asphalt, meaning the third stage of the project has been completed. The next step will be the taxiing surface, a thinner layer around four centimeters thick. The work should be completed by the beginning of 2013.

Another job being done by the 11th BEC is paving work on highway BR-418, which connects the southern Bahian coastline to BR-101, one of Brazil's main highways. 59 of the planned 84.5 kilometers have already

been paved. The job, which should be completed by July of next year, is being done through an agreement with the National Department of Transportation Infrastructure (DNIT) and is part of the Federal Government's Growth Acceleration Program (PAC).

Caravelas is used as a port of entry for the Abrolhos archipelago. This ecological sanctuary is famous for its coral reefs and humpback whales, which migrate there during breeding season. According to Captain Aminthas Floriano da Silva Neto, an engineer with the 11th BEC, work at the airport and on BR-418 is important to stimulating tourism there. The paving of the highway should also facilitate transportation of the region's eucalyptus production, further benefiting the economy.

On the construction site are Ciber UACF 15 PME and UACF 17 P-1 asphalt plants, in addition to two Ciber pavers, one AF 5000 Plus and one SA 115. They also use one WR 2400 Wirtgen brand recycler and one Hamm compactor. Captain Aminthas praised the equipment's performance: "The plant's production is great."



Technology and sustainability side by side



What infrastructure needed has finally arrived in grand style. The recently launched Ciber UACF iNova 1200 P1 asphalt plant does justice to its name by making the technology needed to work with a variety of aggregates available, along with a brand-new and innovative system for asphalt plants: remote 24-hour monitoring. The equipment incorporates solutions focused on environmental sustainability and product quality to the asphalt mixture, as well as maximum control and management of its operations. It is a project that pushes the limits of automation!

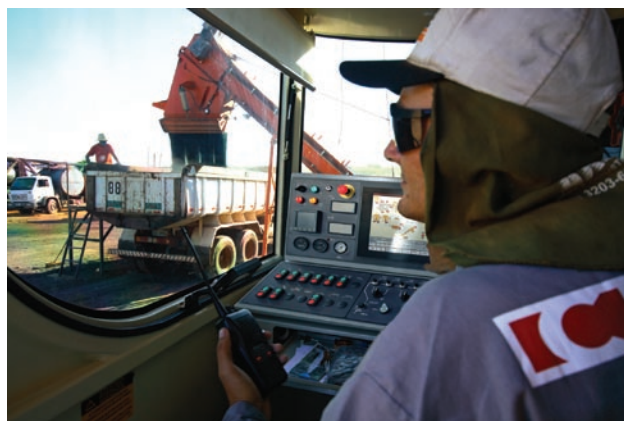
The Ciber UACF iNova 1200 P1 asphalt plant, which has a production capacity of 120 tons per hour, can be used on jobs of all sizes and on those in which the paving project allows for flexible technology like Hot Mastic Asphalt Concrete (HMAC), Recycled Asphalt Pavement (RAP) and the so-called Warm Mix Asphalt (WMA). These possibilities allow the machine to meet a recurring demand from the market regarding new mixtures. “This is one more service Ciber is making available to our customers, further demonstrating our relationship based on trust,” stated Claudi Mortari, commercial director of Ciber Equipamentos Rodoviários.

The new equipment, following the standard concept for Ciber, uses an external dual shaft pug-mill mixer for the AC mixture with aggregates. The method preserves the mixture's physical-chemical characteristics, since the aggregates are injected in a closed environment with controlled temperature, preventing oxidation or premature aging of the material.

The UACF iNova 1200 P1 Ciber plant breaks several paradigms, such as by making it possible to mix dry materials into rocky ones – which used to only be possible in gravimetric plants. Not only that, but the mixer is even larger to optimize special mixtures and make it easy to maintain – with removable upper lids and lower cleaning gate. There are also other possibilities for configuring the time aggregates remain inside.

HIGH PRECISION

Compact and built on a single chassis, the Ciber UACF iNova 1200 P1 plant has four feed bins with 3.2 meter wide openings that can be fed by larger loaders that avoid contamination of aggregates in the neighboring bins. The two main bins measure 10 m³ and the two secondary ones measure 5 m³. Individual dosing of aggregates makes use of a dynamic system composed of robust load cells, a sealed gearbox with automatically variable speed and a self-monitoring sensor for chain speed. “When dosing aggregates and AC, the bins provide maximum precision in weighing, thereby ensuring correct flow of the binding agent and efficient data transmission by the Can Open



Real-time monitoring system



communication network,” explained Marcelo Zubaran, from Ciber’s application engineering department.

For its part, the drying system has been made more robust and the internal blades of the drum dryer were designed to take into consideration the software output ensuring maximum heat exchange between the burner flame and aggregates. This guarantees gradual elimination of moisture and ideal heating to reach the desired temperature.

GREATER CONTROL

Ciber has also created innovative systems to provide even greater control over the work being done. The



control cab, air conditioned and featuring accommodations that meet ergonomic standards, has both a manual and automatic system. The former is controlled by intuitively arranged buttons that facilitate operation during emergencies. On automatic, the equipment is operated via an industrial computer designed to stand up to aggressive environments, with a 15" touch-screen and PLC data processing. Among its unique features, one that stands out is that it can be remotely monitored 24 hours a day. The program is supplied by the factory, making it possible for both the operator and the person responsible for the machine to view the same screen. "This mechanism makes it easier to manage the plant's activities. The administrator for the job can observe production in real time and issue reports on all relevant data. That brings the home office and job-site closer," clarified Zubaran.

CONFIGURATION FOR RAP AND WMA

The equipment's competitive advantages don't stop there. The new plant offers the possibility of processing mixtures with RAP by way of modular components. The percentage can reach 50% – a significant number in comparison with reference parameters for countries like the United States (17% average). "The machine has a drum dryer prepared for inserting the RAP through a recycling ring, which is heated by conduction (the energy available on the walls of the dryer). All that needs to be

Progress and innovation

Four feed bins standard in all configurations.

Single chassis, with new design and new suspension. Greater stability and safety during transport.

New, longer dryer for even more efficient drying and reduced fuel consumption, prepared to receive up to 50% RAP and warm mix asphalt (WMA).

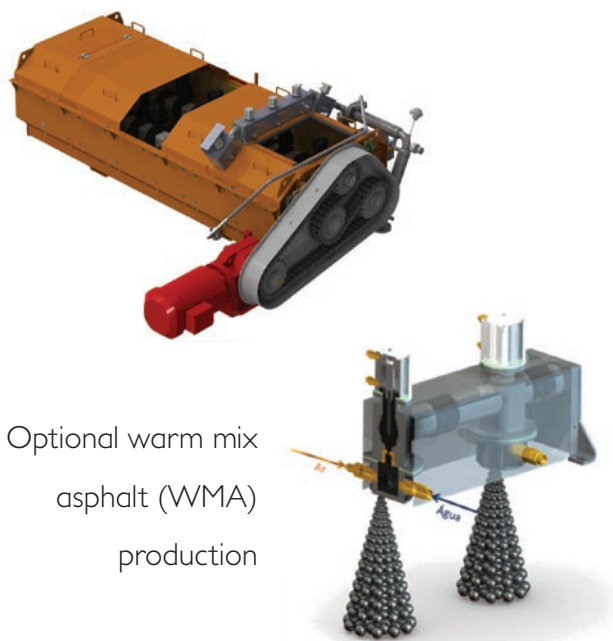
Larger mixer optimized for producing special mixtures.

Larger unloading belt, making it possible to work with very tall trucks.

Remote monitoring system, making viewing of production possible, alarms and maintenance alerts.

done is to configure the feed bin with or without a clod-breaking roller. The software that controls all of the plant's functions comes prepared for this situation."

In addition to mixtures with RAP, the equipment also produces mixtures containing Warm Mix Asphalt (WMA). The Ciber UACF iNova plant, like the Advanced series, can include an optional foamed asphalt system. Just configure the binding agent injection method to foamed asphalt and the plant is able to obtain a mixing and compaction temperature below the standard, without losing mixture quality. According to Zubaran, the advantages of this technology include optimized fuel consumption in comparison with conventional hot milled asphalt concrete, reduced emissions of polluting gases (like CO, CO₂, Nox and Sox) and



Modular configuration for adding RAP to the mixture

reduced aging of the mixture by oxidation. “Fuel spent on warm mixtures is reduced in proportion to the reduction in temperature. Therefore, savings are estimated from 10-20%,” he calculated.

OPTIONAL UPGRADES

The Ciber UACF iNova 1200 P1 gives customers the choice of upgrades to its configuration, an important attribute for contractors who wish to improve the equipment’s technical characteristics according to the particular features of the work they do. “The optional features are designed in modules, making them much easier to install. The control software comes from the factory prepared to recognize any items added later,” pointed out Rafael Zuchetto, area manager for Northern Latin America.

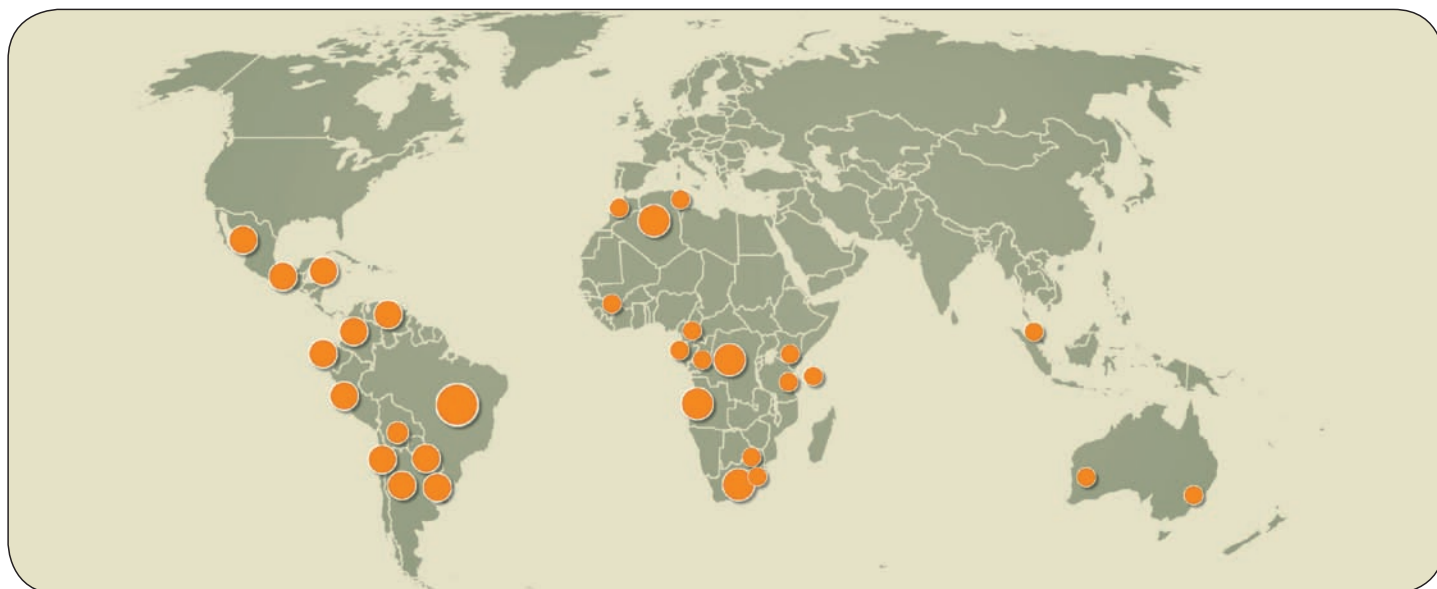
On the list of options is the STA 50P bin, with a 50 ton capacity in both portable and stationary versions. This feature facilitates truck loading logistics. Other technology available includes the filler feed bins designed in a 2 m3 size, used for adding materials like lime and cement to special mixtures, and in a 4 m3 size, for cases in which there is an excessive presence of #200 screen aggregates. The contractor can also add a module for cold mixtures, an accessory for cab movement, a Hauck dual burner, an upper grill for retaining impurities, a level sensor, AC flow measurer, and a fuel flow measurer.

Manufactured by Ciber in Brazil, the equipment is also sold and distributed in other countries in Latin America, as well as Africa, Australia and Southeast Asia. For this reason, it has attributes that promote safe travel. “Even though it is a cutting edge factory for producing asphalt mixture, the Ciber UACF iNova 1200 P1 plant features dimensions and other characteristics that prioritize safety during its transport. In addition to the new chassis and new suspension, the bridges for hoisting and its center of mass have had their positioning improved, making it easier to move the equipment,” observed Zuchetto.

INCREASED FILTRATION, REDUCED EMISSIONS

Environmental preservation has always been an important aspect of the plants designed by Ciber. Said premise is also a highlight with this new piece of equipment. Its innovative filtration elements allow for greater resistance and efficiency in the rubberized seals, which translates into reduced atmospheric emissions and easier maintenance. The filter consists of 144 bag filters, 5 m2 each. They add up to a filtration area of 720 m2 – the largest in its class. “The filtration system has the perfect ratio between speed and flow of the gases, thickness and

CIBER: 54 YEARS PRODUCING ASPHALT PLANTS AND OVER 1,600 PLANTS OPERATING ON MANY CONTINENTS



hardness of the exhaust tube plates, minimizing load losses and thereby keeping the system's exhaust and temperature constant," pointed out Zubaran.

The respective solution is capable of reducing particulate emissions up to eight times more than current plants. This puts it on the vanguard of environmental technology, surpassing the rates stipulated by even the strictest international standards. Dust, harmful to the human respiratory system, is held by the filter and later reincorporated into the asphalt mixture. These characteristics make it possible to operate the

equipment on jobs near urban centers, without risk to nearby communities.

In addition to the bag filter, the Ciber UACF iNova 1200 P1 has a Static Vortex Separator, which collects and returns larger grain size particulates to the mixer, generally what is retained by the #200 screen. It also allows for granulometric separation in process and reduces the dust load arriving at the bag filters, thereby improving operating conditions. "It reduces wear on the filter and allows for continuous granulometric control," added Zubaran.

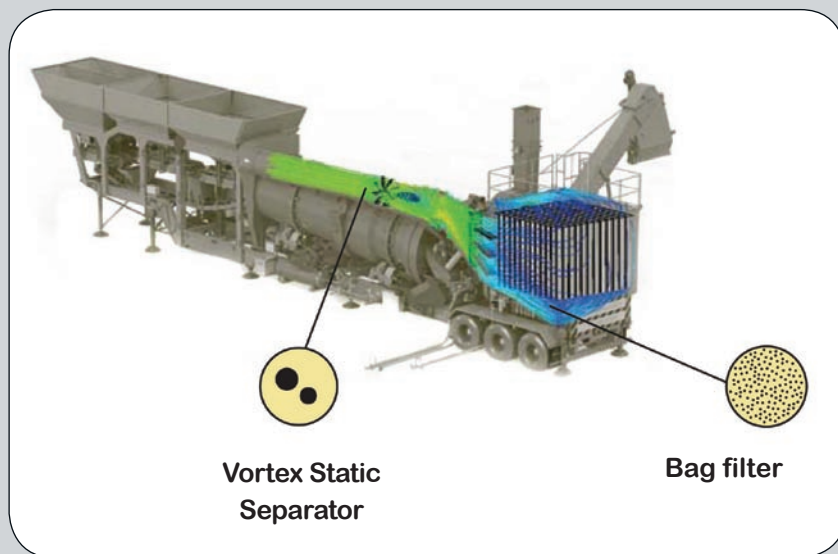
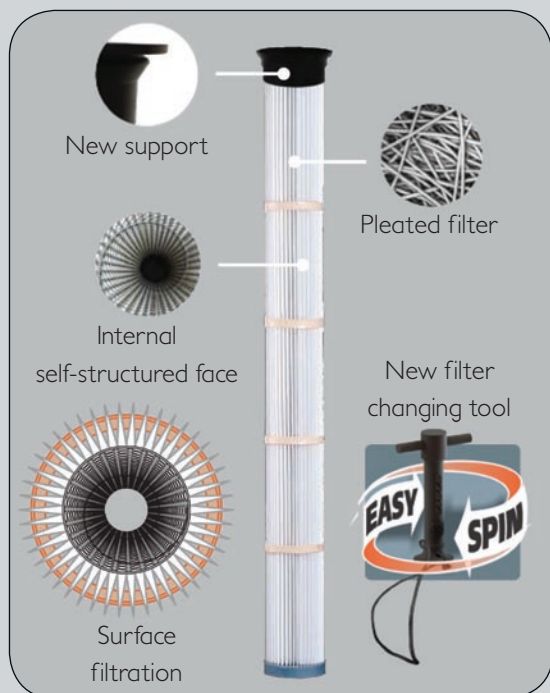


Ciber's bag filters are always on the cutting edge of technology for environmental preservation in combination with aggregate savings.

The new pleated PulsePleat® filtration elements are more resistant and have a new, more efficient rubberized seal: lower atmospheric emissions and easier maintenance.

The bag filter is composed of 144 PulsePleat® bag filters, 5 m² each, resulting in a total area of 720 m²: the largest filtration area in its class.

The equipment's low particulate emissions exceed the strictest environmental standards.





GRODCO GROUP ON COLOMBIAN MEGA- INFRASTRUCTURE PROJECT **VVV**

Although it only recently arrived on the market, it's already winning fans in Latin America. The Ciber UACF iNova 1200 P1 plant was acquired by Colombia's Grodco Business Group. For the customers, the equipment has arrived with the right technological advantages to serve them on important road infrastructure projects.

The Ciber UACF iNova 1200 P1 has already found a perfect use: work being done on Ruta Del Sol. Under Grodco's supervision, this undertaking is currently considered to be Colombia's most important project, since it connects the country's main production centers to the Caribbean coastline.

2012 M&T Expo: Gustavo Rodrigues from Grodco (center), between Jürgen Wirtgen, Wirtgen Group president, and Luiz Marcelo Têgon, Ciber president, and employees of the group **VVV**

Work began in 2010 and is currently on the third stage, being scheduled for completion in May of 2017. "We acquired Wirtgen Group products because of their high quality and the company's excellent after-sales service. We also have dealers available for service in Colombia," assured Gustavo Rodriguez, a Grodco owner who along with his sister, Olga Rodriguez, took part in the 2012 M&T Expo and acquired the new plant.

OPTIMIZED LOGISTICS

The work has involved investments to the order of USD 2.6 billion and stands out due to its logistical significance, making increased competition between companies possible, facilitating transportation of merchandise. It is already being considered an example to follow for the country's other infrastructure work. The project was designed to provide results in terms of reduced travel times, costs and accidents.



CIBER COUNTERFLOW ASPHALT PLANTS



Close to
our customers

Tradition in equipment
that meets all your work needs.

- ⇒ Compact, easy transport and install, with high-quality production;
- ⇒ Accurate and easy-to-operate control system;
- ⇒ EXTERNAL MIXER with double shafts that ensures an excellent mixture;
- ⇒ Solutions that exceed the most rigid environmental standards.



ROAD AND MINERAL TECHNOLOGIES

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TRADE SHOW FULL OF OPPORTUNITIES

F

rom May 29 to June 2, the city of São Paulo hosted the 2012 M&T Expo – the 8th International Exhibition of Construction Equipment and 6th International Exhibition of Mining Equipment. The event attracted over 54,000 people to Imigrantes Expo Park. Coming from Brazil and 71 other countries, representatives of contractors and other companies from the field did more than BRL 1.2 billion in business.

Ciber and other Wirtgen Group brands marked their presence at the Expo. During the five days of the M&T Trade Show, visitors who came to the group's stand were able to see the equipment up close. The audience also demonstrated



WIRTGEN GROUP PRESENTS A
VARIETY OF NEW EQUIPMENT
AND SURPRISES VISITORS AT 2012
M&T EXPO, LATIN AMERICA'S
LARGEST EVENT IN THE
CONSTRUCTION AND MINING
EQUIPMENT SECTOR



the field. Tegen also stated that the high number of unpaved highways in Brazil should be seen as a sea of opportunities.

In the opinion of Jürgen Wirtgen, president of the Wirtgen Group, urban mobility is important for the future. Investments in airports, railroads and ports are a precondition for any country's long-term development, he said. Wirtgen is also expressing optimism about the economy of Brazil and Latin America, which is on the rise and increasingly stable. According to the president, the region is now responsible for 11% of the group's global revenue and should become even more important in the coming years.

BUSINESS EVENT

At the trade show, 50% of the pavers sold bore the Vögele brand name, consolidating its growth in Brazil and Latin America. Hamm compactors also obtained success in sales, including these models: 3411 (3411 and 3411P), the HD 14 VT and the GRW 280. Another highlight of Ciber's at the 2012 M&T was the official unveiling of the Ciber UACF iNova 1200 P1.

their willingness to invest in new machinery. The company's sales goal, five times higher than the previous edition of the trade show, was met.

FAVORABLE SITUATION

Luiz Marcelo Tegen, Ciber president, pointed out that in the years to come, great investments will be made in infrastructure. Works by the Growth Acceleration Program (PAC), as well as construction for the World Cup and the Olympic Games, should further heat up

WIRTGEN GROUP CUSTOMERS AT 2012 M&T



From left to right, in cab: José Oliva (Aspetro) and Gustavo Perez (Construasfaltos).
From left to right, below: Luis Velasquez (Resansil), Luiz Marcelo Tegon and Rafael Zuchetto (Ciber), Ricardo Galvis (Resansil)



Rodrigo Pereira (Wirtgen Brasil CO), Geraldo Teixeira and Luan Saad Trad Oliveira (NG Asfaltos)



Roberto Zanotto (Geocal Mineração), José Paranhos (Decker) and Claudi Mortari (Ciber), with representatives from Betume Grande Vitória



Newton and Daniel Frschetti (Jaupavi), center, with Antonio Monfrinatti (Reciclotec), on the left, and Luiz Marcelo Tegon (Ciber), on the right



Cristiano Lameira (Ciber), Luiz Marcelo Tegon (Ciber), Carlos Almenara Huerta (Construcciones Delheal), Carlos Obando (Intermaq), Juan Manuel Draxl (Intermaq), Juan Carlos Fernandez Castillo (Construcciones Delheal) and Juan Draxl (Intermaq)



On the machine, Eder Pavani (EF Pavani Construção Civil) and Luis Carlos Gasparin (Recidotec); below, Milton Antonio Calça and Fabio Braga (Solopavi Eng. Terraplanagem Pav.)



Erico Vinícius Sá Oliveira (GL Empreendimentos), Luiz Marcelo Tegon (Ciber), Brenner Santos (GL Empreendimentos), promoter and Raimundo Machado (Requimaq)



Left to right: José Roberto Artuzo (Empresa Construtora Brasil), Américo René Giannetti Neto (Construtora Barbosa Melo), Jean Pierre (Nicamaqui), Ronaldo Lanna (Cimcop), Rodrigo Sousa (PSO Engenharia), Daniel Wanderley, Eduardo Wanderley (Wanmix) and Rodrigo Lanna (Construtora Barbosa Melo)



Christian Vezjak (Vezla), Luiz Marcelo Tegon (Ciber), Félix Vezjak (Vezla), Augusto Palacios (AMVI), Jürgen Wirtgen (Grupo Wirtgen) and Cristiano Lameira (Ciber)



WIRTGEN GROUP: FOCUSED ON SATISFACTION

The success of the Wirtgen Group's participation at M&T can be proven by our customers' satisfaction. According to Ailton Jaupavi, from Jaupavi Terraplanagem e Pavimentação, the time was right for the company to diversify its fleet of machi-



nery: "We bought a Hamm 3411P compactor during the trade show. The Wirtgen Group offers excellent quality brands with a great cost-benefit ratio."

For his part, Fabrício Furtado Ribeiro, of Pelicano Construções, closed a business deal that had long been in the planning. "Our acquisition of the Vögele Super 1103-2 paver also aims to serve on new contracts," he stated.

For those who were not able to take part in the event, Ciber has a large network of dealers available to serve customers. They have professionals who are prepared to present new products, provide complete support and discuss projects that are in need of construction equipment, and highway maintenance, compaction, crushing and mining.

◀◀◀ The Wirtgen Group's team of professionals works hard to always stay close to its customers



Watch the video

Access the Ciber Equipamentos Rodoviários website (www.ciber.com.br) and watch the video of the new Ciber UACF iNova 1200 P1 plant to learn about the most innovative features you can find on any asphalt plant



JÜRGEN WIRTGEN, WIRTGEN GROUP PRESIDENT

During the 2012 M&T Expo, the executive talked about the event and Ciber's work in Latin America.

What is your impression about M&T?

This trade show is much bigger than the last one, with more exhibitors and more room. There are also plenty of international customers. It's a great return; I think we can feel very satisfied.

How is Latin America important to the Wirtgen Group?

Latin America is very relevant to our business. The size of the market in the region is growing. Traffic is constantly on the rise, especially heavy vehicle traffic. In order for us to keep cities moving, we have to have more investments, and this will create good prospects for the group's future.

And what about Ciber's role within the Wirtgen Group in the region?

Ciber has excellent opportunities, especially in the area of asphalt plants, since it is the group's only brand to be truly active in the field. But, obviously, other locally produced equipment also stands out, like the pavers.



Close to
our customers



INVESTMENT IN ASPHALT MIXTURE QUALITY

CIBER ASPHALT PLANTS ARE THE CHOICE OF AUSTRALIAN COMPANIES
IN SEARCH OF CUTTING EDGE TECHNOLOGY



Ciber Equipamentos Rodoviários has been gaining ground in Australia, located in Oceania. Since 2009, the company has been gaining market share on the continent with its line of mobile asphalt plants. The fleet is operating on works like paving urban and residential areas, highway paving work, industrial infrastructure and mining areas.

This Australian companies' preference, according to the Ciber's regional manager, Guilherme Ratkiewicz, is justified by the equipment's convenience and low cost of transportation, making it very easy to get it ready for operation. "The machinery is being used for jobs of different sizes in remote regions. With its unique characteristics, the plant is able to take high quality asphalt to locations where stationary plants installed in areas of high demographic concentrations are not able to work."

Another matter pointed out by Ratkiewicz is the profile of the contractors working on Australian soil. The large companies are responsible for the bigger projects and have stationary plants, selling asphalt mixtures in the urban centers. On the other hand are

the smaller companies, which used to buy ready-made asphalt for their jobs, but are now starting to see the advantages of buying highly mobile equipment with low operating costs. "Currently, some of the plants in the country are mobile, but the larger part of the asphalt mixture is produced by stationary machines. We believe the concept of mobility will continue to grow and Ciber is on the right way towards this market development," he concluded.

The Australian market has also been undergoing a process of renovation and is becoming more demanding in terms of the facilities for producing asphalt mixtures. Ciber plants use less fuel and offer the warm mix asphalt system and other options for RAP (recycled asphalt pavement), combining the equipment mobility and sustainability that is winning over more and more Australian customers.



Technology in action on Australian jobs





COMPACTION THAT MAKES A DIFFERENCE

ERWIL AND EMPRESA CONSTRUTORA BRASIL CHOOSE HAMM TO
WORK ON JOBS IN SOUTHERN AND SOUTHEASTERN BRAZIL



Brazilian companies have chosen compacting solutions from the Hamm line to carry out infrastructure work in different regions across the nation. Investments in technology have been the driving force behind the business of Erwil and Empresa Construtora Brasil, both heading up important work on national highways.

Hamm compactors on Empresa
Construtora Brasil jobsites



Model 3411 Hamm compactors are part of Empresa Construtora Brasil's fleet of machinery, located in the Brazilian city of Belo Horizonte, in the state of Minas Gerais. The equipment is the technological solution to work on many of the contracts signed with the National Department of Transportation Infrastructure (DNIT). Recently, the company used the brand's compactors on a job on highway BR-470, between two cities in the state of Rio Grande do Sul, Lagoa Vermelha and Barracão. The undertaking included site leveling and paving work on an approximately 40 km stretch.





From Southern to Southeastern Brazil, the company also led the consortium responsible for widening and restoring an important section of highway BR-365, in Mina Gerais. That project was completed in August, covering a 50 kilometer stretch connecting two important cities in the state, Uberlândia and Monte Alegre. In that state, they are also working on building the Rejeito dam, in the city of Mariana, and on a spillway system for the Minas-Rio Project, owned by Anglo American,” emphasized Jose Roberto Artuzo, Construtora Brasil’s equipment director.

QUALITY AND RELIABILITY

Founded in 1945, the contractor operates on jobs all across the country, with emphasis on the implantation of infrastructure for highways, railways, urban areas, industry, airports and mining. Currently, the company holds 50% of the shares of the Tebe S.A. consortium, which administers 156 km of highways in São Paulo, involving three link roads: SP-326 , SP-351 and SP-323. “We deal with both public and private jobs, always excelling on two factors: quality and reliability. And technology is one of the fundamental points that helps us achieve productivity and excellence,” he concluded.

Hamm technology used on
the Smooth Asphalt Project



TECHNOLOGICAL REINFORCEMENT

In Rio de Janeiro, Erwil is working on the Projeto Asfalto Liso (Smooth Asphalt Project), a program conceived by the city government in preparation for the World Cup and the Olympic Games. It is a long term project aimed at repairing approximately 800 kilometers of roads on the city’s West, North and South sides, as well as the Barra da Tijuca region. “The idea is to avoid mere “pothole filling” repairs, doing paving work that will actually last longer,” explained the company’s maintenance engineer, Márcio Luís da Silva.

In order to step up this task force with eyes set on the world sporting events, the company acquired Hamm model HD10CVV, GRW18 and HD14VT compaction rollers, as well as a Wirtgen W100F milling machine and a Vögele S1100-2 paver. The project, in partnership with Rio de Janeiro City Hall, began last year. When they started providing these services, the contractor invested in more Wirtgen Group equipment. “Now, to continue the process, we feel the need to reinforce our fleet even further with quality products like the ones being sold by the group,” stated the engineer.



OPERATING SUPPORT FOR DIFFERENT JOBS



THE VÖGELE SUPER 1103-2 IS THE TECHNOLOGICAL CHOICE OF RENOWNED BRAZILIAN CONTRACTORS PAVISERVICE AND NG ASFALTOS



Highways play an unmatched role in driving the economy of any country. For this reason, innumerable initiatives towards structural development are underway in Brazilian states. Taking advantage of the moment, two companies, Paviservice Serviço de Pavimentação and NG Asfaltos have been getting their teams and equipment out there, one example being their Vögele brand solutions.

In Bahia, one of the most important states in Northeastern Brazil, Paviservice has assumed responsibility for paving 180 kilometers of a stretch of BR-116 that goes through Poções, Vitória da Conquista and Cândido Sales, on the border with Minas Gerais. It is a road with heavy truck traffic and is near an urban center. The action aims to improve the respective stretch of highway to reduce accidents and increase asphalt durability. In addition to



NG Asfaltos chose
Vögele Super 1103-2

logistical benefits, the improvements being promoted regionally will contribute to increasing local tourism. The operation is making use of the Vögele Super 1103-2 paver. “This is considered to be a big job, where pavement recuperation services will be carried out, such as localized repairs, drainage, roughness corrections with hot mix asphalt concrete (HMAC) and Hot Mastic Asphalt Concrete (CBUQ),” stated Ronald Velame, managing director of Paviservice.

Focused on road maintenance, Paviservice opened its doors in 1996 and has mainly added public service contracts to its portfolio. In recent years, the company has invested heavily in vanguard technology, acquiring Ciber asphalt plants and pavers, Wirtgen milling machines and Hamm compactors.

ACROSS THE MIDWEST

In the Midwestern Brazilian state of Goiás, another Vögele Super 1103-2 paver unit was one of the main technological solutions chosen for the Atlanta Music Hall project, an outdoor area planned to host concerts for the Goiânia Metropolitan Area. Responsible for the undertaking, NG Asfaltos accepted the challenge to pave

the approximately 45,000 square meter area. “We produced 8,500 tons of asphalt mixture with the Ciber plant. Afterwards, to level out all that asphalt you need quality equipment, which is why we chose the Vögele model,” stated Commercial Director Teixeira de Oliveira.

Also in the city of Goiânia, Oliveira pointed out, the Vögele Super 1103-2 is working on paving Portal do Sol condominium, where 3,500 tons of HMAC (Hot Mastic Asphalt Concrete) is being laid down on a 60,000 square meter area. “This technology stands out due to its finish quality and the equipment’s mobility inside the condominium.”

The paver was also employed during repair of stretches of highway BR-020, in Brasília, close to the Goiás border. “This Vögele model has features that really set it apart like the ease of operation of its hydraulic screed,” he added.

A HMAC (Hot Mastic Asphalt Concrete) specialist, NG Asfaltos carries out work on federal, city and state roads and is prepared to operate all across Brazil. Nevertheless, a good number of the company’s undertakings take place in the states of Goiás, Mato Grosso, Tocantins and Distrito Federal. “We rely on the support of our highly skilled professionals and currently we have 110 employees,” emphasized Oliveira.

Vögele Equipment at work for
Paviservice on BR-116



PARTICIPATION IN NORTH AFRICAN TRADE SHOW



As it has for the past five years, Ciber Equipamentos Rodoviários took part in the well established Algiers International Fair, in Algeria, North Africa, May 30 to June 5. The company, headquartered in the Brazilian city of Porto Alegre, made its presence known by way of TPS, the region's exclusive Wirtgen Group dealer. In the 2012 edition, one of the new features was the stand bringing together the group's five brands, while keeping the same visual identity. Besides Latin America, Algeria is considered one the biggest markets Ciber has a share in with the equipment its sells to regional customers.



TOUR OF PARAGOMINAS



The project to mine bauxite, operated by Mineração Paragominas S.A., a company based in the state of Pará,

Brazil and controlled by the Norwegian company Norsk Hydro ASA and by Vale S.A., has been attracting worldwide

attention with its innovative methodology. The initiative is relying on the support of a 100-ton Wirtgen 2500 SM Surface Miner. Wirtgen Group President Jürgen Wirtgen went to see the work up close. The visit also included the presence of executives Andreas Marquardt (Wirtgen's sales manager for Latin America), Luiz Marcelo Tegon (Ciber president), Luiz Zoch (general manager of the Kleemann line for Latin America) and Hermann Volk (Wirtgen surface miner product specialist), as well as staff members from Deltamaq, Ciber dealer in Pará.

MOBILITY IS THEME FOR EVENT IN MEXICO



The 19th National Meeting for Land Road Engineering took place July 18-21, in the city of Mazatlán, Mexico. Ciber took part in the event, themed: Mobility, a determining factor for progress in Mexico. On the occasion the current status and problems of the country's highways

was discussed, as were technologies and procedures for solving the problems, in accordance with global trends. A Ciber UACF 17 P-1 asphalt plant was on display during the meeting. Not only that, but Ciber and Construmac, the company's dealer in Mexico, gave a speech on

the production of asphalt mixtures. "Taking part in events like this one is always productive. Exchanging information is very important. We get the opportunity to show our work and also acquire new knowledge," pointed out Ciber's area manager for Northern Latin America, Rafael Zuchetto.

MORE EQUIPMENT ON CITY JOBS



Brazilian city governments have been investing in Hamm equipment to develop infrastructure projects on their urban roads. In Palma Sola, in the state of Santa Catarina, the city government has placed Hamm compactors into operation on paving services for the city's main streets, as well as improvement of rural highways. It was no different in Seberi, Rio Grande do Sul, where a new Hamm compaction roller was included in that city's construction fleet. It has already been hard at work on road improvement work in the communities of Linha Pessegueiro, Anjo da Guarda and Lajeado do Mico. Antônio Prado, in the state's highland region, is also using Hamm brand equipment



Equipment being delivered in the city of Seberi

to pave approximately 3,000 meters of highway. The objective is to promote constant improvement of the roads in

favor of tourism, facilitating access to inns and transportation of the region's production.

TECHNOLOGY ON THE ROAD TO MALAYSIA



New markets are being opened up by Ciber. Recently, the company entered the Malaysian market through the Wirtgen Group regional subsidiary, and has begun selling Ciber asphalt plants, with one unit of the UACF 17P-2 model.

The country represents a port of entry for the brand on the Asian continent. According to Guilherme Ratkiewicz, Ciber's area manager, the region has high market potential, since the asphalt

and paving segments are in search of technology and specialization so they can obtain greater levels of quality for their products. "The companies operating in the infrastructure sector want new choices and Ciber has arrived in Asia making technological innovation available," he stated.

Their betting on the Asian territory is justified by the interest in investments in automation and due to the current economic situation, which favors said

movement. The prospects for 2012, according to the Asian Development Bank, estimate that the emerging economies are going to maintain the same high economic growth rate of 7.2%. Malaysia belongs to the group of so-called Second-Generation Asian Tigers, which have achieved development through an export-based economic model mainly aimed at industrialized countries. "We're working hard so as to not miss the opportunities being presented by that continent," said Ratkiewicz.



Anderson Bastos (Ciber), Pok Sum Loong (Wirtgen Malaysia) and Ellison Sim (Wirtgen Singapore) during visit to the Ciber plant in Capão do Leão, Rio Grande do Sul (Brazil)



WHAT DO YOU THINK OF USINA DE NOTÍCIAS MAGAZINE



Gerson Dias

Engineer for Britagem Gaspar / Gaspar (SC)

"I really like the magazine. Especially the last edition, which is on my desk as we speak. In terms of the subject-matter, I'm most interested in learning about Wirtgen Group mining technology and how the new machinery can facilitate the process, in terms of costs, benefits and end results."

Silvio J. Rocha

Maintenance Controller of Etec Engenharia e Construtora /
Ribeirão Preto (SP)

"The magazine always has articles that are of interest to professionals working in the civil construction sector. I want to stay informed about details on the equipment produced by Ciber and its partners."



Gerson Neto

Director of Lidermac Construções / Recife (PE)

"I think it's an excellent publication. I like the stories that tell about the challenges involved in doing road infrastructure work by using processes that don't harm environmental sustainability."

Moacir Varela

Director of Mariuá Construções / Manaus (AM)

"I read every edition. I like the publication, the subject-matter, and the news is always well-written, interesting and technical. Readers get the opportunity to learn about jobs underway all across the country."



See your company on the pages of **Usina de Notícias** magazine.
Send news, information on projects and construction work for us to
publish in the magazine.

CIBER KOMPAKT SERIES PLANTS: VERSATILITY IN STATE-OF-THE-ART EQUIPMENT.



Close to
our customers

- Perfect for fast execution work in hard to access areas. Production of 20-50 ton/h
- Cutting-edge technology, easy operation and mobility that ensure the best cost-benefit ratio
- Simple and fast assembly, easy to maintain and clean, allowing for more working hours
- Efficient filtering system
- Plug-Mill mixer that ensures the control and the high-quality on production of the widest variety of asphalt mixtures



ROAD AND MINERAL TECHNOLOGIES

www.wirtgen-group.com
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NEW CIBER ASPHALT PLANT UACF iNOVA.



Close to
our customers

Who innovates is always ahead



- ▶ four dosing bins with wider loading width in only one chassis
- ▶ remote monitoring system
- ▶ self diagnostic system
- ▶ higher unloading height
- ▶ range of recycling options
- ▶ bigger drying area
- ▶ new and longer Plug-mill mixer
- ▶ new chassis and suspensions design



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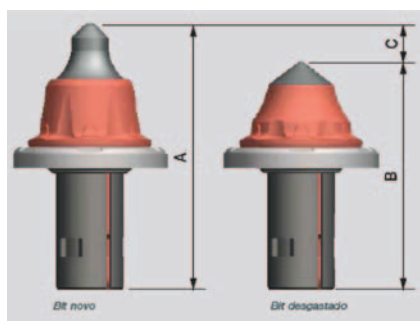


PICKS! CAN WEAR BE AVOIDED?

Pick wear cannot be completely avoided, but it can be minimized. Through daily cleaning, we can prevent particles of milled material from building up around the pick, preventing it from turning freely and considerably increasing wear. In this image, we can see how a lack of cleaning or insufficient water spraying can affect pick rotation and lead to irregular wear of the pick's plate and body. In this condition, the support for the pick, which is more expensive, was also damaged.

Therefore, in order to minimize wear:

- ➡ Provide rigorous cleaning, removing the dirt that has impregnated the cylinder.
- ➡ Carry out periodic and ongoing maintenance, checking the state of the picks and their elements (carbide tip, wear plate and attachment sleeve)
- ➡ Check the water spraying system.
- ➡ Choose the right pick for each operation.
- ➡ When attaching the pick, use the right tool to avoid damage to the carbide tip (bronze hammer).
- ➡ After attachment, manually check to see if the pick is spinning freely.



WHEN SHOULD THE PICK BE REPLACED?

At first, visual images of wear help us identify the right time to replace picks. However, observing the maximum wear lengths helps make sure the replacement time is not surpassed, avoiding usage errors. In the table below, we show a few examples. Measurement A is the length of a new pick, while measurement B is the measurement of a worn pick.



Designation	Part No.	Pick new (A)	Pick worn out (B)	Wear path (C)
W4-G/20	2218469	88	78,3	9.7
W5/20	2218476	88	79.1	8.9
W5L/20	2214877	89.5	79.8	9.7
W6/20	2218478	88	78.3	9.7
W6L/20	2218480	88	76.2	11.8
W6M/20	2218486	88.6	78.2	10.4
W8M/20	2218482	88	75.2	12.8
W6-T/22	2143715	91.5	81.8	9.7
W6V/20	2064872	88	78.3	9.7

* For the complete table, ask for the "parts and more compact" from your region's dealer

PICK CHOICE AND IDENTIFICATION. WHICH ONE SHOULD I USE?

PICK CHOICE


Knowing the right pick to choose for the job leads to improved performance and productivity, which is why we should know the best pick for each application.


HOW TO CHOOSE THE RIGHT PICK






Abrasiveness of the soil is one of the main factors that should be taken into consideration when choosing a pick, in addition to the type of material to be milled. We should also know something about the conditions of the construction site and the parameters of the equipment involved. These factors will have a direct influence on the pick's working life and its productivity. On the table below, we show the types of picks that can be used depending on the type of soil to be milled and the type of equipment.







At first, we should carry out a test to give us a reference point about which pick to choose to carry out a project. For example, if we have a W1000L and want to mill asphalt, we should first choose the W5/20 pick and then the W5L/20, so we can have a way to create a parameter for comparison and choose the one that performs the best.

PICK GEOMETRY AND IDENTIFICATION LETTERS





W6ML-G/20		
Designation	Significance	
	W6	Cap-shaped carbide tip, base diameter 19 mm
	M	Solid carbide tip
	L	Longer carbide tip
	-G	Steel body with extractor groove
	/20	Shaft diameter of the pick is 20 mm

W6C-T/22		
Designation	Significance	
	W6	Cap-shaped carbide tip, base diameter 19 mm
	C	Flat carbide tip
	-T	Steel body with wear cone
	/22	Shaft diameter of the pick is 22 mm

Designation	Significance		Graphic example
W	Wirtgen pick		
Designations for cap-shaped carbide tips			
Basic diameter			
W4	16 mm (Length: 16 mm)		
W5	17.5 mm (Length: 16 mm)		
W5L	17.5 mm (Length: 17.5 mm)		
W6	19 mm (Length: 17.5 mm)		
W6L	19 mm (Length: 19.5 mm)		
W6C	19 mm (Length: 10 mm)		
W6M	19 mm (Length: 18 mm)		
W6ML	19 mm (Length: 21 mm)		
W7	20.5 mm (Length: 20.5 mm)		
W8	22 mm (Length: 20 mm)		
W8M	22 mm (Length: 21.5 mm)		
Designations for cylindrical carbide tips			
Carbide tip diameter			
W1-8	8 mm (Length: 15 mm)		
W1-10	10 mm (Length: 25 mm)		
W1-13	13 mm (Length: 25 mm)		
W1-15	15 mm (Length: 24 mm)		
W1-17	17 mm (Length: 28.5 mm)		
W1-19	19 mm (Length: 29 mm)		
Shape of the carbide tip			
C	Compact	Flat version	
L	Long	Longer version (height)	
M	Massive	Solid version	

Designation	Significance		Graphic example
Shape of the steel body (of the pick head)			
-G	Groove	With extractor groove	
-N	Narrow	Narrow version	
-T	Twinhead	With wearing cone	
-V	Voluminous	Reinforced version (more volume)	
-S	Short	Shortened version	
Shaft diameter data for the pick			
/ 13	Shaft diameter 13 mm		
/ 20	Shaft diameter 20 mm		
/ 22	Shaft diameter 22 mm		
/ 25	Shaft diameter 25 mm		

PICK USE RECOMMENDATIONS FOR MILLING MACHINES

Carbide tip	Part No	Small milling machines						Medium-sized milling machines						Large milling machines												
		W 350, W 350 E	W 35, W 35 DC	W 500	W 50	W 50 DC	500 DC, W 600 DC	W 1000 L	W 1000	W 60, W 100	W 100 F, W 1000 F	W 120 F, W 1200 F	W 130 F, W 1300 F	W 150	1300 - 1500 DC	1900 - 2000 DC	W 1500	W 1900	W 200	W 2000	W 210	2100 DC	W 2100	W 2200	W 250	
Asphalt pavements																										
W4 / 13	182598																									
W4-G / 20	2218469																									
W5-G / 20	2218470																									
W5 / 20	2218476																									
W5L / 20	2218477																									
W6-G / 20	2218471																									
W6 / 20	2218478																									
W6L-G / 20	2218472																									
W6L / 20	2218480																									
W6M / 20	2218486																									
W6ML-G / 20	2218488																									
W7-G / 20	2218473																									
W7 / 20	2152111																									
W8M-G / 20	2218474																									
W8M / 20	2218482																									
Beton																										
W1-8 / 13	193701																									
W1-10-NG / 20	2218467																									
W1-10-G / 20	2218466																									
W1-13 / 20	2218475																									
Abrasiveness of the material to be milled 																										
Generally recommendable  Recommendable for soft material  Not recommendable 																										

Abrasiveness of the material to be milled

Generally recommendable

Recommendable for soft material

Not recommendable

PICK USE RECOMMENDATIONS FOR RECYCLERS AND STABILIZERS

Carbide tip	Part No	Stabilizing and Recycling				
		WS 2000, WS 220	WS 2500, WS 250	WR 2000, RACO 350	WR 2400	WR 2500, WR 2500 S
W6-V / 20	2218485					
W6C-V / 20	2218489					
W6-T / 22	2143715					
W6C-T / 22	2143714					
W6M-T / 22	2143716					
W8-T / 22	2143717					
W1-I3 / 22	2088111					
W1-I7 / 22	2088112					
W6C / 25	2143486					
W8 / 25	2143236					
W1-I3-S / 25	2218500					
W1-I5-S / 25	2179693					
W1-I5 / 25	2143497					
W1-I9 / 25	2143499					

Soil stabilization
 Stabilization of stony soil
 Cold recycling
 Not recommendable/ partly recommendable

TYPES OF WEAR



WEAR ON STEEL BODY

State: The steel body and wear plate are already very worn out in comparison with the carbide tip. The pick is spinning excellently.

Cause: One possible reason for this type of wear would be fast progress in a soft material. Generally, these conditions lead to greater wear on the body of the pick and less wear on the carbide tip.

Solution: Basically, there are two ways to reduce this type of undesirable wear: use a pick with a larger body, or reduce the machine's advancement.

WEAR ON ATTACHMENT SLEEVE

State: The conventional attachment sleeve (without Twin-stop feature), was loosened by excessive use.

Cause: This pick has been in operation for a long time, which can be clearly seen by the wear on the wear plate and attachment sleeve.

Solution: In order to reduce this risk overall, the Twin-Stop feature (with appropriately defined lengthwise slackness) has been integrated into Wirtgen picks.



IDEAL WEAR

Carbide tip pick in the "cover" shape and chamfered wear plate

This is a nearly ideal result, since here we have obtained uniform radial wear on the pick's body. During continued use of this pick during the milling process, when the state of the milling plate is already much worn, it should be kept under observation, since if it becomes too worn out, it will no longer protect the pick from wear, thereby exposing it to the milled material.

