

# LIST OF PRODUCTS

## RAW MATERIALS AND MATERIALS FOR THE PRODUCTION OF STAINLESS STEELS

- 1.1 Blast furnace pig iron
- 1.2 Scrap
- 1.3 Alloying material, ferroalloys

## STAINLESS STEELS

- 2.1 **Stainless steels under EN 10027-2 standard**
  - 2.1.1 EN 1.40xx
  - 2.1.2 EN 1.41xx
  - 2.1.3 EN 1.43xx
  - 2.1.4 EN 1.44xx
  - 2.1.5 EN 1.45xx
  - 2.1.6 EN 1.46xx
- 2.2 **Ferritic steels**
  - 2.2.1 SAE type 400 ferritic
  - 2.2.2 Superferritic steels
- 2.3 **Martensitic and hardenable steels**
  - 2.3.1 SAE type 400 martensitic
  - 2.3.2 Precipitation hardening martensitic steels
  - 2.3.3 Supermartensitic stainless steels
- 2.4 **Austenitic steels**
  - 2.4.1 SAE type 100, 200, 300
  - 2.4.2 Precipitation hardening austenitic steels
  - 2.4.3 Superaustenitic stainless steels
- 2.5 **Duplex (austenitic-ferritic) steels**
  - 2.5.1 Superduplex stainless steels
- 2.6 **Heat resistant steels**
  - 2.6.1 EN 1.47xx
  - 2.6.2 EN 1.48xx
  - 2.6.3 Ferritic heat resisting steels
    - 2.6.3.1 SAE type 500
  - 2.6.4 Austenitic and austenitic-ferritic heat resistant steels
- 2.7 **Creep-resistant steels**
  - 2.7.1.1 EN 1.49xx
  - 2.7.2 Martensitic creep resistant steels
  - 2.7.4 SAE type 600 martensitic and PH
  - 2.7.5 Austenitic creep resistant steels
  - 2.7.6 SAE type 600 austenitic
- 2.8 **Special stainless steels**
  - 2.8.1 Maraging, TRIP steels
- 2.9 **Weldable, stabilised stainless steels**
- 2.10 **Stainless steels for castings**
- 2.11 **Special alloys, superalloys**
  - 2.11.1 Nickel superalloys
  - 2.11.2 Cobalt superalloys
  - 2.11.3 Titanium, titanium alloys
  - 2.11.4 Tantalum, zirconium and other special alloys
- 2.12 **Powder metallurgy materials, ODS steels**

## STAINLESS STEEL METALLURGICAL SEMI-PRODUCTS

- 3.1 Ingots, continuous casts
- 3.2 Blooms, billets, slabs

## STAINLESS STEEL METALLURGICAL PRODUCTS

- 4.1 **Flat products**
  - 4.1.1 Hot rolled flat products – sheets, strips
  - 4.1.2 Cold rolled flat products – sheets, strips
  - 4.1.3 Formed sheets
  - 4.1.4 Built-up flat products – sheets, strips, boards
  - 4.1.99 Flat products, other
- 4.2 **Long products**
  - 4.2.1 Wires
    - 4.2.1.1 Hot rolled wires
    - 4.2.1.2 Cold drawn wires
  - 4.2.2 Simple section hot formed bars – solid and cored
  - 4.2.3 Drawn, peeled, ground bars
  - 4.2.4 Long products with ribs or ribs
  - 4.2.5 Profile section hot rolled bars
  - 4.2.6 Profiles – welded, cold formed, thin walled
  - 4.2.7 Pipes (tubular section) – seamless and welded
  - 4.2.99 Long products, other
- 4.3 **Products of specific form**
  - 4.3.1 Sheet formed bottoms
- 4.4 **Cladded products, cladding**
- 4.98 **Special stainless steel metallurgical products made to order**
- 4.99 **Stainless steel metallurgical products, other**

## STAINLESS STEELS PRODUCTS OF FOUNDRIES, FORGING AND PRESSING SHOPS

- 5.1 **Stainless steel castings**
  - 5.1.1 Precision casting from stainless steels
  - 5.1.2 Austenitic stainless steel castings
  - 5.1.3 Ferritic stainless steels castings
  - 5.1.4 Duplex stainless steels castings
- 5.2 **Stainless steel forgings**
  - 5.2.1 Stainless steel die forgings
  - 5.2.2 Stainless steel open-die forgings
- 5.3 **Stainless steel mouldings**
- 5.4 **Stainless steel extrusions**

## STAINLESS STEEL PRODUCTS

- 6.1 **Bearings, and parts thereof**
- 6.2 **Gear wheels**
- 6.3 **Springs and flexible elements**
- 6.4 **Seals, bellows**
- 6.5 **Conveyor technique belts, chains, screws**

- 6.6 **Filters, sieves**
- 6.7 **Hoses, fittings, quick couplings, flanges, pneumatic**
- 6.8 **Travelling wheels, pulleys, head pulleys**
- 6.9 **Assembly elements**
  - 6.9.1 Joining, fixing elements, fasteners
- 6.10 **Large volume tanks, cisterns, silos, containers**
- 6.11 **Vessels, barrels, cans, containers**
- 6.12 **Ropes, cords, straps**
- 6.13 **Bended wire products, chains**
- 6.14 **Building elements and structures, concrete reinforcements**
  - 6.14.1 Columns, beams, architectonic and construction systems
  - 6.14.2 Anchoring systems
  - 6.14.3 Modular construction units for ventilation devices and systems
- 6.15 **Sewerage segments and systems**
- 6.16 **Cable protection troughs**
- 6.17 **Construction elements for water treatment plants**
- 6.18 **Sanitary engineering**
- 6.19 **Drinking water pipes**
- 6.20 **Equipment for waste depot and removal**
- 6.21 **Product pipelines**
- 6.22 **Medical instruments and products**
- 6.23 **Laboratory instruments and equipment**
- 6.99 **Stainless steel products, other**

#### **MACHINES AND EQUIPMENT FOR STAINLESS STEEL TREATMENT AND PROCESSING**

- 7.1 **Machines and equipment for welding, cutting and brazing**
  - 7.1.1 Gas welding and brazing
  - 7.1.2 Arc welding
  - 7.1.3 Plasma cutting and welding
  - 7.1.4 Electron beam and laser welding and cutting
  - 7.1.5 Consumable materials for welding, cutting and soldering
  - 7.1.6 Machines and equipment for waterjet cutting
- 7.2 **Machines and equipment for metal cutting (cutting, turning, milling, boring)**
  - 7.2.1 Tools and consumable materials for metal cutting
  - 7.2.2 Monolithic steel tools
  - 7.2.3 Monolithic carbide tools
  - 7.2.4 Exchangable inserts for tooling systems
  - 7.2.5 Holders for exchangable inserts
- 7.3 **Forming machines and equipment**
  - 7.3.1 Tools and auxiliary materials for forming
- 7.4 **Hand tools for stainless steel working**
- 7.5 **Furnaces and accessories thereof for heat processing and treatment (hardening, annealing)**
  - 7.5.1 Accessory and auxiliary materials for heat processing and treatment
- 7.6 **Machines and equipment for surface cleaning and finish**
  - 7.6.1 Degreasing and cleaning devices
    - 7.6.1.1 Cleaning and degreasing agents
  - 7.6.2 Blasting machines
    - 7.6.2.1 Abrasives for blasting machines
  - 7.6.3 Brushing machines and accessories thereof
  - 7.6.4 Pickling and passivation equipment

- 7.6.4.1 Picking baths, pastes, gels
- 7.6.5 Grinding and polishing equipment, accessories thereof
  - 7.6.5.1 Equipment and accessories for electrolytic surface polishing
- 7.7 **Paints suitable for stainless steels**
- 7.8 **Equipment and accessories for scrap processing and waste disposal**
- 7.9 **Protection and safety means and aids**
- 7.10 **Technical gases**
- 7.99 **Machines and equipment for stainless steel treatment and processing, other**

#### **COMPUTERS, TESTING AND MEASURING INSTRUMENTS FOR STAINLESS STEELS**

- 8.1 **Systems for production plant management, design and planning**
- 8.2 **Equipment and systems for the measurement of technological quantities**
- 8.3 **Equipment for mechanical tests**
- 8.4 **Instruments and equipment for the examination of material microstructure**
- 8.5 **Instruments and equipment for chemical analysis**
- 8.6 **Instruments and equipment for non-destructive testing**
- 8.99 **Computers, testing and measuring instruments for stainless steels, other**

#### **STAINLESS STEEL RESEARCH, SERVICES, AND INSTITUTIONS**

- 9.1 **Research in the area of metallurgy and stainless steel processing**
- 9.3 **Consulting, engineering and design services in the area of stainless steel application and processing**
  - 9.3.1 Corrosion testing
- 9.4 **Servicing and repairs of stainless steel processing machines**
- 9.5 **Refurbished stainless steel processing machines**
- 9.6 **Manufacture of prototype and special-purpose stainless steel processing equipment**
- 9.9 **Stainless steel processing technologies**
- 9.10 **Publishing houses, specialised literature, printing in the area of stainless steel**
- 9.11 **Institutions and organisations involved in stainless steel**
- 9.12 **Specialised courses and training in the area of stainless steel**
- 9.2 **Made-to-order stainless steel processing**
  - 9.2.1 Made-to-order separating, cutting (shears, saws, laser, plasma, water jet)
  - 9.2.2 Made-to-order welding, soldering
  - 9.2.3 Made-to-order forming
  - 9.2.4 Made-to-order metal cutting (turning, milling, boring)
  - 9.2.5 Made-to-order heat treatment
  - 9.2.6 Made-to-order surface finish
  - 9.2.7 Made-to-order production of parts
  - 9.2.99 Made-to-order stainless steel processing, other
- 9.99 **Stainless steel research, services, and institutions, other**