

RECO A versatile line concept with 1,000 solutions.

Coating and laminating system Outstanding flexibility and individual design.

Experience is the key to innovation, performance is the key to success. The modules and components of the RECO series are constantly being developed further. Thanks to its high degree of flexibility and customised design, the RECO can handle all major coating and laminating tasks. The line configuration is adjusted according to customer requirements.

RECO is primarily used for the manufacturing of technical products, flexible packaging materials, paper finishing and membrane applications. There are numerous application processes to choose from. Trolley or sleeve technology can be implemented to achieve greater flexibility, resulting in higher productivity and less downtime.

At our Technology Center a highly individual and flexible RECO is available for customer trials.

Technical Data:

- **Working widths:** 600 - 3,300 mm
- **Production speeds:** up to 1,300 m/min
- **Ø Application rollers:** 250-400 mm
- **Ø Sleeve-backing roller:** 250-400 mm
- **Ø Reels:** up to 1,800 mm

Substrates:

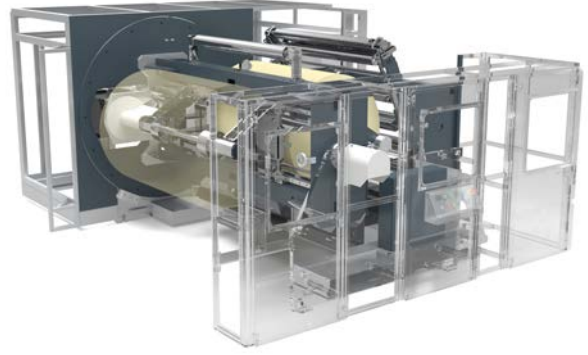
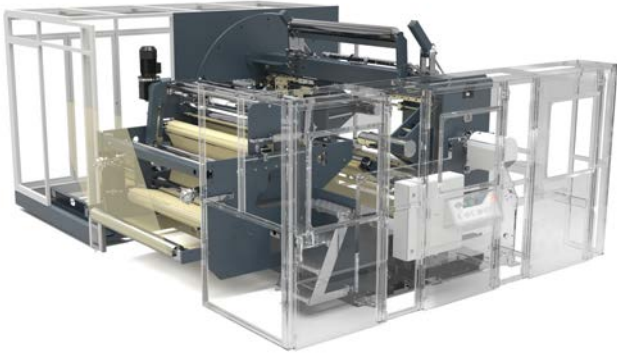
- **Paper:** 17 - 180 g/m²
- **Cardboard:** 180 - 500 g/m²
- **Polymer film:** 3 - 500 µm
- **Metal foil:** 6 - 150 µm

✓ Latest technology

✓ Customised design

✓ High flexibility





Winders

For a continuous production process.

We plan suitable winder concepts individually, depending on the task we plan. The various processes and substrates can require both manual single winders as well as complex automatic unwinders and rewinders. The use of regenerative drive technology increases energy efficiency.

Accessories

- Manipulators for removing empty cores or for core preparation and loading
- Integration of crane systems, lifting tables or automated floor conveyor and storage systems including packaging units
- Connection to existing reel handling systems
- Web storage with splice units for single winders

Special features of the turret winders: —

- Picking up reels with clamping heads or winder shafts
- Picking up two reels at the same time with maximum diameter
- Precise alignment of the reels to each other
- Automatic reel change at web speeds of up to 1,300 m/min
- Contact or gap operation of the follower roller (rewinder) is possible
- Transfer-free adhesion of the substrates to the core at rewinder speeds of up to 200 m/min is possible
- Splice reliability up to 99.8%
- Process-reliable length of splice lug

Coating units

The core element of a coating line.

A variety of technologies are available to suit the coating task to be solved. Aqueous, solvent-based and 100% coating media can be processed.

In addition, combinations of the processes can be used in parallel or counter-rotation, directly and indirectly. In order to enable rapid changes of the working width, sleeve technology can be used for the transfer roller as well as the backing roller.

Changing the application process to increase productivity is possible with cartridge and trolley.

Advantages of the quick-change trolley system

- Short set-up time for the system
- Quick change of the coating process
- Easy handling of the trolley (sturdy aluminum design)
- Precise take-up and adjustment through self-centering lifting and fixing system
- Quick couplings for drives and supply piping
- No conversion of the doctor blade systems of anilox rollers, when changing from forward to reverse roll operation



Special features of the application unit: —

- Die application in „curtain coating“ and „bead mode“ processes
- Direct and indirect anilox roller application with pressure chamber doctor blade MPG 600 CI
- Gravure printing process from the tray or closed chamber
- Gravure printing process
- Multi-roller systems (3, 4, 5, or 6 rollers)
- Comma doctor blade and Meyer doctor blade process

Drying and cross-linking systems Basis for high product quality.

Optimised drying and cross-linking is the basis for high product quality. Depending on the coating material, convection or radiation curing (UV, IR, ESH) can be used under atmosphere, inert or in a clean room.

DRYTEC's convection dryers are designed as compact dryers with internal heat exchangers and air circulation units. Depending on the production process, external air treatment is possible. The upper and lower air can be controlled separately for each section, with individually controllable temperature and nozzle outlet speed. Gas, thermal oil, steam or electrical energy can be used as the heating medium. If solvents are used, the dryers are equipped with suitable LEL monitoring.

Depending on the substrate and process, the following dryers can be used:

✓ FLOATEC floating dryer

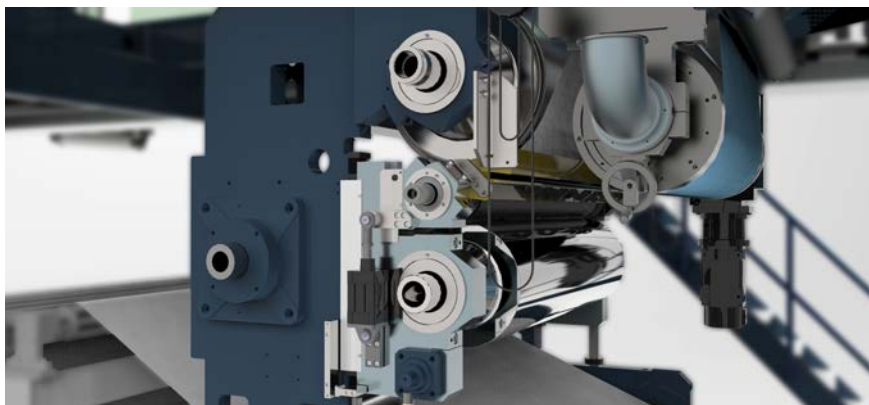
✓ ROLLTEC roller dryer

✓ CONTEC Belt dryer



Accessories Supplemented with functional auxiliary units.

Various additional units can be integrated to further supplement the process engineering.



Special features of the auxiliary units: —

- Substrate cleaning
- Pre-treatment with corona and plasma technology
- Humidification using hot steam, water mist and spray systems as well as contact rollers
- Printing technology (logo printing)
- Slitting and cross-cutting systems
- Inspection and measuring technology for quality monitoring (e.g. layer thickness, coating weight, surface, moisture)
- Cooling systems through contact cooling via rollers and plates or as convection cooling via cooling sections
- Laminating units with two or three rollers
- Web guiding
- Conditioning systems

Automation Intelligent features for optimum operability.

The automation includes the operation and mechanics as well as the drive and control technology of the customised systems.

Each line comes with its individual machine operating concept including one or more operating panels and server-client application.

Visualisation KROENERT ProLine: —

- Configurable dashboard
- Line overviews with web path
- Display of line status and input of process variables
- Dynamic display of data trends
- Management machine setting

Extensions: —

- Data interface to production management systems
- Remote service

Line examples



Silicone and adhesive line

Coating and laminating system for the production of paper and film labelling material. Combination of the silicone coating process (releasener) and an aqueous or hotmelt pressure-sensitive adhesive application with lamination of the cover material.



Silicone coating line

Single-stage coating system for siliconising paper and film. The releasener produced can be used as a base material for labels, adhesive tapes, for graphic, hygienic and medical products, as well as for composites. Solvent-free and thermally cross-linking silicones are being coated.



PVdC coating line

Multi-stage coating system for functional barrier coatings on packaging materials for the food and medical sectors. Coating of paper and plastic films with PVdC, acrylates and other barrier layers. The system combines primer and functional coating.



Service

In order to optimise the efficiency of a KROENERT line in the long term, the KROENERT specialists are also available as a competent partner after commissioning.

Our service areas:

- | | |
|----------------------------|------------------------|
| ▪ Spare-and-wear-parts | ▪ Training |
| ▪ Retrofit | ▪ Process optimisation |
| ▪ Service operation | ▪ Service contracts |
| ▪ Maintenance & inspection | ▪ Repairs |
| ▪ Remote Service | ▪ Documentation |



Technology Center

The solution for every coating requirement is developed together with customers and suppliers in the KROENERT Technology Center – on the RECO, one of the most versatile pilot plants on the market, or on a laboratory scale on the LABCO. Individual combinations of modules make it possible to process different coating raw materials and substrates and gain important insights for the optimisation of existing products or the development of new products.

Development and testing possibilities:

- Over 60 different coating processes
- Speeds between 0.1 m/min and 1,610 m/min
- Working widths between 150 mm and 1,300 mm
- Collection of quality-relevant data inline and offline in an optimally equipped laboratory
- Team of experts with a wide range of industry experience
- Virtual test support