HIGH-PERFORMING *LINES* FOR HIGH-PERFORMING WIRES

General Catalog

Edition 05/2013

Ahead together!

The company at a glance

Our values

Our team pursues low running costs, operator comfort and modular upgrades in any design.
We have been achieving this thanks to the partnership with our customers and the continuing project to master all processes involved.

From engineering to manufacturing

FIB's hands-on approach is key in manufacturing of wire equipment.
To optimize your project comfortably, we communicate at all stages: at the definition of your needs, during the fitting of the suggested solution to quote, when the excavation and implantation layout is issued, during the shipping, the assembly and taking over of the line.
Updating of your staff, customized seminars and questions-answers are part of your service.
This pragmatic interaction guarantees commitment and results, from the plan on paper through to the final follow-up on the floor.

Fib unique combustion solutions

The two pillars of FIB's wire heat processing are the easy control of the atmosphere and the optimized combustion efficiency.
FIB's combustion technology complies with international safety standards.

It has even been an inspiration for the glass and the non-ferrous industries.

More information on www.fib.be

Ahead together!

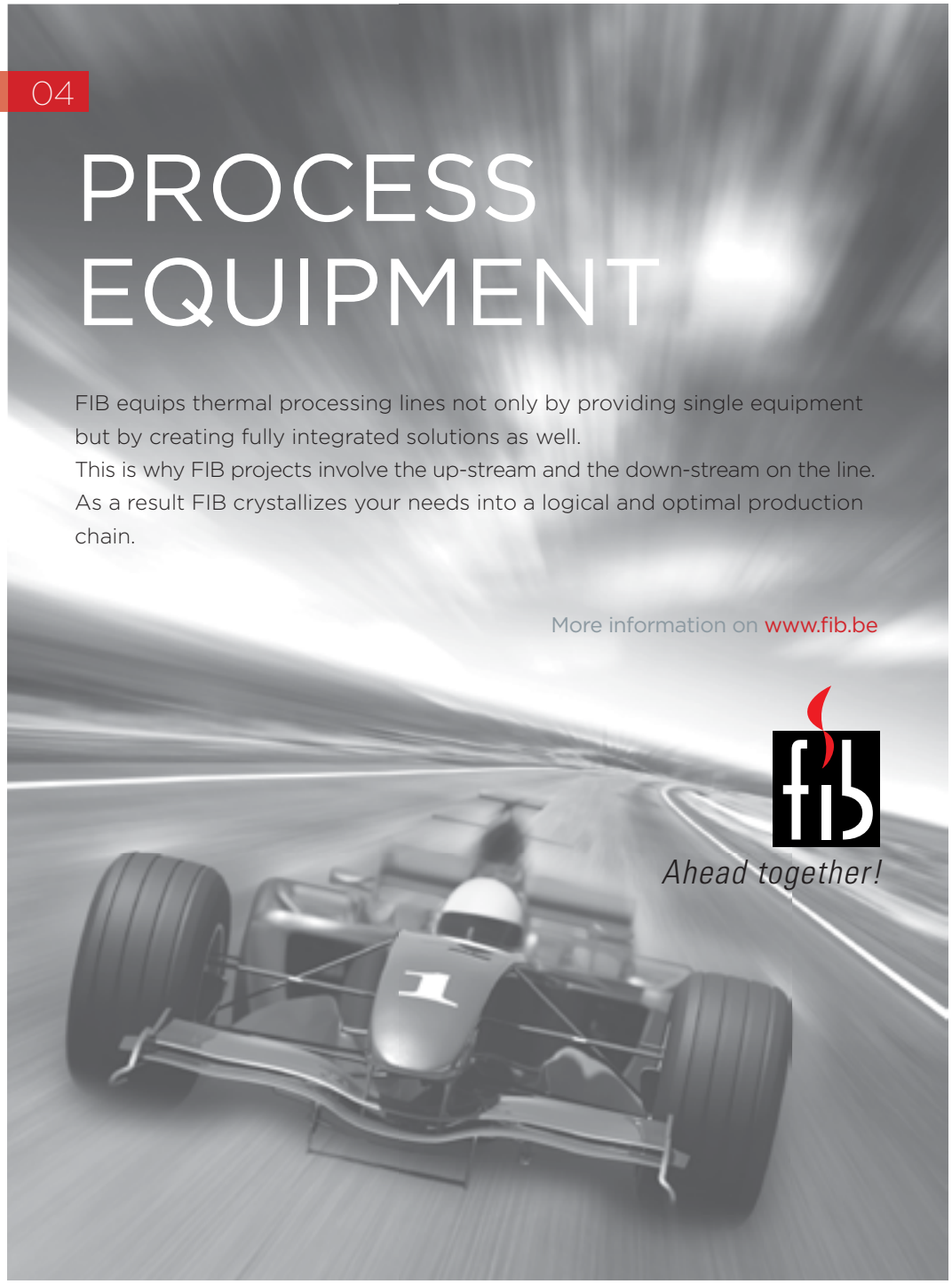
Summary

PROCESS EQUIPMENT

FIB equips thermal processing lines not only by providing single equipment but by creating fully integrated solutions as well.
This is why FIB projects involve the up-stream and the down-stream on the line.
As a result FIB crystallizes your needs into a logical and optimal production chain.

More information on www.fib.be

Ahead together!



Heat Treatment equipment

Wet Process equipment

Zinc and Zinc-Aluminium coating solutions

06 Heat Treatment Equipment

High carbon wire

The FIB Belgium high-carbon patenting lines take diameter going from 0.55 to 18 mm. FIB Belgium covers fields as wide as galvanization, zinc-aluminium and phosphate processes.

Atmosphere control, lowest running costs, modularity and the possibility to offer a lead free technology are the four pillars of our concepts. These concepts offer you overall flexibility and ergonomics.

FIB Belgium stands for 450 cumulated orders of high-carbon wire production lines in 2011.

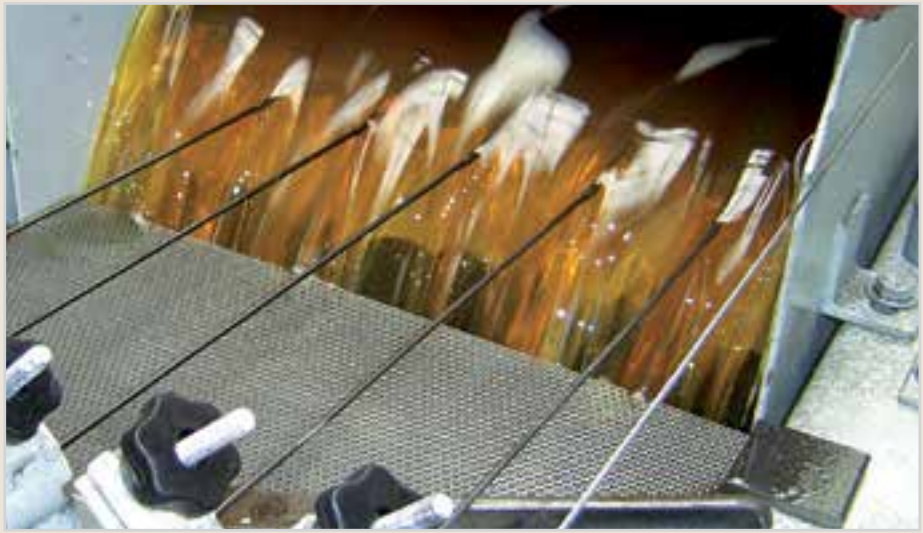
Low carbon wire

The lead-free solutions, the production costs, the effectiveness and zinc wiping are the strategic axes of our low-carbon wire production lines. Importantly, they are combined with chemical baths which comply with stringent environment regulations. Your FIB lines become your best business card to give to your customers.

Bead wire

Bead wire production requires a perfect control of the elongation and torsion.

On top of this principle, FIB industrial stress relief solutions allow you to master your process perfectly. And, convinced of our almost ready-to-start solutions, major players have based their investment strategies on FIB equipment.



Oil tempered wire

A perfect control of the heat and of the cooling steps is imperative.

Firstly, the muffle tube furnace allows you to trim the temperature accurately and to replace both the tubes and the heating elements easily.

Secondly, the heating elements have been adapted to remain intact even when scales fall down from the tubes.

The FIB oil quenching units cool efficiently, control oil pollution and protect from fire hazards.

Finally, you can control the tempering temperature sharply.

Steel cord & sawing wires

Steel cord & sawing wires are produced in patenting units which are combined with either Ecoquench lead-free or lead solutions. Our unique combustion technology guarantees full control of the atmosphere processing for both productions. Alternatively, for sawing wire, our state-of-the-art muffle furnace offers either electrical or gas technology.

Eventually, our diffusion equipment assures flexibility and security in the fluidized beds as well as compact induction solutions.

FIB has been the world leader in steel cord industry since 1976.

While driving your car, know that at least one wire has been processed on an FIB line.

Batch processed wire

Batch processes that run in bell furnaces and pit furnaces require flexible supervision, mechanical resistance and continuous self-checking sequences.

Both processes under Hydrogen and Nitrogen are part of our expertise. We are your personal companion for all your products: from challenging to traditional.

Stainless wire

Our stainless steel wire equipment allows you to replace both the heating elements and the tubes easily.

Efficient insulation is guaranteed and, to top it all, an ingenious system lifts up the cover comfortably.

All in all, we have revised our design to match with your dreams.

Wire pickling Tornado line

The Tornado line for the imperative pickling process achieves a high degree of protection for the buildings and the operators.

Moreover, it is optimized by a preventive system for sludge build-up and, optionally, by a multi-wire threading system. Low temperature and turbulence limit the loss of pickling solution. On top of that, active liquids drag and drop the solutions effectively. It is scrub-free, hence compact and matches the Best Available Technologies (BATS) of the European Union.

Flash fluxing

The FIB flash fluxing bath is a compact design which minimizes corrosive vapours, iron pollution and energy consumption.

This bath and the final dryer with optional easy threading device are necessary steps. And yet, they are designed to be the least of your worries so you can concentrate on the last step in your process: galvanizing.

Phosphating unit

The phosphating unit requires the control of many parameters of which the complexity is managed by our all-in-one solution.

Firstly, it concentrates the sludge in a particular location. Consequently, it avoids the agglomeration of precipitates on the heating elements and on the wires. Moreover, a special heating technology avoids overheating of the solution.

The absence of inflexion, the automated opening of the cover and the dedicated process for the wire field optimize the manipulation of the wires. Combined with an activation bath, your phosphate coating will be totally homogeneous.

Ceramic baths

Ceramic baths with heating cover

The ceramic bath with heating cover is equipped with premixed heating technology.

Consequently, the composition of the atmosphere under the cover can easily be controlled which limits the build-up of zinc ashes.

Thanks to our unique design, the cover can be operated easily. It has large access doors at both ends and can be — optionally — lifted up completely.

The bath achieves temperatures as high as 460°C.

The ergonomics of this ceramic bath tolerate heavy-duty lines operation.

Ceramic baths with immersion heater assemblies

Our ceramic baths with immersion heater assemblies have been improved with new immersed tubes, which prolong the lifetime significantly and are compatible with Galfan©

To ease the yearly de-drossing, you can count on the optional feature which lifts up the row of burners without disconnecting the heating system.

FIB has commissioned its 31st galvanizing bath with immersion heater assemblies in 2010.

It achieves a production of up to 8 tonnes of wire per hour.

The bath achieves temperature as high as 460°C and economizes the running costs substantially.

All in all, this technology heats one of the biggest units in the world.

Metallic baths

Zinc coating

Metallic kettles have the remarkable advantage to give easy access to the wire field.

As metallic baths are subject to corrosion, a unique heating circuit has been developed to avoid local overheating.

It is, therefore, a particularly suitable solution for the production of large wire sizes.

Baths as long as 11 m have worked at our customers' satisfaction since many years.

Zinc-aluminium coating

Metallic baths with zinc-aluminium coating are used for Galfan© wire production.

They are compact and hand-made for smaller wire field.

The special material of the kettle turns it specifically resistant to corrosion.

As the production of Galfan© is labour-intensive, customers value the compact and accessible FIB equipment.

It is probably the best first step to Galfan©.

Zinc and Zinc Aluminium coating solutions

Wiping technologies

The wiping phase is not only the eventual, but also the essential step in the hot dip coating wire production.
Our all-in-one technology guides, wipes and cools up all the way up to your finalized product.
To keep clear of any hazards, you can rely on the material and the shape of the FIB guiding skids.
Pad wiping vertical and oblique and dynamic wiping are solutions we provide according to your needs.

Pad wiping

Commercial pad wiping provides a continuous smooth and shiny surface. FIB has developed two pad wiping technologies.

Firstly, our vertical wiping technology enables safe up-front threading, easy pad positioning and reliable water-tightness of the pads. It is especially suited for large wire fields.

Secondly, our oblique wiping technology is suited for smaller wire fields.

Pad wiping and dynamic wiping are versions we provide according to your needs.

Both technologies can work with different pad types depending on the coating specifications.

Dynamic wiping N2

Dynamic wiping controls the zinc or zinc-aluminium weights, especially on high-speed lines.

Our technology is easy, safe, flexible, ergonomic and, above all, economical in nitrogen consumption.

It achieves high-consistency zinc coating and can easily be adapted to the required wire size: sizes up to 18 mm (Low Carbon) have been processed with this technology.

FIB has installed more than sixty dynamic wiping lines so far (2011).

Zinc monitoring

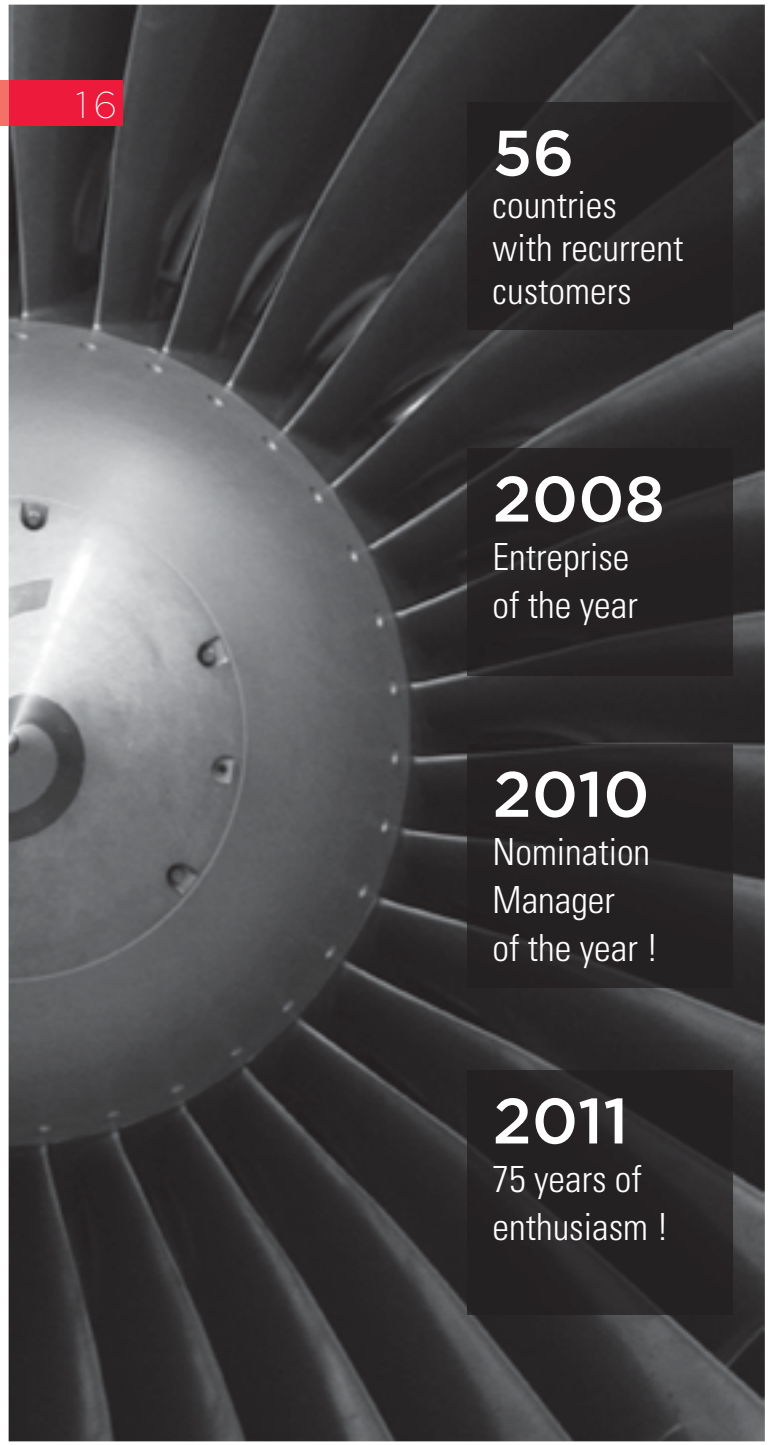
Zinc-monitoring can be combined with dynamic wiping.

After being calibrated the zinc monitoring unit measures the zinc on the wire continuously, trims the nitrogen flow accordingly and sends signals when necessary (e.g. to alert to the state of the nitrogen nozzle).

Consequently, any substantial drift in zinc coating weight can be detected.

This is a major support for the operator.

FIB has already equipped twenty-five lines with this system so far (2011).



General information

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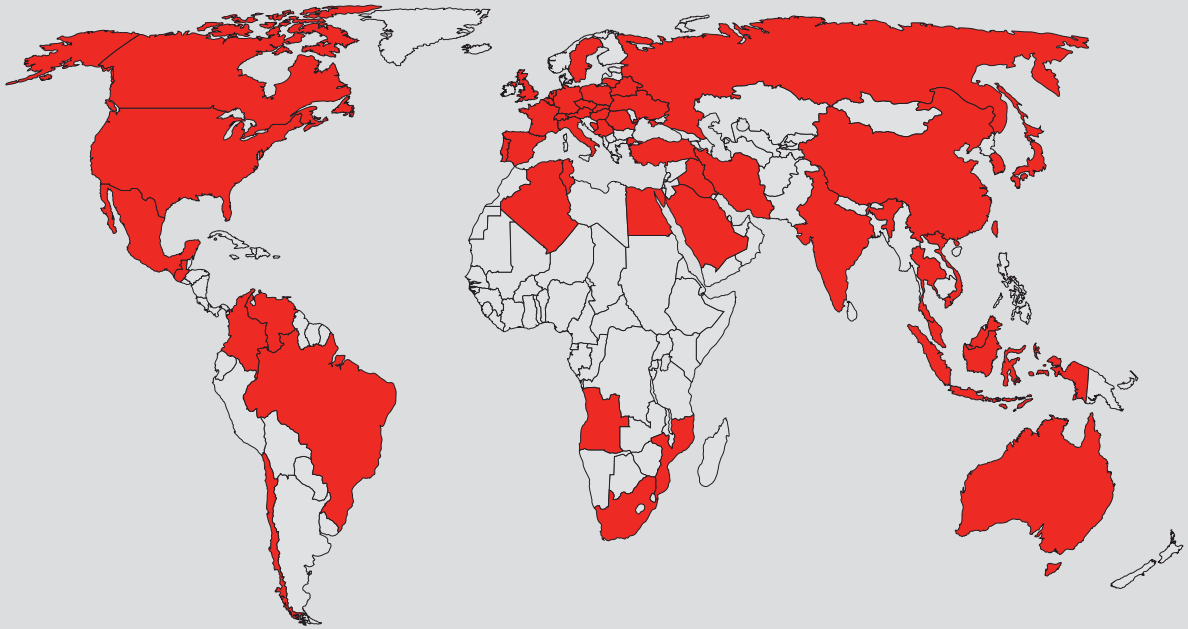
Our references

FIB Belgium's equipment across the world up to 2013.



See the full list of our references on www.fib.be/en/references

Our History

1936

« Le Four Electrique Belge », precursor of the current company FIB BELGIUM S.A., was established in Antwerp on April 3, 1936.

1944

Workshops destroyed at the end of World War 2.

1945-1957

Like a phoenix, the company installed its headquarters in Brussels. It is renamed “Le four industriel belge”.

1958

FIB applied its “high velocity austenitizing” for the patenting of the wires of the first suspended bridge in Europe.

1973

Pioneer in export! FIB started to export to Japan and Poland (Ex-USSR). South Korea adopted its technology as well.

1976

Recognition as a world leader First supply within the framework of steel cord.

1980

Enameling expertise.

1982

A vision in pickling!
The technology of fumeless pickling is introduced into the world market by FIB.

1986

Pioneer in green technology!
FIB introduced lead-free patenting.

1987

National recognition! FIB received the Belgian national price of export for SME’s.

1994

Pole position in South Korea. South Korea is well equipped by FIB. 40 lines are in operation. In 2011, South Korea was supplied with more than 64 installations.

1998

Accelerating the return on investment, FIB introduced nitrogen dynamic wiping to galvanizing lines on a large scale.

2000

Safety first!
FIB Hydrogen bell furnaces received a TÜV certificate. Since then, FIB has recurrently received both GOST and GOSPROMNADZOR approvals for its equipment.

2002

Makes your life better!
Mastering lines since a very long time, FIB introduced many novelties to the handling of continuous lines.

2006

Brussels Excellence award in export.

2007

Economic Award : Trends Gazelles - Growth.

2008

After 62 years of activity in the Brussels facility, FIB moved to a new, bigger and better place in SAINTES (25 km SW of Brussels, Belgium). FIB is the world’s largest manufacturer of continuous lines for the steel wire industry and the only one to propose its own burner system, the famous FIB premix system.

2009

The Entreprise of the year Award 2008.

2010

Nomination Manager of the year 2010!

2011

75 years of enthusiasm !

2012

Automatic control of the atmosphere in the furnace and automatic control of the premixed composition is introduced thanks to the motorized mixer.

Our services

Documentation Center

Mastering complex processes requires perfect knowledge and access to relevant literature. Hence, more than 5,000 books, articles and patents on wire technology and combustion are part of our documentation center. On top of this, partnerships with highly valuable experts in the wire field turn our company from ‘machine builders’ into ‘smart machinery builders’. FIB nurtures smart design and smart staff. Process aspects constraints are always dealt with in our designs and our staff is kept up-to-date about new aspects of relevant technology.

Video conference

A problem with your equipment, a question in need of explanation or a drawing that needs more information? In a few minutes, we can get together with our engineers, our study team and our control specialists TO HELP YOU! You can always ask for a meeting with your personal contact at FIB!
Video Conference Line Numbers : +32 2 378 46 50 - 51

Customer support

In need of technical advice? Questions regarding our services? Questions about a spare part? You have a specific request or a suggestion? Call our HOTLINE : +32 478 96 08 62

Also, know that 10 technicians travel the world to serve you. Our after sales service can organize for you annual maintenance visits, specific training, yearly upgrade of your staff's knowledge (huge success) or make an estimation of a possible upgrade that could boost your current equipment!

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