Since the end of the eighties Bernhard Voith and Ralf Knobel have successfully been developed machine systems on the basis of scattering and double belt press technology with low pressure (Thermofix®).

Applications:
Flooring (Resilient + Carpet), Fibres and Plastic Recycling, Automotive, Composites, Roof Sheeting, Wood-Plastic-Composites, Filter Media etc.

Worldwide installed machines at well known manufacturers are proof of the success of the company.
Our highly sophisticated and innovative staff guarantees the realization of the company’s philosophy.
Our Program:

During the further development of our scattering machines we have succeeded in reaching a higher grade of scattering accuracy. Trials proved unequalled results when processing fine powder and granules.

By means of the Thermofix® machines webs can be made from all kinds of powdery or granular thermoplastics, secondary raw materials, production recyclings and other recycling materials. The web is produced through a uniform surface pressure and temperatures up to 250 °C. There is also the possibility to use an additional nip roll unit equipped with more than one pairs of nip rollers, each of them producing a line pressure.

The Thermofix® processing technology ensures that a perfectly plastic-laminated web will be produced. Moreover, the web does not require a secondary tempering treatment. Even the frequently appearing memory effects can be avoided.

We are in a position to supply you with complete packages of Thermofix® equipment – ready for work - including mechanical and electrical work.

By request our installations can be equipped with visualisation systems manufactured by Siemens, Wonderware and Visual basic, through which all the parameters can be stored, monitored, recorded and called in again by a “mouse click”. Operational data acquisition, trend analyses and alarms lists for the process control can be realized as well.

In the following you will find descriptions, pictures and illustrations regarding our product range.

From single machines to complete production lines...
Scattering Technology

Coating Technology

Apart from the technology it is of high importance to select the proper covering for the scattering rollers to ensure that the various materials are equally distributed.

The customer can furnish us with existing designs or new designs can be developed by us in accordance with the customer’s requirements.

Scattering in register:

In contrast to the customary scattering methods, scattering in register offers the possibility to produce all kinds of multicolour designs from granules or powders.

By using more than one screen in serial mounting even complex patterns can easily be produced.

Left: two-colour design made from granules

Powder precision scattering machine with oscillating brushing system

The funnel-shaped charging hopper is supplied with the bulk material by means of suction or worm conveyors. Inside the charging hopper the bulk material is uniformly distributed and the level is kept constant during the scattering process. Cavity formation and decomposition of the material is avoided through a special mixer. The rotary metering roller is fixed to the bottom side of the charging hopper. The size of the cells of the metering roller are selected according to the grain size of the bulk material. The bulk material is picked up by the metering roller and stripped at a flexible doctor blade. After that the accurately dosed bulk material is conveyed to an oscillating brushing device. Following the brushing process the bulk material will be examined and transferred to the subjacent substrate line.

Granulat precision rotary screen scattering machine

The bulk material is picked up by the metering roller and stripped at a notched rigid doctor blade; depending on the type, the doctor blade is split up in adjustable segments. After that the accurately dosed bulk material is conveyed to an oscillating brushing device. The direction of rotation is product-bound, the brushing device can work in both directions, i.e. in running direction of the metering roller or in reversed direction. If working in reversed direction the bulk material is directly transferred to the subjacent substrate line respectively a conveyor belt. If working in running direction (see drawing) the bulk material is subject to a rotation through 180° in a mask through centrifugal force and from there the bulk material is evenly sliding onto the subjacent substrate line respectively a conveyor belt.
The Thermofix® basic machine is appropriate for pressing or laminating thermoplastic materials.

The material to be pressed or laminated can either be scattered in granulate form within the range of the advanced lower belt or it can be rolled off in foil form via winding-off devices and orientated into the belt run by guiding rollers.

Winding-off devices can be ordered by the Thermofix® basic machine as well as above the advanced lower belt. Scattering aggregates for scattering the prime granulate can be set upon the bearer construction of the Thermofix® basic machine or are positioned within an autonomous stroke and traversing framework above the advanced lower belt.

According to processing method the scattering process can be supplemented by additional assemblies, e.g. vibrating, tamping and pre-consolidation assemblies, which are partially integrated within the Thermofix® basic machine.

Even before the inlet under the upper belt within the Thermofix the incoming primary material (granules and/or foil) can be pre-heated by infrared or recirculation air heating zones from above as well as by hotplates from beneath.

Through a nearly no-pressure heating process the incoming material is pressed in the interior of the Thermofix® between the two conveyor belts and is brought to the desired temperature. The material can be pressed with single or double nip rolls with adjustable line pressure within the heating zone or at its end.

In the following cooling zone the material is cooled between the belts to the required outlet temperature.
Electronical Department

The complete electronics for single machines as well as for production lines is planned, designed and built in our electronical department.

For PLC systems we use the current Siemens S7 version. Furthermore, we are familiar with other systems so that we can offer individual support in accordance with the custom’s requirements.
Data acquisition and visualisation are realised by means of Siemens, Wonderware or Visual basic systems. By means of a PC the operator is able to operate and monitor the complete line during production and, furthermore, to change parameters, if necessary. Through this visualisation method all production data can be stored, monitored and recorded.

The line is zoned into individual process sections. The operator has direct access to each section in order to change parameters.