Research and Development
The Road to Innovation
THE CUSTOMER’S REQUEST IS OUR MOTIVATION
To keep the Siempelkamp motto “Innovations are our tradition” alive, continuous research and development are essential. Since 1973 Siempelkamp has had its own research and development center at the company headquarters in Krefeld. This high-performing think tank is one of the largest and most successful of its kind. Specialists of different fields research new processes and systems and develop solutions for highly complex technological processes.

From systems for the recycling of plastics, to the processing of new raw materials such as wood and annual plants or formaldehyde-free bonding agents, the needs of the customers have top priority for our research and development. Our objective is to achieve excellent product quality and high outputs while using resources economically and saving energy. An increasing number of customers from other industries are also inquiring about our services and expertise. Our experience from different markets makes it easy for us to quickly familiarize with new scopes of duties.

**Our services include:**
- Improvement and further development of components, assemblies and production technologies
- Development of new technologies, individual components, processes and systems
- Testing of raw materials and products provided by the customer
- Intensive cooperation with universities, research facilities and different market segments
- Short implementation times into practice
- Project-accompanying project planning and design

**Behind every concept is an innovative idea**
In order to develop new technologies and processes according to our customers’ requests, we design in close cooperation with our clients a basic concept. What raw materials will be used? How does the product behave during production? Is the product suitable for the planned area of application? Siempelkamp provides professional all-round customer support from the first innovative idea, to the concept, all the way to the finished product.

**Feasibility studies**
- Process analysis
- Project planning
- Technological concept development

**Analysis**
- Product characteristics
- Suitability
- Risk factors

**Raw material evaluation**
- Wood and annual plants
- Plastics and rubber
- Mineral materials
- Resins

**Product analysis under laboratory conditions during**
- Material preparation
- Resin application
- Forming
- Pressing
In our testing facility our experts carry out comprehensive machine tests and development work. Furthermore, Siempelkamp is constantly working on improving the quality and reliability of our own products. To do so we have different machines and skills.

- Crushing – e.g., chipping, flaking, fiberizing, milling
- Fractioning – e.g., screening, grading, sifting
- Drying – e.g., chips, wood particles, minerals, special drying goods
- Blending – e.g., plastics, granulates, rubber
- Resin application – e.g., bio-based binding agents, silanes, fibers
- Web formation – mat-forming machines for fibers or plastic pellets
- Unwinders and winders – e.g., paper sheets, plastic sheets, rubber sheets
- Presses – e.g., cycle presses, ContiRoll®, heating and cooling presses
Siempelkamp carries out customer-related studies on existing plants, continues to develop existing machines and assemblies and researches new technologies and processes. Our extensive laboratory equipment and many years of experience from numerous test series make our work possible. Our interdisciplinary team of technologists, chemists, physicists, and process engineers tests new ideas and concepts for different industries.

**Wood industry**
- Production of particleboard, MDF and OSB, beams, engineered wood, insulation board, special products, resin analyses
- Experience with all common types of wood and annual plants
- Extensive material and report archive

**Construction industry**
- Production of gypsum fiberboards and other mineral-bound boards, face panels, insulation boards, sandwich panels for siding material
- Many years of experience with wet and dry-manufacturing processes

**Plastics industry**
- Production of laminates and products made of recycled materials, WPC, organic sheets, epoxy, PU-recycling
- Adjusted blending technology
- Heating and cooling presses (up to 400 °C)

**Rubber industry**
- Production of conveyor belts and sheet materials, rubber recycling
- Comprehensive experience in design and development of conveyor belt presses, tire tread presses and special plants for the rubber industry
- Proven process technology for the processing of scrap rubber as well as scrap-rubber and plastic composites

**Automobile and aircraft industry**
- RTM processes, heating and cooling processes (up to 400 °C), forming processes, sandwich materials
- Experience in the areas of sandwich board and thermoplastics production and in the design of heating and cooling presses for many application areas
- Custom design of presses and entire plants for the production of composites
We also provide our customers with comprehensive services for existing plants. We optimize processes, increase capacities and find potential energy savings. We also analyze the physical characteristics of the products while considering all important international standards such as DIN, EN, ASTM, CSA, as well as JIS and GOST. Our experts are also available for measuring forces, pressure or distance, speed, deformation, vibration, temperature and noise. Furthermore, we offer the best consulting advice in terms of process technology as well as process optimization and assess all economic factors for our customers.

Mat forming test

Commissioning at the customer’s location

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