EQUIPPED WITH EXPERIENCE

The One-Stop Solution for Engineering, Machinery and Service
EQUIPPED WITH
OVER 40 YEARS OF
EXPERIENCE
When it comes to Machinery and Service for Strip Processing Lines and Cold Rolling Mills, DUMA-BANDZINK is your one-stop provider.

DUMA-BANDZINK for over 40 years has been offering an elaborate product palette, continuously updated know-how and extensive service in the sector of high-quality strip processing and cold rolling. Customers all over the world have been thoroughly profiting from these solutions.

Our portfolio covers manufacturing of new machinery and equipment for the steel and aluminium industry and reaches out to modernisation, revamping of existing lines and mills as well as.

DUMA-BANDZINK Product and Service Portfolio

Galvanizing, Aluminizing and Tinning Systems
- Air-Knives and auxiliary Equipment
- Pot Equipment (Bearings, Rigs & Arms, Rolls, Dross Pumps, Snouts)
- Ingot chargers

Core Machinery/Equipment
- Side Trimmers / Shears
- Electrostatic Oiling Machines
- Rolls (Furnace rolls, Conductor rolls, Pot rolls)

Modernizations & Revamps
Service
- Spare Parts
- Technical Consulting
- Repairs (Machining & Thermal sprayed coatings)
DUMA-BANDZINK galvanizing and aluminizing systems are characterised by their outstanding coating results using a minimum of Zn/Al layers. Moreover, the equipment is robust in service and easy in maintenance and handling.

The machinery ranges from cost-effective basis machines to individually customised high-end models comprising all features for maximising the galvanizing line capacity as well as simplifying operation.

DUMA-BANDZINK machinery allows for zinc coating from 30 to 350 g/m² with the highest surface uniformity on products such as GI, GA, Galfan®, Galvalume® and high-quality AlSi surfaces. The machinery has been designed even for high speeds of up to 200 meters per minute or even higher through ongoing developments.

Industry-leading results for the selective application of zinc or aluminium to continuously processed steel strip.

DUMA-BANDZINK Galvanizing System Features

- Massive finish to avoid vibrations
- High accuracy of pressure-distribution
- Custom 2- or 3- roll systems
- Permanent strip adjustment in pass line via individually adjustable stabilising rolls and correction rolls
- Rapid assembly and short equipment change periods
- Quick pressure regulation via DUMA-BANDZINK´s patented radial controller (less than 6 seconds for pressure changes)
- Considerable noise reduction
- Significant Nitrogen cost reduction
- Highly reliable Lip-cleaning device
- Anti-adhesion lip coatings
GALVANIZING AND ALUMINISING
NEW DEVELOPMENTS
No-Contact Edge Baffles

When handling thin strips at high speeds with touching follower rolls running the edge baffles, damage on the sensitive material is very likely to occur. DUMA-BANDZINK has developed a contactless edge baffle to avoid just that.

The contactless edge baffle is available in two different layouts:
- Retrofitting for assembly onto an existing edge baffle
- Exchange edge baffle available as a complete set - for exchange or as equipment for new lines.

Integration of EMG eMASS® electromagnetic strip stabilization system

The integrated system of DUMA-BANDZINK Air-Knife + EMG eMASS® offers enhanced control of the wiping and coating process using a closed loop control of the strip position at minimum vibrations to reach minimum coating weights and highest coating uniformity. It combines the best breeds from two world-leading technologies to the following benefits:
- Optimum handling of the combined solution
- Closed loop control [strip shape at actuator level and strip shape corrections via pot equipment]
- Superior coating results – uniformity and lowest coating weights
- Lowest air (or nitrogen) consumption and additional noise reduction
- Best technical solution with regard to maintenance and lip cleaning issues

No-contact edge baffles and complete bath equipment for a smooth and productive strip process.
Overall stiffness and rotational stability are the key to outstanding coating results.

DUMA-BANDZINK pot equipment has been designed to achieve maximum rigidity. We strive to not allow any form of distortion on the bearing seat. That drastically minimizes vibrations and zinc coating variations. Above other positive effects, a significant measurable advantage over competitors can be detected in our pot equipment when producing exposed automotive strip grades or advanced high-strength steel grades (AHSS). Our new Generation II rigs and arms are individually optimized for each line and roll position in relation to the resulting forces.

Main features:
- Extremely high total rigidity of the system
- High rotational stability of the rolls
- Good controllability of strip form
- Low wear of components

Customer’s benefits:
- Stable strip run
- High process speed (even when thin strip dimensions are processed)
- Optimal strip form
- No surface defects caused by roll scratches
- Longer production campaigns

New Development
In the field of pot equipment bearings we have accomplished a breakthrough design approach for a hybrid roller bearing that is capable to run at line speeds higher than 200 m/min. and strip-thicknesses below 0.4 mm. This bearing system is currently in the development stage of online production runs (in cooperation with premium European steel producers).

Bearing systems (V-bearings/Hybrid roller bearings)
Rigs and Arms (individually optimized Generation II)
Pot Rolls
Dross Pumps
Snouts

In addition to that we also supply dross pumps for cleaning up top and bottom dross as well as snout end pieces with individual optimized geometries.
ZINC POT EQUIPMENT
A young and efficient product for the automatic feeding of alloyed metal ingots into the melt pots of coating lines.
New and current operational safety laws and measures are the central aspect of this development.

Conventional manual feeding of zinc bars via chain systems imply high danger for the operating staff. 450 °C and human operation close to the zinc pot - in many cases without additional guardrails - unfortunately bring forward many possibilities of injury.

DUMA-BANDZINK’s new zinc ingot charging systems are highly-efficient, automatic and inexpensive. They have been designed for zinc bars at 1,000 or 2,000 kgs. 2 types are being offered to operate tailored to your individual needs:

- Ingot charging system with zinc-proof dipping basket and feeding mechanism.
- Ingot charging system for zinc bar dipping without bath disturbance.
DUMA-BANDZINK supplies state-of-the-art ASC trimming shears that are capable of changing the knife head and scrap chopper in just 60 seconds – without switching off or decelerating the line. And there is no need for any adjustments after changing the knives. It is obvious that this substantial reduction in stoppages results in significant cost advantages. Needless to say, the ASC trimming shear provides excellent and reliable cutting quality, whether used for thin or thick strip in a CGL, a CAL or a PLTCM.

In addition to the ASC side trimmers we offer alternative designs of side trimmers and shears such as cross-cutting shears.
A wide variety of strip process line rolls manufactured and supplied by DUMA-BANDZINK.

For more than 35 years we have been in the business of manufacturing all kinds of rolls for strip processing lines [ECGLs, HDGLs & CALs]. Our specialty are Conductor Rolls, Pot Roll and Furnace Rolls which come in many different alloys, dimensions and profiles. We have our own extensive machining capabilities and exclusively work with long-time qualified raw material suppliers. In addition DUMA-BANDZINK has their own resources for material development and optimization at their own disposal.

All roll-types can be supplied with advanced thermal-sprayed coating solutions for superior wear and/or corrosion resistance.
Reliable and rigid construction of DUMA-BANDZINK oiling Machines deliver constant high-quality results for the steel and aluminium industry.
DUMA-BANDZINK covers all areas of electrostatic oiling - from regular, cost-efficient machines for applying rust-protective oils via specially developed machines for the application of different special oils, including Drylube, up to special machines for micro oiling in the aluminium industry.

All machines offer flexible handling of strip speed and oil layer quantities. In addition, existing older DUMA oiling machines can be modernized to fulfil newest standards and state-of-the-art technical requirements:

**High Voltage**
Electronically controlled and PLC-controlled high-voltage transformers are mounted directly on top of the oiling machine and operate according to oil layer and strip speed.

**Locking System**
The new locking system is equipped with an electronic safety switch and a special key system which cut off the high voltage feed automatically in case the machine has to be entered for maintenance or adjustments.

**Spray Bars**
DUMA-BANDZINK’s current spray bar type with integrated heating is designed to apply today’s oil layers of under 0.5 g/sqm.

**Dosing Pumps**
Today’s dosing pumps are controlled by servo drives and cannot be adjusted manually any longer (constant dosing pumps). Electronic dosage in a wide range eliminates adjustment errors and has significant technical and environmental advantages due to precise oil layer adjustment and less oil consumption.

**Oil Return**
By integrating a new sump tank system with pump, valve blocks and return filters, the oiling machine separates the oil types and returns them back into the respective working tank. That means less mixed oils and pure oil types. DUMA-BANDZINK inspects your oiling machine to determine the status quo and to suggest a modification that suits your requirements.
MODERNISATION AND REVAMPS
DUMA-BANDZINK offers a large variety of solutions for the individual requirements of their clientele - a one-stop competence center.

References and Case Studies

Replacement of Scrap Moving System at SSAB, Borlänge
The old scrap moving system of the CAL was worn out over the years by ever increasing demands for a higher capacity of the line. Following a study carried out by DUMA-BANDZINK it was therefore decided to start modernization of the line by replacing the scrap mover by one of a more modern design; the job also included an update of specific safety features and the introduction of a safety PLC into the entry section of the line.

New Mandrels for Ruukki Metals Oy
The client had many failures with the existing roll wrappers at the exit side of the pickling line. The replacement with new slotted mandrels, including other auxiliary equipment (such as threading of the strip head and tail ends in and out and new hydraulic valve stands for both mandrels), was performed in two steps while the line was running.

Improving the Cleaning Section of a CGL at SALZGITTER Flachstahl GmbH
Salzgitter purchased new strip cleaning technology for their CGL#2 and DUMA-BANDZINK made the successful integration possible. The works included the layout and modification of the process and instrumentation equipment as well as new tanks, pumps, ventilation system, steel works, erection and supervision of works on site.
DUMA-BANDZINK are a very service-driven company. The customers’ needs are extremely important to everyone in our staff. DUMA-BANDZINK is dedicated to providing full service in the areas of spare parts, repairs and technical support.

Spare Parts
For any equipment that DUMA-BANDZINK is providing, naturally a full range of spare parts is being offered. Stocked for shipment and installation at short notice, the parts are available at once to secure the quickest possible repair and to ensure earliest continuation or restart of the customer’s line. In close cooperation with various SMS Siemag Service locations in Asia, the Americas and Europe frequently needed spare parts are also hold on stock locally.

Repair and Coating Services
We possess our own extensive machining, welding, and assembly capacities in order to offer roll and equipment repairs to our customers. Key focus and know-how lies in the field of pot equipment for HDGLs, but we are also serving the industry long enough for having gained enough expertise in the refurbishment of other equipment and process rolls like furnace and conductor rolls as well.

Also, DUMA-BANDZINK offers numerous renowned coating possibilities (for example HVOF or APS) for zinc bath rolls, furnace and conductor rolls - to name only a few. Primarily, we use tungsten carbide, chromium carbide, cobalt-chromium compounds, ceramics, super alloys and cermets.

Repair and Coating Services for the following roll types and features

Zinc bath rolls:
- Non-stick coatings against Zn/Al buildups
- Extremely high wear resistance

Furnace rolls:
- High resistance to Fe and Mn/Si buildups
- Oxidation and wear resistance up to a temperature of 950°C

Conductor rolls:
- Outstanding corrosion resistance (chemical or electrical)
- Extension of lifetime of conductor rolls (in terms of grinding)

Technical consulting
We constantly offer engineering assistance with our most-modern CAE tools, material development and optimization and on-site fact finding consulting activities to our customers worldwide.
Get In Touch with Us!

In addition to the headquarters in Duisburg and Langenfeld, Germany, many service locations (also offering coating services) and sales and distribution offices have been established globally in order to always provide you with quick and efficient services and solutions. Feel free to contact our headquarters in Germany for the most convenient location near you to fulfil your requirements regarding all of DUMA-BANDZINK’s products and services.