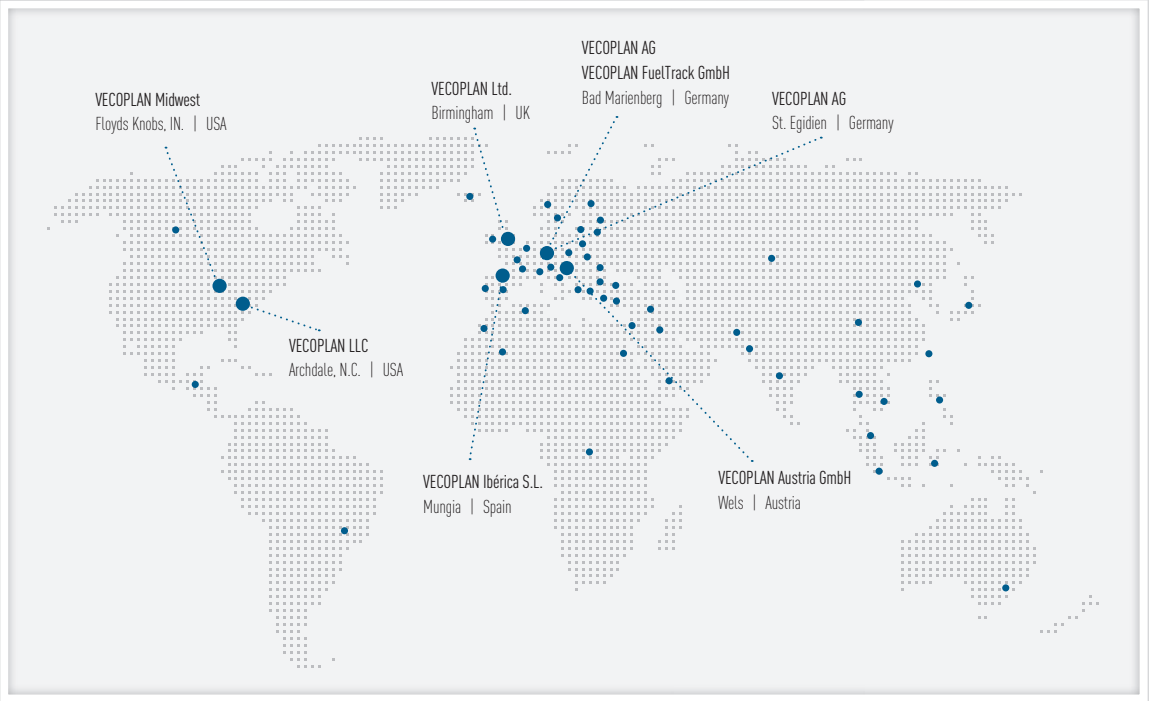
TECHNOLOGY FOR A SUSTAINABLE TOMORROW

ALTERNATIVE FUELS

WASTE-TO-ENERGY

Vecoplan®



VECOPLAN INTERNATIONAL

Made in Germany

Waste avoidance, conservation of resources and efficient use of recyclable materials are among the most urgent challenges and tasks of our time. The importance of environmental awareness and sustainability is increasing on a daily basis. Our company has been successfully tackling these challenges for more than 40 years, and today we are a leading partner in the international wood and recycling business, with numerous subsidiaries and sales offices worldwide.

VECOPLAN AG develops, manufactures and markets technologically sophisticated machines and plants for shredding, conveying and processing primary and secondary raw materials in production processes and recycling. Our customers benefit from cutting-edge technology, made possible by continuous research and development combined with in-house production. Our track record is impressive: a number of patents testify to our know-how. In order to meet the demand for ground-breaking technology and outstanding quality, we have focussed our operations on our core competences. Our Service Division complements this structure.

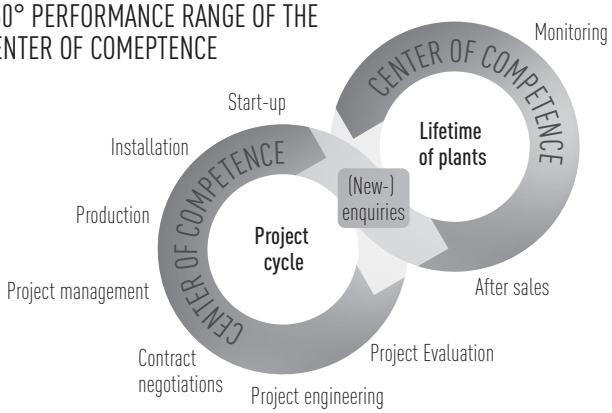
We take our customers through the entire process, from planning to production, delivery, installation, commissioning and on to maintenance of the complete plant. VECOPLAN AG delivers the highest sustainable quality standards, whether it be an individual machine or complete plant, according to our customers' specifications. Of course, we are certified to EN ISO 9001.

MASTERMINDS – POWER FOCUSED

The waste market is one with a global outlook and presence; the markets are in a constant state of flux, and not only as a result of internationalisation. We at VECOPLAN specialise in the manufacture, conveying, storage, treatment, loading and dosing of alternative fuels (or refuse-derived fuels – RDF).

Our knowledge and experience are concentrated in our Center of Competence, which keeps a close watch on developments in the Alternative Fuels market segment. In the interests of our customers, we are in a position to respond rapidly to market changes, identify opportunities, work with you to refine specific aspects of products and processes and offer individual solutions. Our service portfolio, from planning to commissioning, includes the complete range of systems technology. From the outset, our Center of Competence provides a professional project planning service and delivery of your systems and plants, all from a single source and to the highest quality standards. On schedule. Promptly. With practical experience and customer orientation.

360° PERFORMANCE RANGE OF THE CENTER OF COMEPTENCE



THE RIGHT SOLUTION FOR EVERY MATERIAL

Commercial waste

Bulky waste

Construction waste

Solutions for the processing of:

- Commercial waste
- Bulky waste and packaging waste
- Production waste
- Mixed building and demolition waste

VECOPLAN provides the technology required for manufacturing different alternative fuels (RDF) from a single source, and developed and designed in accordance with individual requirements. The solutions VECOPLAN manufactures and sells consist of components for shredding, conveying, screening, separating, storing and dosing alternative fuels. The development, design and manufacture of long-lasting operationally stable plants for RDF manufacture and processing is technology-intensive. Pre- and re-shredding is the nucleus of RDF production plants.

The pre-shredded waste becomes a base RDF following the separation of metals and inert substances. Further treatment involving screening, sifting and re-shredding produces RDF for energy generation in the cement industry and for power plants.

Special requirements for the RDF can be met using downstream processing methods.

RDF fluff

RDF power plant

RDF pellets

Energy recovery

FUEL IS VERSATILE – JUST LIKE OUR TECHNOLOGY

Different source materials place different demands on the technology:
VECOPLAN provides the processing technology required to manufacture specific alternative fuels.
Highly efficient, tailor-made plants are designed using a number of innovative, technical individual solutions.

The individual design process means that the entire plant acquires the performance characteristics of our individual components: be it the need for high productivity with the V-EBS re-shredder or a customer-specifi c mix of different RDF grades. With the aid of our loading and unloading conveyor technology in conjunction with variable-speed discharge screw conveyors we offer the best solution of fuel treatment for our customers. We have the perfect processing solution for each and every application.

Shredding

Example: Single-shaft shredder for RDF (V-EBS)

SHREDDING IS OUR CORE COMPETENCE

Our customers benefit from our experience in shredding technology, which has been accumulated over many years. It is a field we have specialised in ever since the company was founded in 1969. With six types of shredder which differ fundamentally in their structure and form of shredding, we have the appropriate and perfectly tailored shredding technology available for all kinds of waste.

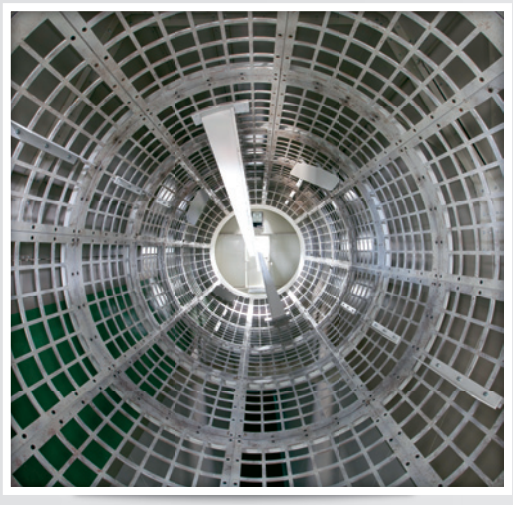
Conveying

Example: Pipe belt conveyor (VecoBelt)

CONVEYING TECHNOLOGY – TAILOR-MADE

We have all of the belt conveyors, drag chain conveyors, screw conveyors, chain belt conveyors and vibrating conveyors to get your material moving. Our product range includes reliable products, optimised for bulk material and piece goods, which help you to convey domestic and commercial waste and all other fractions produced along the process chain to their destination.

Screening



Example: Drum screen

Separating

Example: Wind shifter

GETTING THE MOST OUT OF EVERYTHING

We have the oscillation, disc and star screeners to achieve a level of sorting which would be difficult to achieve manually. Waste screens with a screening area of up to 21m² and up to 50 t/h throughput or flip-flow screens for the clean separation of even damp fine fractions are used to optimise the parameters calorific value, chlorine, ash content and moisture. A screen is often used as an control screen after removal from the fuel store. Our screens reliably classify undesired fractions with a high degree of precision, low operating costs and top performance.

FOCUSING ON THE ESSENTIAL

Our separating technology removes from the waste everything that could cause interference in the process chain, greater wear or problems in the thermal process. Here, the separation of ferrous metals, non-ferrous metals and PVC is crucial.

By using air separators, heavy material is separated from the high calorific value light fraction, which go on for individual further processing. This increases the efficiency of the re-shredder and reduces tool wear. Your plant will therefore have greater availability, lower costs and higher returns.

Storing

Example: Loading and unloading conveyor (BEF)

STORAGE IS NOT AN ART – IT IS A SCIENCE

Storing the processed alternative fuels places great demands on the storage systems used. We offer large storage volumes coupled with high throughput for the feeding and discharge of bunker systems.

Dosing

Example: Screw conveyor (FS)

SUPPLYING THE EXACT MEASURE REQUIRES THE RIGHT TECHNOLOGY

We deliver efficient systems for the regulated feeding of downstream plants with RDF. Used in conjunction with our tried-and-tested storage systems, various types of RDF can be mixed to the grade required for subsequent processes.

PROCESSING ALTERNATIVE FUELS ECONOMICALLY AND EFFICIENTLY

Our customers benefit from our decades of experience in the treatment and processing of diverse types of waste. Be it monofractions, drums, pallets or mesh pallets: our customers around the world use the efficient and variable shredding technology from VECOPLAN to enable them to process alternative fuels economically and efficiently.

This is a field we have specialised in ever since the company was founded in 1969 and today we are an international market leader thanks to our ongoing new developments and innovations.

We are your reliable partner for plants for the processing of mixed building, demolition, commercial, domestic or hazardous waste. VECOPLAN also has the perfect shredding technology for difficult feed materials such as sprues from injection machines, mattresses, baling wires from the paper industry or bales of empty Big Bags.

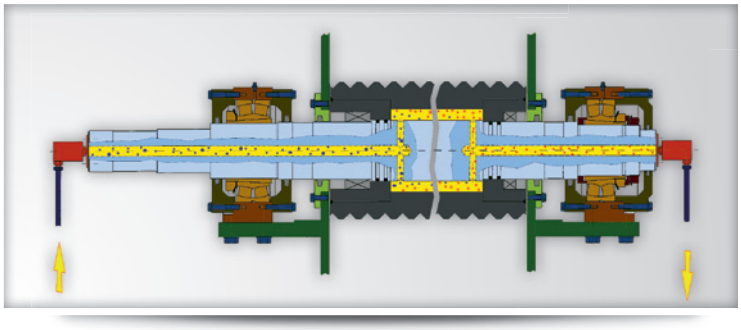
With our own production facilities in Bad Marienberg, extremely high quality standards, qualified and highly motivated employees, and durable products, VECOPLAN sets standards in international plant engineering.

The result is well-conceived plants for the processing of alternative fuels or recovery of recyclables. Not only do you have the support of our engineers and technicians during planning and realisation, but VECOPLAN's professional project management service ensures that our customers have a competent team on side to come up with the optimal solution to their complex briefs.

DRIVEN BY INNOVATION

The engineers and technicians in our Research and Development department work tirelessly to deliver increasingly superior solutions to meet our customers' varying requirements. A number of patents testify to our technological leadership in the worldwide market.

Since the VAZ was brought to market in 1983, the technology has been refined on an ongoing basis. VECOPLAN also holds a patent for the universal cutting unit (U rotor) developed in 1989. There have been further optimisations since then, including the tramp material protection device, pneumatic-lowering counter knife ("Flipper"), hydraulic bridge-breaker, the patented film and fibre rotor (2002) and the patented HiTorc® drive with optimised efficiency (2005). Innovations by VECOPLAN redefine the market time and again. Our engineers and designers are continuously working on concepts and effective solutions for even the toughest assignments.



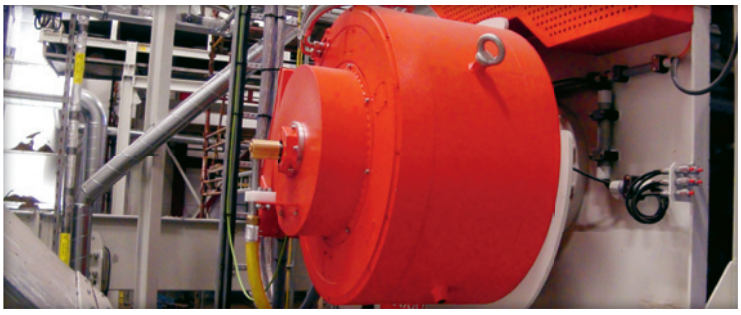
Rotor cooling

VECOPLAN's variable rotor cooling systems has the following advantages:

- Clean cutting and constant particle-size distribution (extremely homogeneous material)
- Reliable prevention of sticking and formation of lumps
- High availability and uniform throughput
- Defined tool behaviour as regards thermal expansion

V-EBS-Rotor

- High mass moment of inertia
- Start-up under load
- Quick and easy knife changing
- Low operating costs



HiTorc®

Revolutionary shredding technology

- Direct drive motor / permanently controlled synchronous motor
- Greater throughput – lower consumption
- Energy saving of approx. 50 % with pre-shredders
- Current peaks are roughly halved (compared with asynchronous motor)
- Compact / quiet / low-maintenance

VecoBelt

Pipe belt conveyor – for conveying bulk material
on the horizontal or on a slight incline

- Continuous distances of up to 400 m
- Low-noise and low-dust conveying as belt enclosed in tube

Loading and unloading conveyor

Storage box loading and unloading system
for a capacity of up to 1,500 m³

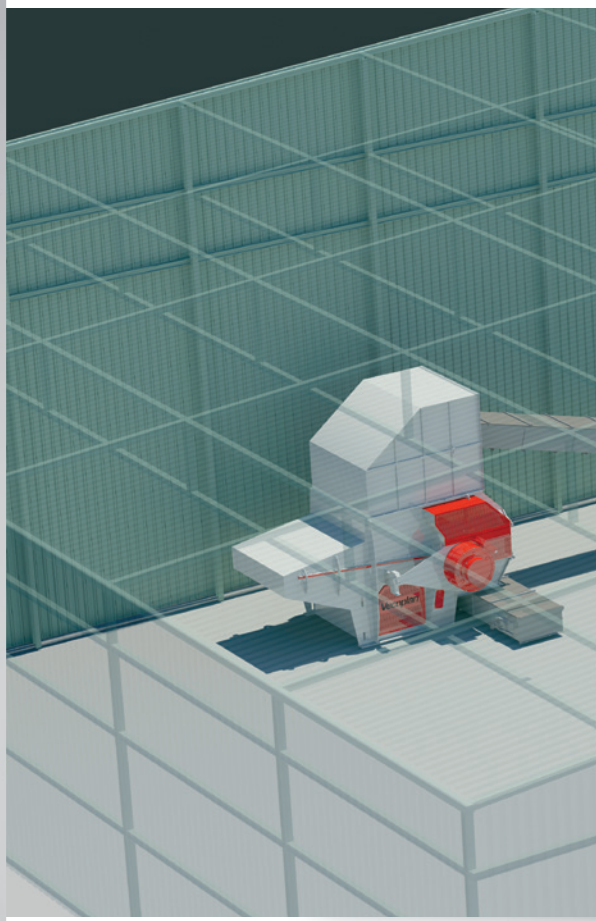
- Any number of boxes can be connected in parallel
- Full redundancy and simultaneous automatic filling and discharge
- Tried-and-tested system with high availability and low operating costs

VECOPLAN fuel conditioning

Precise adherence to the fuel specification

- Individual mixing programs
- Automatic online monitoring and sampling systems
- Optimal materials flow management

COMPLETE INSTALLATION OF COMPLEX PLANTS

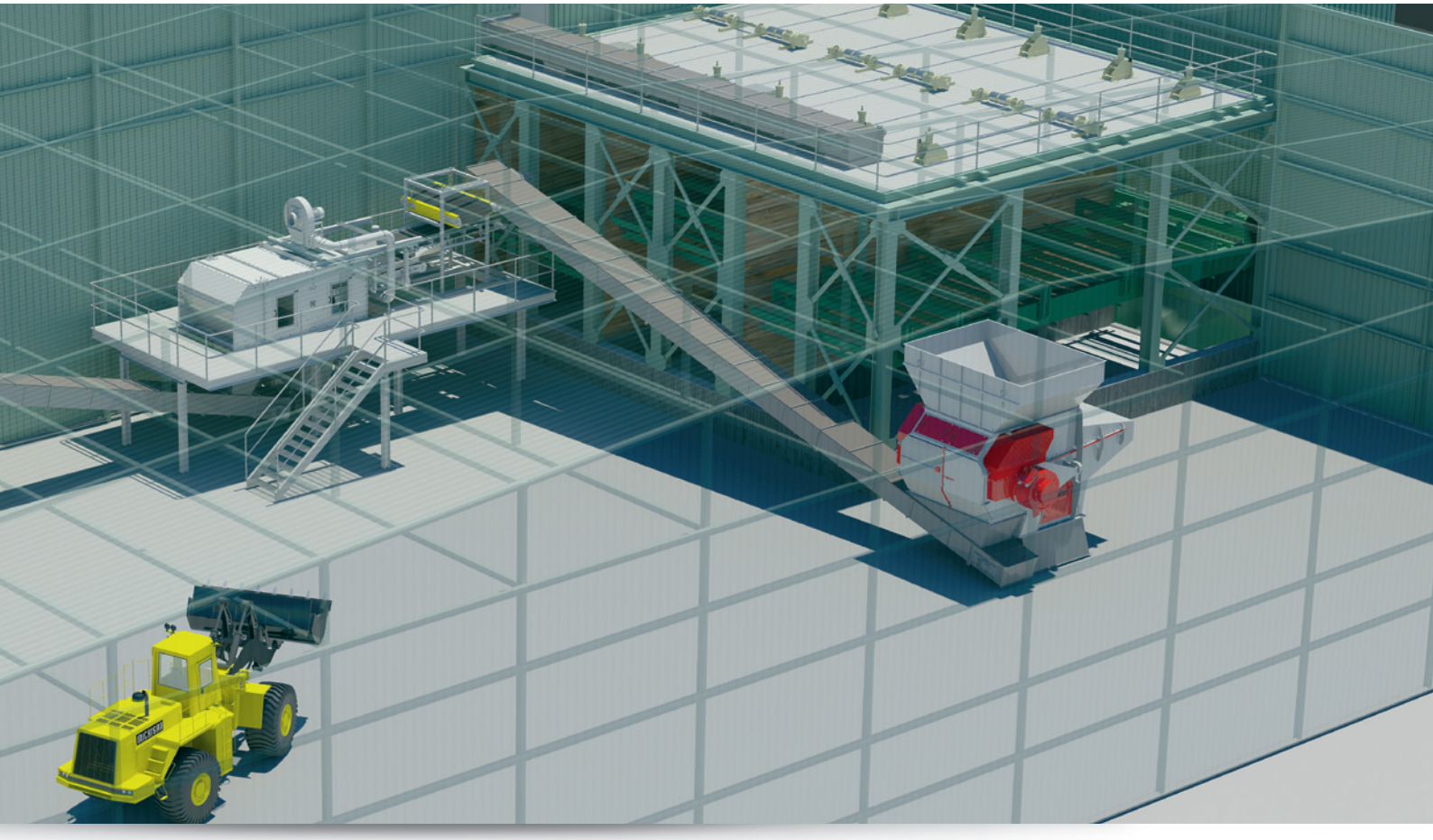


Electrical engineering tasks

- Drawing up of process descriptions
- Assessment and evaluation of regulations, standards and guidelines
- Development of automation/operation and safety concepts, tailored to customer needs
- Drawing up of measuring point and consumer lists
- Planning and manufacture of the switchgear and control elements incl. documentation, programming and parameterisation
- Adaptation of plant-specific software

Project management tasks

- Management of the project commission and, as such, assumption of overall responsibility for the project until final acceptance
- All-embracing coordination of interfaces internally and externally, both the technical and organisational side
- Contract management
- Definition of the project goals in line with customer needs
- Project planning, organisation and control:
  - Assembly of the project team in consultation with the departments
  - Detailed planning of the plant concept in close consultation with the customer
  - Drawing up and updating the project overall schedule
  - Planning of resources in consultation with the departments
  - Responsibility for costs and adherence to budget
- Documentation and reporting
- Preparation and execution of project meetings (both internal and external)
- Handover of project to the customer and, internally, to the customer account manager in After Sales



DURABLE – POWERFUL – SOLUTION-ORIENTED

We are a complete outfitter and worldwide supplier of innovative and sophisticated plants for the global waste industry. We have been learning with every project since VECOPLAN delivered the first complete plant in 1973. Today, our service portfolio, from planning to commissioning, includes the complete range of systems technology.

Planning, delivery, installation, commissioning and service from a single source guarantee plants with maximum availability and economic benefit.

The design of the RDF production line and that of the storage, conveying and dosing systems are individually configured and planned in consultation and close collaboration with our customers.

Our abilities and competence is highly regarded by waste disposal firms, further processors and RDF customers alike.

We set store by constant development and improvement to ensure our customers remain competitive. VECOPLAN plants offer impressive durability, highly availability and low-maintenance.

VECOPLAN RDF POWER: AN EFFECTIVE SYSTEM

Substituting high calorific waste fractions for primary energy is an essential element of the recycling process. Turning waste into fuels enables fossil fuels such as coal and lignite to be replaced and saves natural resources.

Multi-stage processing is required to meet the quality requirements for the cement industry and power plants. Pre-shredding, separation of tramp materials, re-shredding and fuel mixing are the integral components of a high-performance processing plant.

Extract of reference list

SUCCESSFUL PROJECTS

Around the world, we have completed successful projects with our customers and partners in the field of RDF processing. Some "best practise" examples:

- Umweltdienste Bohn –
  RDF production from commercial waste
  Capacity: approx. 120.000 t/a
- Meinhardt Städtereinigung –
  RDF production from domestic and commercial waste
  Capacity: approx. 80.000 t/a
- Lafarge Cement –
  RDF production from commercial waste
  Capacity: approx. 60.000 t/a
- Lafarge – RDF production from commercial waste
  Capacity: approx. 50.000 t/a
- Bursa Cimento Fabrikasi –
  RDF production from commercial waste
  Capacity: approx. 40.000 t/a
- Secil – RDF conditioning and storing
  Capacity: approx. 40.000 t/a
- GOA – RDF production from domestic waste
  Capacity: approx. 50.000 t/a
- Environ GmbH –
  RDP production from baling wires
  of the paper industry
  Capacity: approx. 20.000 t/a
- MBS Rennerod –
  RDF production from domestic waste
  Capacity: approx. 100.000 t/a
- MBT Bredbury Parkway –
  RDF production and conditioning from
  domestic waste
  Capacity: approx. 110.000 t/a
- Heracles General Cement –
  RDF production from commercial waste
  Capacity: approx. 40.000 t/a

YOUR JOB IS OUR RESPONSIBILITY

Original parts

Service

Contact

An overview of our service packages:

	Basic	Comfort	Premium
Safety			
Safety review	•	•	•
Safety check	•	•	•
Cost-effectiveness			
Analysis of cost-effectiveness of repair	•	•	•
Travel to and from customer	•	•	•
Storage costs	-	•	•
Guaranteed spare parts prices	-	-	•
Shipping costs of wearing parts	-	-	•
Optimisation			
Information on innovative further development	•	•	•
Availability			
Inspection	•	•	•
Expert condition report	•	•	•
Priority in case of failure	-	•	•
Maintenance (equipment check)	-	•	•
Preventive maintenance (equipment replacement)	-	-	•
Service			
Original parts advice	•	•	•
Technical advice	•	•	•
TeleService (remote maintenance)	-	-	•

INTERNATIONAL NETWORK ENSURES AN OPTIMUM SERVICE

We create synergies and efficiently link the knowledge and experience of our employees in the interest of our customers and their steadily growing requirements. This means we can guarantee fast and reliable technical support for our customers, even at an international level. We carry a responsibility as a one-stop provider of holistically designed plant solutions – and that does not change after our machines have been delivered.

In addition to consulting, project planning, installation and commissioning, our service package therefore also includes intensive training and a well-structured maintenance and customer service. Furthermore, we offer individual repairs and a quick and reliable spare and wearing parts service. So you can rest assured that when you need us we will be there immediately.

We at VECOPLAN plan, manufacture and install your plant from a single source and our rapid and competent service is available to you round the clock. Our TeleService reliably reaches any location in the world: plant problems can be diagnosed straight away. Settings can be made, data transmitted and errors rectified via the remote maintenance and remote link modules. In this way, we guarantee professional support and thus the maximum availability of your VECOPLAN technology. Our inspection and maintenance packages safeguard your investment. We offer predefined service packages which, of course, can be amended to meet your individual needs.

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