

List of products/exhibits

- | | | |
|---|---|--|
| <p>1 Wire manufacturing and finishing machinery</p> <p>1.1 Casting</p> <p>1.1.1 Standard casting</p> <p>1.1.2 Continuous casting</p> <p>1.1.3 Properzi process</p> <p>1.2 Rolling, pressing, forming</p> <p>1.2.1 Hot rolling</p> <p>1.2.2 Cold rolling</p> <p>1.2.3 Extruding presses</p> <p>1.2.3.1 Conform extruding</p> <p>1.2.4 Single-stage presses</p> <p>1.2.5 Multi-stage presses</p> <p>1.2.6 Hammering machines</p> <p>1.2.7 Chipless forming</p> <p>1.2.8 Forging</p> <p>1.2.9 Bühler-Mill</p> <p>1.2.10 Warm forming</p> <p>1.3 Drawing</p> <p>1.3.1 Wire drawing machines (dry, fine, multi)</p> <p>1.3.2 Continuous drawing machines</p> <p>1.4 Surface and heat treatment</p> <p>1.4.1 Drying and baking ovens</p> <p>1.4.2 Annealing without inert as (furnaces)</p> <p>1.4.3 Annealing with inert gas (furnaces)</p> <p>1.4.4 Vacuum annealing (furnaces)</p> <p>1.4.5 Salt bath furnaces</p> <p>1.4.6 Burnishing and phosphating installations</p> <p>1.4.7 Metal coating (chemical, electroplating etc.)</p> <p>1.4.8 Hardening, tempering</p> <p>1.4.9 Shot peeling</p> <p>1.4.10 Continuous resistance annealer</p> <p>1.4.11 lubricant application</p> <p>1.5 Wire cleaning, machining, forming and coating</p> <p>1.5.1 Pickling, blasting, scale removal by bending, cleaning, scale removal</p> <p>1.5.2 Coating</p> <p>1.5.3 Turning, milling, grinding, spinning</p> <p>1.5.4 Enamelling</p> <p>1.5.5 Deburring, peeling, upsetting</p> <p>1.5.6 Spark erosion</p> <p>1.5.7 Grinding, pointing, lapping</p> <p>1.5.8 Blanking and stamping</p> | <p>1.6 Machinery for solving handling problems</p> <p>1.6.1 Coiling, winding</p> <p>1.6.2 De-coiling, unwinding</p> <p>1.6.3 Spooling</p> <p>1.6.4 Dividing</p> <p>1.6.5 Cutting</p> <p>1.6.6 Straightening</p> <p>1.6.7 Bending</p> <p>1.6.8 Counting, weighing, sorting</p> <p>1.6.9 Diminution</p> <p>1.6.10 Auxiliaries (guides, discharge tables)</p> <p>1.6.11 Feed devices, handling equipment</p> <p>1.6.12 Packing (coil forming, storing)</p> <p>1.6.13 Material Handling</p> <p>1.7 Fastener machinery (bolts, nuts, rivets, nails)</p> <p>1.7.1 Bending, forming</p> <p>1.7.2 Hot upsetting</p> <p>1.7.3 Cold upsetting, forging</p> <p>1.7.4 Soldering</p> <p>1.7.5 Welding</p> <p>1.7.6 Parting</p> <p>1.7.7 Pressing</p> <p>1.7.8 Twisting</p> <p>1.7.9 Cutting (threads etc.)</p> <p>1.7.10 Rolling (threads)</p> <p>1.7.11 Heat treatment</p> <p>1.8 Spring manufacturing machinery</p> <p>1.8.1 Simple spring manufacturing machines (for bed, curtain, mattress springs)</p> <p>1.8.2 Coil springs</p> <p>1.8.3 Tension spring machines</p> <p>1.8.4 Leaf and flat spiral springs</p> <p>1.8.5 Leg and shaped spring machines</p> <p>1.8.6 Spring and grinding machines</p> <p>1.9 Cable and stranding machines</p> <p>1.9.1 Cable filling</p> <p>1.9.2 Cable sheathing and insulating</p> <p>1.9.3 Stranding</p> <p>1.9.4 Twisting, bunching</p> <p>1.9.5 Cable cutting machines</p> <p>1.9.6 Cable marking machines</p> <p>1.9.7 Cable extrusion machines</p> <p>1.9.8 Insulation strippers for cables</p> <p>1.9.9 Power applications</p> | <p>1.10 Wire product manufacturing machinery</p> <p>1.10.1 Wire rope machines</p> <p>1.10.2 Reinforcing mesh</p> <p>1.10.3 Wire fence machines</p> <p>1.10.4 Plaiting and weaving machines</p> <p>1.10.5 Ring, hook and eye wire machines</p> <p>1.10.6 Hairclip and paperclip machines (office accessories)</p> <p>1.10.7 Chain machines (industrial chains and necklaces)</p> <p>1.10.8 Steel and knitting needle machines</p> <p>1.10.9 Screw and nail machines</p> <p>1.10.10 Transformer wire winding</p> <p>1.10.11 Special-purpose machines (bag ties, belt fasteners, drawing pins, tGMclothes hangers, can openers, buckles, lead shot etc.)</p> <p>1.10.12 Machinery and equipment for the manufacture of cables connections</p> <p>1.10.13 Wire knitting/weaving machines</p> <p>1.11 Welding and electrode manufacturing machinery</p> <p>1.11.1 Wire and rope welding machines</p> <p>1.11.2 Grid welding machines</p> <p>1.11.3 Special-purpose welding machines</p> <p>1.11.4 Electrode manufacturing machines</p> <p>1.11.5 Lead wire and solder wire production plant</p> <p>1.11.6 Cold pressure welding</p> <p>1.12 Special machinery and equipment</p> <p>1.12.1 Repairing and machining drawing dies</p> <p>1.12.2 Polishing drawing dies</p> <p>1.12.3 Reprocessing drawing oils</p> <p>1.12.4 Filtering equipment</p> <p>1.12.5 Cleaning facilities (incl. shot-blasting equipment)</p> <p>1.12.6 Plant for the manufacture of glass optical fibres</p> <p>1.12.7 Airwipes</p> <p>1.12.8 Laser processing and micro-drilling of draw dies</p> <p>1.12.9 Lubricant application equipment</p> <p>1.12.10 Fiber colouring systems/plants</p> <p>1.13 Used machines (all machines from 1.1 to 1.12)</p> |
|---|---|--|

2 Process technology tools

2.1 for casting

2.2 for extruding

2.3 for drawing

2.3.1 Diamond drawing dies

2.3.2 Hard metal drawing dies

2.3.3 Ceramic drawing dies

2.3.4 Polycrystalline drawing dies

2.3.5 Enamelled drawing dies

2.3.6 Adjustable drawing dies

2.3.7 Cleaning, repairing and polishing drawing dies

2.3.8 Cold upsetting and blanking drawing dies

2.3.9 Tube and rod drawing dies

2.3.10 Pulling in dogs

2.4 for rolling

2.5 for power transmission purposes (cones, rings, guide and bearing pulleys)

2.5.1 Steel/cast, chrome-plated

2.5.2 Stainless steel

2.5.3 Hard metal, hard-faced

2.5.4 Ceramics, ceramic-coated

2.5.5 Plastics

2.5.6 Other materials

2.6 for rolling

2.6.1 Steel

2.6.2 Hard metal, hard-faced

2.6.3 Ceramics, ceramic-coated

2.6.4 Turks head rolls

2.6.5 Plain rolls

2.6.6 Shape rolls

2.6.7 Other materials

2.7 for cable manufacturing and processing

2.7.1 Flat cores

2.7.2 Round cores

2.8 for spring manufacturing

2.9 Other

2.9.1 Complete welding wire lines

2.10 for chipless shaping

3 Auxiliary process technology materials

3.1 Lubricants

3.1.1 Oils, greases, lubricants

3.1.2 Auxiliary drawing materials

3.1.3 Process lubricants

3.2 Cleaning and wetting agents

3.2.1 Mordants

3.2.2 Degreasing and wetting

3.2.3 Bleaching

3.3 Dyes

3.3.1 Masterbatches

3.4 Auxiliary hardening materials

3.5 Grinding and lapping materials

3.6 Adhesives and packaging

3.7 Auxiliary galvanizing materials

3.8 Coiling and uncoiling and rewinding spools

3.8.1 Metal/steel coils

3.8.2 Wooden coils

3.8.3 Plastic coils

3.8.4 Cable drums

3.8.5 Other special coils

3.9 Auxiliary welding materials

3.10 Other chemicals

3.10.1 Binding agents

3.10.2 Acid protection agents

3.10.3 Protective agents

3.11 Conductive auxiliary materials

3.12 Materials, special wires and cables

4 Raw iron and steel-based products

4.1.1 Carbon content (low)

4.1.2 Carbon content (high)

4.1.3 Stainless steel

4.1.4 Special alloys

4.2 Processed iron and steel-based products

4.2.1 Non-coated (bright)

4.2.2 With metallic coatings (zinc, tin, copper, bronze etc.)

4.2.3 With non-metallic coatings (paint, plastic, bitumen etc.)

4.2.4 Annealed

4.2.5 Tempered

4.2.6 Strain hardened

4.3 Non-ferrous-based

4.3.1 Aluminium

4.3.2 Nickel

4.3.3 Copper

4.3.4 Brass, bronze

4.3.5 Zinc

4.3.6 Tin

4.4 Speciality wires made from

4.4.1 Beryllium

4.4.2 Gold, platinum, silver

4.4.3 Molybdenum

4.4.4 Niobium

4.4.5 Tantalum

4.4.6 Titanium

4.4.7 Tungsten

4.4.8 Zirconium

4.4.9 Glass

4.4.10 Stainless steel

4.4.11 Special steels

4.5 Application-specific speciality wires for

4.5.1 Bolts, rivets, cold extruded parts

4.5.2 Springs

4.5.3 Wire ropes, wire strands, cables

4.5.4 Wire intermediaries (rubber, plastic, fabric)

4.5.5 Reinforcements (construction industry)

4.5.6 Wire mesh, wire grating

4.5.6.1 Woven wire mesh cloth (S.S. + P.B.)

4.5.6.2 Disc filters, candle filters, test sieves, shale shaker screen

4.5.7 Wire cloth, strainers, filters

4.5.8 Auxiliary welding materials

4.5.9 Wire bending products, small parts

4.5.10 Other (medical purposes, music, packaging)

4.5.11 Chain steels

4.5.12 Wire products for use in the automotive and aircraft industries

4.5.13 Machining steel

4.5.14 Hardening and tempering steel

4.5.15 Cold drawn steel

4.5.16 Profiled wire

4.5.17 Rolled wire

4.6 Cables

4.6.1 High-voltage cables

4.6.2 Low-voltage cables

4.6.3 Communication cables

4.6.4 Computer and control cables

4.6.5 Plastic and paper-insulated cables

4.6.6 Marine cables

4.6.7 Glass-fibre cables



4.7 Plastic materials for cable sheathing and insulating

- 4.7.1 Thermoplastic materials
- 4.7.1.1 Flameretardant, halogenfree thermoplastic materials
- 4.7.2 Crosslinked plastics
- 4.7.3 Permanently flexible plastics
- 4.7.4 Dyestuffs and pigments

4.8 Yarns for cables/wire rope

- 4.8.1 Armouring and filler yarns for cables
- 4.8.1.1 Waterswellable yarns
- 4.8.2 Yarns for steel ropes

4.9 Shielding materials

- 4.9.1 Film, film/foil, laminates
- 4.9.1.1 Shielding nonwoven tapes

4.10 Strengthening materials

- 4.10.1 FRP strength elements
- 4.10.2 Aramid rod strength elements
- 4.10.3 Flexible FRP strength elements

4.11 Wire ropes

- 4.11.1 Galvanized and stainless steel wire ropes
- 4.11.2 Ready-made wire ropes
- 4.11.3 Accessories for wire ropes

4.12 Insulation materials, film, strips, fibre, paper

- 4.12.1 Stuffer and armoring yarn
- 4.12.2 Paper, tissue and fleece band
- 4.12.2.1 Nonwoven tapes
- 4.12.3 Insulating, separating and special tapes
- 4.12.3.1 Waterblocking tapes
- 4.12.4 Plastic foils/film/sheet
- 4.12.5 Foils of paper and other materials
- 4.12.6 Anti-moisture systems
- 4.12.7 Rubber
- 4.12.8 Plastics
- 4.12.9 Glass fibre
- 4.12.10 Other
- 4.12.11 Enamels/resins for wire insulation
- 4.12.12 Flame protection strips
- 4.12.12.1 Flame retardant tapes
- 4.12.13 Printed film
- 4.12.14 Other wrapping materials
- 4.12.15 Cable filling compound

5 Measuring and control technology

- 5.1 Batching and mixing installations
- 5.2 Counters
- 5.3 Temperature measuring and control equipment
- 5.4 Torsion control equipment
- 5.5 Tension measuring equipment
- 5.6 Equipment for measuring the diameter, wall thickness, width, height and length
- 5.7 Capacity measuring systems
- 5.8 Drive and control technology
- 5.9 Process monitoring systems
- 5.10 Quality assurance systems (incl. factory data acquisition)
- 5.11 Analysers
- 5.12 Laser measuring equipment
- 5.13 Measuring systems for electric cables

6 Test engineering

- 6.1 Materials
- 6.1.1 Destructive material testing
- 6.1.2 Non-destructive material testing
- 6.2 Wire manufacturing machines
- 6.3 Finished product testing
- 6.3.1 Wire products
- 6.3.2 Springs
- 6.3.3 Glass-fibre cables
- 6.3.4 Cables made from non-ferrous metals
- 6.3.5 Fasteners
- 6.3.6 Tools
- 6.4 Auxiliary materials
- 6.5 Other

7 Specialist areas

- 7.1 Plant construction
- 7.2 Advisory services
- 7.3 Data technology
- 7.4 Trade literature, publishers
- 7.5 Research and training
- 7.6 Safety technology
- 7.7 Environmental protection (including acid engineering and protection)
- 7.8 Recycling
- 7.9 Associations
- 7.10 Crosslinking agents