# Faces & Surfaces. Competence and Quality in Packaging Steel.









# People make all the difference.

When a company like Rasselstein promises premium performance, these promises are backed up by people. People who focus all their energies on delivering what they promise. People make all the difference. And the way they relate to each other. We believe that good work is the result of a good working atmosphere. An atmosphere characterized by team spirit, openness and positive thinking.

So we invite you to take a good look at our company – face to face!

"Faces & Surfaces" introduces you to people, the people who ensure your satisfaction. People in Production, Sales, Development, and Marketing.

With their quality and service commitment, they shape the various faces of the material and wrap them up in a package of services that makes tinplate from Rasselstein something very special.

Discover our many faces...



### Our company.

Blue sky above the site. Rasselstein. A familiar name, known to everyone in the industry. This is where we start our tour... with a look into the past.

# A future with a history. A successful combination.



## Innovative by tradition.

Experience, credibility, substance, profound competence - these are the traditional values of a history that stretches back almost 250 years. And they form a launching pad into a promising future.

As a company that is innovative by tradition, we can claim to have been a consistent leader in technological progress.

- 1835 Production of rails for the first German railroad line from Nuremberg to Fürth
- **1934** World's first electrolytic strip tinning line
- **1972** First six-stand tandem cold rolling mill in Europe
- **1975** First high-speed continuous annealing line in Europe with vertical strip pass
- **1991** First line for lacquering and coating wide strip in Europe
- **1998** Commissioning of a laser welding line for tinplate
- 2005 Creation of world's largest production site for tinplate in highest quality after capacity increase

And there will be more innovations to come...

| Rasselstein<br>A ThyssenKrupp Steel Company. |   |
|--|---|
| Established                                  | 1760  |
| Continuous tinplate production               | since 1856                                  |
| Headquarters                                 | Andernach                                   |
| Output                                       | about 1.4 million metric tons per year      |
| Sales  | about 1.1 billion Euro per year             |
| Employees                                    | more than 2,300                             |
| Customers                                    | over 400 partners in more than 80 countries |

# Competence makes all the difference.

We meet the challenges of the market with experience and mastery of advanced high-performance processes.







Our production processes. 6:00 a.m. in Andernach. Shift change-over! Without a break in production. Take a look around our shops and accompany our material through the major steps in its "creation".



# Cold rolling, coating and much more. We make it happen.

# Step by step.

#### Cold rolling.

The starting material, hot strip, is first pickled to remove the oxide layer which has developed during hot rolling, then cold rolled to thicknesses down to 0.125 mm.

Tandem cold rolling mill

#### Annealing.

Cold rolling results in strain hardening of the material, which we reverse by annealing – either in batch or continuous annealing furnaces.

Temper rolling after annealing ensures uniform forming properties, improves flatness and adjusts the surface roughness of the strip.

Continuous annealing line

#### **Electrolytic coating.**

To protect the surface, the strip is electrolytically tinned or electrolytically chromium coated.

Tin anodes

#### Organic coating.

Lacquering and coating with plastic film (PP, PET or PE) ... we can do all of these!

Film coating

The fascinating faces of our products.

# Versatile. High quality. Ecologically sound.

Our products have many faces. A broad spectrum of good characteristics makes them highly versatile and inspires us to ever-new ideas. They are primarily used as packaging materials, e.g. for cans and closures.

- · Light yet immensely strong
- · Impervious to light
- Gas-tight
- · Liquid-tight
- · Resistant to heat
- · Capable of hot-sterilization
- · Neutral in taste and hygienic
- Economical
- · Resource-conserving
- Recyclable
- Excellent formability, lacquerability and printability
- Ideally suited for processing on highspeed machines using advanced technologies

Our products satisfy all of the requirements imposed by the processing techniques for material of this type:

- Bending
- Seaming
- Stamping
- Embossing
- Deep drawing
- Expanding
- Drawing and wall
   Transition (DWI)
- Welding
- ironing (DWI)
- Bonding
- Necking
- Sealing
- Flanging
- For our customers, this means top productivity.

Our environmental management system (certified to DIN EN ISO 14001:2004) gives our customers the added assurance that the products they receive are ecologically sound.

We provide the optimal material for all conceivable applications.

- Packaging: for food, pet food, beverage and aerosol cans, containers for chemical products, and closures
- Non-packaging: for use in electrical, communications and photo technology, for household appliances, automotive parts, construction materials, and office supplies

We specialize in difficult applications with stringent requirements regarding uniform characteristics, close tolerances, high purity, formability, stability, and surface finish. This includes minimum earing grades, such as required for deep-drawn and DWI cans, conically deep-drawn cans, expanded containers, valve mounting cups, and vacuum caps.





# We offer you one-stop shopping for the entire spectrum of products:

| ANDRALYT   | tinplate                                      |
|------------|---|
| ANCROLYT   | electrolytic chromium coated steel (ECCS/TFS) |
| ANDRAFOL   | film-laminated tinplate<br>and ECCS/TFS       |
| Blackplate | uncoated                                      |

| Widths      | from 10 mm<br>to 1,200 mm                  |
|-------------|--|
| Thicknesses | from 0.125 mm<br>to 0.499 mm               |
| Grades      | from mild to high-strength<br>to full hard |
| Surfaces    |  |

| Colls               |
|---------------------|
| Narrow strip        |
| Straight-cut sheets |
| Scroll-cut sheets   |
|                     |

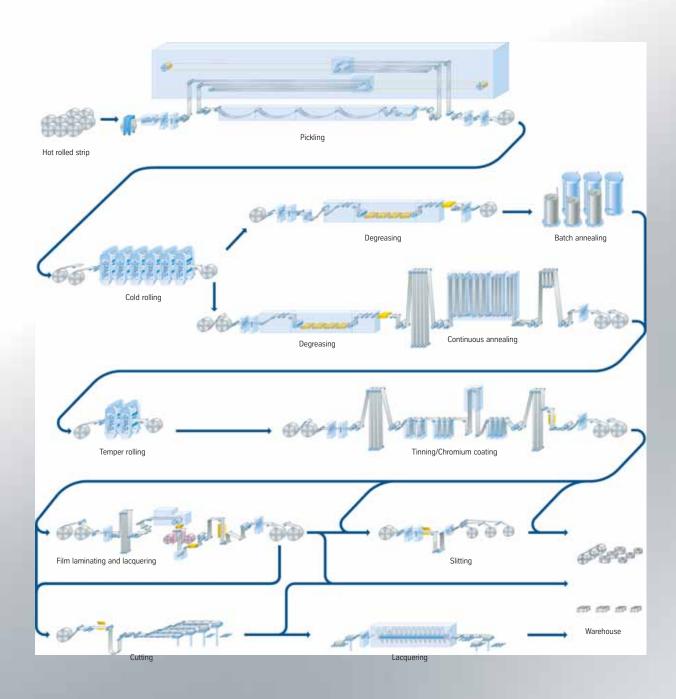
ANDRALYT from bright finish to matte finish



# **Process routes.**

From the starting material through cold rolling, annealing and temper rolling, to the various surface treatment options and the product variants we offer our customers.

Process routes from start to finish.







Everything hinges on quality. The quality of our products. The quality of our services. And ultimately, the quality of your satisfaction.



# Our quality management.

The main control station of the six-stand tandem cold rolling mill. Step up and take a closer look! We track every detail of the cold rolling process on monitors. Just one of a multitude of quality assurance measures.



# Attitude to quality.

Ensuring consistently high product quality is not just a task for individual people with monitoring functions.

Total quality management is a comprehensive system supported by a variety of technical aids. A system that calls for each individual employee in the production chain to assume responsibility for the product quality within his or her own sphere. And because quality can only be truly good when it is constantly improved, all of us work to continuously develop this system.

Everyone is expected to input suggestions that will help us progress.

Through state-of-the-art process management and control, we ensure uniform technological properties of the material - within extremely close tolerances.

Using statistical process control (SPC) we record all major process and product parameters - mostly directly online, with product and process tracking. The parameters are collected in a database and monitored by a statistical process control system. The purity of the material is also measured online. Multi-camera systems inspect and classify the surfaces.

We collaborate closely with our raw material suppliers to ensure that all major parameters of hot strip production are also entered in our quality assurance system.

Our quality management system is certified to DIN EN ISO 9001:2000, ISO/TS 16949:2002 and is audited every six months.

A matter of principle.

#### Together we are strong.

Highly qualified and dedicated employees are the backbone of our company. People who communicate with one another. Discover what makes us tick.

Let's take a stroll through the production shops. Our people work in teams that are responsible for the scheduling, quantities and costs of their specific production step.

The teams operate in a reciprocal supplier-customer relationship. Smoothly interfacing. With a sense of responsibility. And secure in the knowledge that they can depend on one another.

People who have no personal goals, have no motivation to try harder. That's why our teams set themselves new targets every year, against which they are measured month by month.

Downtimes have to be kept as short as possible. Our teams therefore, practice "autonomous maintenance". Any malfunctions in the plants are remedied, for the most part, by the teams themselves.

Individual development is also strongly encouraged - and provided for with a broad program of focused training and further education courses.

Our team spirit is central to all we think and do.

#### The result:

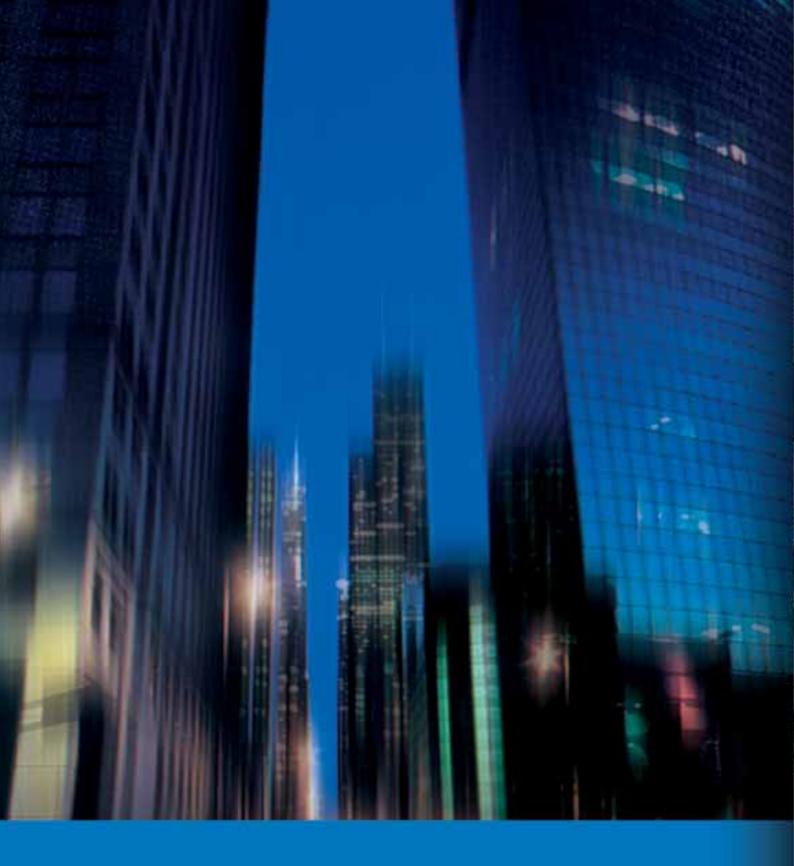
- · A high level of commitment
- Pronounced quality consciousness
- · Short processing times
- High productivity





# Our team organization.

Every morning at 8:45 a.m. Production team meets. Decisions are made as a team; performance is an individual responsibility. To ensure that you, the customer, get exactly what you want.



# Our services.

The customer calls! And our technical customer service people will (re)act immediately.

## **Experience our services.**

We believe that service can never be too much or too good.



# We are always there for you.

#### Our technical customer service.

We are there whenever you need us directly onsite, if required. Our aim is to ensure that all your processes keep running smoothly and to prevent problems at the source. Even if it involves flying to the other end of the world.

- Affinity with the customer, short communication lines, and fast response through direct sales
- Clearly designated, competent contacts through order management and key accounting
- Provision of optimal logistics concepts – worldwide
- · Comprehensive technical consulting
- Tailor-made solutions for each material and for the proposed application
- Assistance in solving material- and application-related problems
- Customer-oriented marketing: dialoguing with the customer and jointly dialoguing with the market
- Optimization and quality assurance of tinplate packaging recycling (optimization of products and recycling routes)
- Advising our customers and their markets on recycling issues
- Designing and developing new packaging solutions or optimizing existing solutions for the filling and canning industry
- Supporting customers in implementing new product concepts

#### Our sales.

Relationship with our customer means understanding his wishes, understanding his viewpoint, and responding quickly.

#### Our innovation center.

Tinplate is a material with undreamed-of possibilities. Our innovation center is a forum where technical and marketing experts get together - to seek new ideas.

# Do you have questions?

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