

# The **KEY** to Steel Industry Suppliers 2017

## Classification by Nomenklatura

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Are there any headwords you would like to have included? If so, please, enter them in the order form

# List of headwords

## 01. Raw Materials, Auxiliary Materials and Operating Materials

### 01.01 Ores

- 10 Chrome Ore
- 20 Iron Ore
- 30 Ore
- 40 Manganese Ore
- 50 Steelwork Ore

### 01.02 Coke

- 60 Lignite Coke
- 62 xxx
- 65 Foundry Coke
- 70 Coke
- 80 Coke Breeze
- 90 Coke Breeze
- 100 Petroleum Coke
- 110 Pit Coal, Anthracite

### 01.03 Scrap

- 120 Scrap

### 01.04 Direct Reduced Iron (DRI)

- 128 Direct Reduced Iron (DRI)
- 129 Hot Briquetted Iron (HBI)
- 130 Sponge Iron

### 01.05 Metals and Alloys

- 140 Cer-Misch-Metal
- 150 Chrome Metal
- 160 Cobalt
- 170 Deoxidation Alloys (also Aluminium)
- 171 Deoxidation Alloys (also Aluminium-Rod/ Solid Wire)
- 180 Granulated Iron
- 190 Iron Powder
- 200 Ferroboron
- 210 Ferrochromium
- 220 Ferro-Manganese
- 230 Ferromolybdenum
- 240 Ferro-Nickel
- 250 Ferroniobium
- 260 Ferroniobium Carbide

- 270 Ferroniobium Powder
- 280 Ferrophosphorus
- 290 Ferro-Selenium
- 300 Ferrosilicon
- 310 Ferro-Silicon-Manganese
- 315 Ferro-Silicon Manganese
- 320 Ferrotitanium
- 330 Ferrovanadium
- 340 Ferrotungsten
- 350 Ferrozinc
- 360 Granulated Special Materials
- 380 Alloys
- 385 Magnesium Alloys
- 390 Manganese Metal
- 400 Metals and Alloys
- 410 Metal Powder
- 420 Molybdenum
- 430 Molybdenum Oxide
- 435 Non-Ferrous Metals
- 440 Nickel
- 450 Nickel-Base Alloys
- 460 Nickel-Niobium
- 470 Niobium, Metals, and Alloys
- 475 Pure Iron
- 480 Silicon Carbide
- 490 Silicon and Silicon Alloys
- 500 Special Metals
- 510 Special Alloys
- 520 Tantalum
- 530 Titanium and Titanium Alloys
- 540 Vanadium Metal
- 550 Vanadiumpentoxide
- 560 Prealloys
- 570 Tungsten
- 572 Tungsten, Granulated, for C- and S-Analysis
- 610 Alloy Addition

### 01.06 Additives and Fluxes

- 580 Carburizing Agents
- 590 Fluorspar
- 600 Lime and Limestone
- 612 Slag Conditioner
- 616 Olivine

### 01.07 Gases

- 620 Acetylene
- 625 Argon
- 630 Technical Gases

## Raw Materials, Auxiliary Materials and Operating Materials / Raw Material Pretreatment

640 Carbon Dioxide  
650 Oxygen  
660 Inert Gas  
670 Nitrogen  
675 Hydrogen

### 01.08 Lubricants

680 Coating Powder (LDPE,  
EVA, PP, PU)  
690 Lubricants

### 01.09 Composite Material

678 Duplex Metal for Saws

### 01.10 Other Materials

695 Glass Granules  
698 Titanium Dioxide for  
Hearth Protection/Repair  
(Rutilit)

## 02. Raw Material Pretreatment

700 Engineering and Technical  
Assistance  
703 Engineering and Project  
Management

### 02.01 Ore Dressing

710 Beneficiation/Dressing  
Plant for Ore and Fluxes  
720 Crushing Plants  
730 Crushing and Mixing  
Plants  
740 Mixers  
750 Sieve Bottoms  
760 Sieves and Screening  
Plants

### 02.02 Coal Preparation

770 Coal Washing and  
Grading Plants  
780 Coal Grinding Plants

### 02.03 Burden Preparation

790 Burden Preparation

### 02.04 Pelletizing Plants

795 Ore Dressing Facilities  
800 Pelletizing Plants  
810 Pelletizing Plants with Ore  
Dressing Plants

### 02.05 Sintering Plants

820 Sintering Plants  
826 Brate Bars for Sintering  
Plants

### 02.06 Briquetting Plants

830 Briquetting Plants  
840 Briquetting of Coal  
and Coke  
850 Compacting Plants

### 02.07 Coke-Oven Plants

858 Charging and Pushing  
Emission Control for  
Coke Plants  
859 Heat-Recovery Coke  
Plants  
860 Coke Oven Plants  
(in general)  
870 Coke Crushing and  
Screening Plants  
880 Coke Quench Towers  
890 Coke Ovens  
900 Coke Oven  
Operating Machinery  
910 Coke Oven Gas  
Treatment Plants  
920 Coke Ramming Machines  
and Pushers  
930 Coke Dry-queenching  
Plants  
940 Stamping-Charging-  
Pushing Machines  
950 Heat Exchangers  
960 Grapples for Scrap  
Handling

### 02.08 Scrap Preparation Plants

968 Coil Magnets  
969 Safety Appliance for  
Electric Load Lifting  
Magnets  
970 Lifting Magnets  
971 Safety Appliance for  
Electric Load Lifting  
Magnets  
980 Magnetic Drums  
990 Scrap Baling Presses  
999 Scrap Drying Systems  
1000 Scrap Mills, Crushers  
1010 Scrap Shears  
1015 Scrap Shear Knives  
1017 Scrap Handling Magnets  
1018 Safety Appliance for  
Electric Load Lifting  
Magnets

- 1020 Shredder Plants, also Pre-Shredders
- 1021 Safety Device for Lifting Magnets
- 1022 Separation Magnets
- 1023 Safety Appliance for Electric Load Lifting Magnets
- 1030 Turning Crushers
- 1040 Vertical Grinding Mills

### 02.09 Other Matters

- 1041 Granulating Plants for Sludges and Dusts
- 1050 Ferroalloy Plants
- 1058 Lime-burning Plants
- 1060 Lime Slaking Plants
- 1070 Calcining Plants

## 03. Ironmaking

- 1080 Engineering and Technical Assistance
- 1090 Ironmaking Plants
- 1100 Smelting Reduction Plants

### 03.01 Blast Furnaces

- 1110 Blast Furnaces
- 1120 Blast-Furnace Linings
- 1123 Hearth Protection/Repair
- 1125 Linings of Blast-Furnace Channels
- 1130 Cowpers for Blast Furnaces
- 1140 Ceramic Burners for Hot-Blast Stoves
- 1145 Shaft Melting Furnaces
- 1150 Heat-Recovery Plants
- 1152 Hot Blast Stoves

### 03.02 Direct Reduction Plants

- 1160 Direct Reduction Plants
- 1170 Coal-Based Reduction Plants
- 1174 Ore Fines Beneficiation with Coal or Gas
- 1175 Rotary Hearth Furnaces

### 03.03 Cupolas

- 1180 Hot-Blast Cupolas
- 1190 Cold-Blast Cupolas
- 1195 OxiCup Shaft Furnaces

### 03.04 Components

- 1200 Valves for Hot-Blast Stoves
- 1205 Cupola Fittings
- 1207 Cupola Copper Fittings
- 1210 Valve Services
- 1220 Charging Installations for Blast Furnaces, Cupolas, and Melting Shops
- 1230 Tuyère and Tuyère Stock Changing Carts
- 1240 Bar Loaders
- 1250 Tuyère Stocks
- 1260 Installations for Carbon Injection
- 1270 Installations to inject Coal, Oil, or Gas into Blast Furnaces
- 1280 Installations to inject Oil or Gas into the Blast Furnaces
- 1285 Top-Gas Expanders
- 1290 Cover Manipulators
- 1295 Hot Gas Generators for Blast Furnace and Coke Oven Gas
- 1300 Hot-Blast Valves
- 1310 Blast-Furnace Blowers
- 1320 Blast Furnace Steel Structures and Jackets
- 1330 Blast-Furnace Burdening (incl. Larry Cars)
- 1340 Blast-Furnace Probes
- 1350 Coal Grinding, Drying and Injection Installations
- 1351 Copper Valves and Fittings for Cupolas
- 1353 Ladles and Mixers, Pig Iron/Hot Metal, Engineering and Supply
- 1355 Process-Gas Screw Compressors
- 1360 Radar-aided Stock-Line Measurement
- 1370 Blast-Furnace Bosh and Stack Cooling Plates
- 1380 Pig-Casting Machines
- 1390 Pig Iron Mixers
- 1400 Hot-Metal Ladle Cars, -Mixer- and Transfer Cars
- 1410 Slag Monkeys
- 1420 Slag Pots
- 1425 Flexible Tubes for Blast-Furnace Cooling
- 1430 Special Fittings for Blast-Furnace Cooling
- 1432 Copper Staves for Blast-Furnace Cooling

- 1440 Blast-Furnace Mud Guns
- 1450 Drills for Tapholes  
or Slag Holes
- 1460 Heat Exchangers
- 1467 Weighing Systems for  
Torpedo Cars
- 1470 Tuyères and Tuyäre  
Stocks
- 1480 Blast Gates

### 03.05 Blast-Furnace Products for Foundries

- 1490 Foundry Pig Iron
- 1500 Hematite Pig Iron
- 1510 Hematite Pig Iron for  
Grey Cast Iron
- 1520 Blast Furnace  
Ferro-Manganese
- 1550 Special Crude Iron  
(for Ductile Iron)
- 1560 Spiegel Iron
- 1570 Basic Pig Iron

### 03.06 By-Products

- 1580 Ferrous Sulphate or  
Ferric Sulphate
- 1589 Blast Furnace Slag
- 1590 Blast-Furnace Slag as  
Road Building Material
- 1600 Blast-Furnace Slag  
and LD-Slag
- 1610 Foamed Slag
- 1620 Slag Lime
- 1630 Granulated  
Blast-Furnace Slag
- 1639 Fine-Grained Steel Slag
- 1640 Fine-grained Steel Slag
- 1643 LD-Slag
- 1650 Thomasphosphate

### 03.07 Services

- 1663 Furnace Combustion  
Optimization

## 04. Steelmaking

- 1668 Equipment for Steel Works
- 1670 Engineering and  
Technical Assistance
- 1680 Mini Mills
- 1690 Second-Hand  
Steelmaking Plants  
and Equipment
- 1698 Steelmaking Plants and  
Equipment
- 1699 Steelmaking Equipment

- 1700 Steelmaking Plants and  
Equipment (Stainless)
- 1710 Steelmaking Plants and  
Equipment

### 04.01 Hot-Metal Preparation Plants

- 1715 Desulphurization Plants  
with Slag Regeneration
- 1720 Hot-Metal  
Desulphurization Plants

### 04.02 Converters

- 1730 Basic-Oxygen  
Steelmaking Plants  
(BOF-Shops)
- 1735 Bottom Blowing  
Installations (N<sub>2</sub> and AR)
- 1740 KTB Equipment  
(Kawasaki Top Blowing)
- 1745 Combined Bottom  
Blowing (Converters)
- 1750 Converter Equipment
- 1752 Converter Slag Treatment  
Installations
- 1755 Converter Stopper Rods
- 1758 Converter Stopper Rod  
Manipulators
- 1760 Porous Plugs
- 1763 Porous Ceramics  
(Plugs - Nozzles)

### 04.03 Energy Optimizing Furnaces

- 1770 Energy Optimizing  
Furnaces

### 04.04 Electric Furnace Melting Shop

- 1780 Electric Furnace  
Charging Devices
- 1788 Bottom Blowing Installa-  
tion EAF (N<sub>2</sub> und AR)
- 1790 Bottom Tapping
- 1795 CO-Post Combustion
- 1800 AC Electric Arc Furnace
- 1808 Carbon Injection Devices  
for Electric Furnaces
- 1810 Injection Devices for  
Electric Furnaces
- 1820 Electrode Holders and  
Clamps for Electric  
Furnaces
- 1830 Electrode Regulation for  
Electric Arc Furnaces and  
Ladle Heating Systems

- 1840 Extrusion Presses for Electrodes
  - 1850 Electrode Jib Arms
  - 1855 Electrode Jib Arms of Aluminium, Current-conducting (Hot-Arms)
  - 1860 Electrode Jib Arms, Current-Conducting (Hot-Arms)
  - 1865 Electrode Arm Insulation
  - 1870 Electric Arc Furnaces
  - 1875 Electric Arc Ladle Furnaces
  - 1880 EAF with integrated Scrap Preheater (Shaft Furnace)
  - 1882 Electro Magnetic Stirring Power Systems (EAF)
  - 1885 Spare and Wear Parts, Consumables
  - 1890 DC Arc Furnaces
  - 1900 Graphite Electrodes
  - 1908 Jet Box Technology
  - 1910 Cooling Elements (Radiant Wall Segments, Bay Coverings)
  - 1920 Oil/Gas-Oxygen Burners
  - 1930 Scrap Baskets
  - 1938 Scrap Driers
  - 1940 Scrap Preheating Plants
  - 1945 Stirring Machines for Electric Furnaces
  - 1950 Evaporating Systems/ Heat Recovery Systems
  - 1960 Water Cooled Cables
  - 1970 Water-cooling Systems
  - 1980 AC Arc Furnaces
  - 1981 EAF - Power Insulation
  - 1982 Power Supplies for AC Arc Furnaces
  - 1983 Power Supplies for DC Arc Furnaces
- 04.05 Induction Furnaces**
- 1990 Induction Furnaces
  - 1995 Protection Systems of Induction Coils
  - 1996 Repair-Induction Furnaces
  - 2000 Water Cooled Cables
- 04.06 Vacuum Melting Furnaces**
- 2008 High-Vacuum Melting Furnaces
  - 2010 High-Vacuum Melting Furnaces (incl. Electron Beam Melting Furnaces)
- 2020 Vacuum Induction Melting Furnaces
  - 2021 Vacuum Pumps, Dry Running, for Vacuum Furnaces
  - 2025 Vacuum precision plant
- 04.07 Secondary Steelmaking**
- 2028 Plants for Chemical Heating
  - 2030 Argon Purging Devices
  - 2040 Blow and Injection Conveying Equipment for Filtration Residues
  - 2042 Combined Blowing and Burning Lances for RH
  - 2050 CAS, CAS-OB and CAB Plants
  - 2060 Injection Devices for Metallurgical Processes
  - 2070 ESR-Plants
  - 2080 Ladle-Metallurgy Plants
  - 2090 Plasma Arc Plants
  - 2100 Plasma Ladle-Furnaces
  - 2110 Secondary Steelmaking Plants
  - 2120 Steel Degassing Plants
  - 2130 Steel Desulphurization Plants
  - 2140 T+P Lance Devices
  - 2145 Induction Stirrers for Ladle Furnaces
  - 2147 Mechanical vacuum systems for VD, VUD and RH
  - 2148 Vacuum Arc Furnaces
- 04.08 Tertiary Metallurgy**
- 2141 Electro Slag Remelting ESR
  - 2142 Vacuum Arc Remelting VAR
  - 2143 Vacuum Induction Furnace VIM
  - 2144 Mechanical vacuum systems for VIM and VAR
- 04.09 Components**
- 2150 Deslagging Machines
  - 2155 Tap Hole Closures for Converters
  - 2160 Tap Hole Valves for Converters and Electric Arc Furnaces
  - 2170 Andromat-Manipulator
  - 2175 Burn-out Machines for Ladles

## Steelmaking

- 2180 Break-out Machines for Electric Furnaces, Converters, Pouring Ladles, etc.
- 2182 Flame Lances (Oxygen) for Tundish and Ladle Slide Gates
- 2184 Co-Injection Devices
- 2190 Equipment for Oxygen/Carbon Lance Manipulators (EAF)
- 2200 Automatic Stirring Gas (Argon) Coupling-Stations
- 2210 Heating Equipment for Teeming Ladles, Mixers, Converters, and Tundishes
- 2215 Charging Equipment for Metallurgical Plants
- 2220 Brakes
- 2230 Charging Machines (Troughs and Tongs)
- 2235 Stream Jet Vacuum Pumps for Steel Degassing
- 2240 Dolomite Centrifuging Machines
- 2250 Cored-Wire Feeding Machines
- 2268 Argon Bubbling Equipment for Ladles
- 2270 Argon Injecting Equipment
- 2280 Blowing Equipment for Cementite Dust
- 2290 Blowing Equipment for Hyl and DRI Dusts
- 2300 Blowing Equipment for Lime Granules
- 2310 Carbon Injecting Equipment (EAF)
- 2312 Installation for Injection of Alloying Additions
- 2320 Electric Heating Elements for Steel Degassing Plants
- 2340 Electromagnetic Conveying and Dosing Channels for Liquid Metals
- 2350 Desulphurizing Equipment
- 2360 Bay Tapping Fillers, Arc Furnaces
- 2370 Pouring Ladles, in general
- 2380 Pouring Ladle Firing Plants
- 2390 Pouring Ladles for Melting Shops
- 2400 Pouring-Ladle Closing Devices (also Valve Locks)
- 2410 Pouring-Stream Protection
- 2420 Pouring Cars
- 2430 Manipulating Devices
- 2440 Oxygen/Carbon Lance Manipulators
- 2444 Oxygen Probes for Flue Gas
- 2450 Hydraulic Installations for Metallurgical Plants and Rolling Mills
- 2460 Lime-Oxygen-Dosing and Injecting Systems
- 2480 Ladle Tilting Devices
- 2490 Pulverized-Coal Injection-Lances
- 2500 Ingot Moulds for Melting Shops
- 2510 Ingot Mould Buggies
- 2514 Continuous Optical Analysis Equipment for Process Receptables
- 2515 Temperature Measuring, Continuous and Optical, for Process Vessels
- 2525 Converter Probes and Sampling Devices
- 2530 Lance Robots/Manipulators
- 2535 Lance Tip for Oxygen Lance
- 2540 Alloying Installations for Steelworks
- 2541 Multifunctional Lances and Burners for EAF
- 2542 Ladles and Mixers, Pig Iron/Hot Metal, Engineering and Supply
- 2543 Bull Ladels (Hot Metal Mixing)
- 2545 Ladle Slide Gates
- 2550 Ladle Cars
- 2555 Cleaning and Debricking Machines for Electric Furnaces, Converters, Pouring Ladles, etc.
- 2560 Cutting of Slags by Robotics
- 2570 Sand Feeding Devices for Casting Ladle Taphole
- 2580 Oxygen Nozzles and Lances
- 2590 Oxygen Roof Lances
- 2600 Oxygen Lance Equipment
- 2610 Hoses for Oxygen, Heat Protected

- 2615 Shroud Manipulators
- 2618 Ashes (Volume Stability)
- 2620 Slag Pots
- 2640 Slag Cars
- 2650 Hose Reels
- 2655 Fuses, multifunctional, for Torches/EAF
- 2660 Special Safety Oxygen Hose-Reelers
- 2665 Brick Coating Material for Pouring Ladle Valves
- 2666 Ceramic Refractory Brick Lubrications for Sliding Valve Systems
- 2668 Stoking Machines for Electric Furnaces
- 2669 Sublances
- 2670 Submerged Nozzle Spraying-Devices
- 2680 Radar-aided Charge-Level Measurement for Torpedo Cars
- 2686 Vacuum Pumps, Dry Running, for Vacuum Furnaces
- 2690 Preheating Station for Casting Ladles and Tundishes
- 2695 Weighing Systems for Scrap and Alloying Elements
- 2700 Heat Exchangers for Steelworks
- 2702 Torch Cutting Machines for Ladles
- 2704 Crucibles for Remelting Furnaces
- 2801 Casting Fluxes, Granulated and Powdery
- 2810 Graphite
- 2820 Graphite Powders
- 2825 Heat Resisting Fabrics up to 1260 °C
- 2827 Insulating Covering Agents for Tundish, Ladels, and Channels
- 2830 Moulds
- 2840 Mould Inserts
- 2850 Mould Spray Protection and Plate Protection
- 2851 Release Lubricants for Caster Moulds, Starter Casting, Link Casting
- 2855 Oxygen Nozzles and Blast Lances
- 2860 Anti-Piping Powders
- 2865 Mats and Felts for Temperatures up to 1260 °C
- 2868 Olivine Slag Conditioners
- 2870 Ladle Covering Compounds
- 2871 Ladle Covering Agents, Granulated and Pulverised
- 2880 Ladle Slide-Gate Sands
- 2885 Rotary Nozzles for Steel-Ladles
- 2887 Slag Conditioners for Pig Iron Production
- 2888 Slag Granulation
- 2890 Slag Sands
- 2900 Slag Foaming
- 2905 Special Stickers up to 1200 °C
- 2907 Special Adhesives (up to 1200 °C)
- 2910 Ladle Slide-Gate Materials
- 2915 Crucibles for ESR, VAR, and Direct Strand Reduction
- 2920 Tundish Covering Compounds, Granular or Powdered

### 04.10 Steel Works Materials

- 2710 Recarburizing Agents, all Grades
- 2712 Burning Lances
- 2713 Safety Igniters for Burning Lances
- 2720 Deoxidizing Agents
- 2730 Deoxidation Technology
- 2735 EBT Taphole Filling Mass
- 2740 Dephosphorizing Agents
- 2748 Desulphurising of Coke Oven Gas
- 2750 Desulphurizing and Deoxidizing Reagents
- 2760 Desulphurizing Agents
- 2770 ESR-Slags
- 2780 FeNb Cored Wire
- 2790 Cored Wire
- 2798 Hot Tops
- 2800 Casting Fluxes

### 04.11 Preparation of Steel Works Materials

- 2930 Preparation of used Refractories
- 2940 Preparation of Dusts, Fines, and Oily Sludges from Steelworks
- 2950 Preparation of Slags (Slag Transportation and Slag Recycling)



## Continuous Casting

2954 Separation Magnets

### 04.12 Services

2956 Engineering for  
Steelmaking Plants and  
Equipment

2957 Repair of Hydraulic  
Cylinders

2958 Slag Pot Servicing

## 05. Continuous Casting

2960 Engineering and  
Technical Assistance

### 05.01 Continuous Casting Plants of Different Design

2962 Flat Ingots

2965 Casting Platform  
Roboters

2970 Casting-Wheel Plants

2980 Casting Wheels

2982 Casting Rolls, Casting  
Rollers

2990 Horizontal Continuous  
Casting Plants

3000 Continuous Casting  
Plants, in general

3010 Vertical Continuous  
Casting Plants

### 05.02 Continuous Casting Plants for Different Product Dimensions

3020 Continuous Casting  
Plants for Beam Blanks

3030 Continuous Casting  
Plants for Slabs

3035 High-Speed Billet Casters

3040 Continuous Casting  
Plants for Billets

3043 Continuous Casting  
Plants for Billets,  
Horizontal

3045 Combined Slab Casters

3050 Round Casters

3055 Round Casters,  
Horizontal

3058 Continuous Casting  
Plants for Blooms

3060 Continuous Casting  
Plants for Blooms and  
Slabs

3070 Continuous Casting  
Plants for Blooms and  
Billets

3071 Continuous Casting  
Plants for Billets, Blooms,  
and Slabs

3075 Continuous Casting  
Plants for Blooms and  
Billets, Horizontal

3080 Continuous Casting  
Plants for Blooms and  
Rounds

3085 Continuous Casting  
Plants for Blooms and  
Rounds, Horizontal

### 05.03 Spray Deposition Plants

3090 Spray Deposition Plants

### 05.04 Components

3100 Al Wire Reeling Machines

3110 Slab Finishing

3120 Slab Edge Induction  
Heating

3130 Slab Cooling Plants

3140 Slab Cooling Boilers/Heat  
Recovery Plants

3150 Slab Slitters or Cutters

3160 Slab Grinders

3170 Brakes

3180 Flash Trimmers/Deburrer

3190 Flame Cutting Machines

3200 Rotating Unions for  
Water-cooled Rollers

3210 Stamping Machines

3212 Marking Machines

3215 Electro Magnetic Stirring  
Systems (Slab/Bloom/  
Billet Casters)

3216 Electro Magnetic Brakes,  
EMBR

3220 Single-Component  
Nozzles for Continuous-  
Casting Cooling

3230 Deburrers

3233 Deburring Grinding  
Machines

3240 Paints for Marking  
Devices

3250 Paint Marking Plants

3260 Automatic Powder  
Control

3261 Automatic Powder  
Feeding

3262 Pouring-Stream  
Protection by Argon

3264 High Speed Billet Moulds  
with Integrated Hydraulic  
Oscillation

- 3265 Hydraulic Nozzles for Continuous-Casting Cooling
- 3270 Induction Stirring
- 3280 Cold Tundish Plates
- 3285 Chains and Sprockets
- 3290 Marking Systems for Slabs, Blooms and Billets
- 3292 Billet Grinders
- 3300 Billet Working Machines
- 3310 Billet Sawing Machines
- 3320 Grinding Machines for Billets and Slabs
- 3330 Mould Flow Meters
- 3333 Mould Plates
- 3340 Read Systems for Automatic Identification of Marks
- 3345 Air Atomizing Nozzles for Continuous-Casting Cooling
- 3350 Cutting Torches for Emergency
- 3355 Optical Product Recognition (OPR) for Marked Billets
- 3360 Plasma Tundish Heating
- 3370 Plate Moulds
- 3380 Precision Stopper Devices
- 3390 Tubular Moulds
- 3400 Manipulators for Shrouding Nozzles
- 3405 Safety Device for Lifting Magnets
- 3410 Marking Inks
- 3415 Slab Turning Magnets
- 3416 Safety Appliance for Electric Load Lifting Magnets
- 3420 Stamping Machines
- 3422 Stamping Machines, Hydraulic/Pneumatic Driven
- 3429 Continuous Casting Moulds
- 3430 Continuous Casting Moulds (also made of Electro-Graphite)
- 3440 Continuous Casting Rolls
- 3450 Tundish Heating
- 3460 Tundish Plasma Heaters
- 3470 Tundish Flow Control
- 3480 Tundish Slide Gates
- 3490 Finishing Mills for Blooms and Billets
- 3500 Heat Exchangers
- 3503 Weighing Systems for Ladles, Tundish, and Related Products

- 3510 Binary Nozzles for Continuous Casting Cooling

### 05.05 Operating Materials

- 3520 Casting Powders
- 3530 Lubricants for Continuous Casting Plants
- 3535 Welding Additions for Regeneration and versus Wear-out

### 05.06 Services

- 3537 Grinding and Deseaming of Slags, Billets, and Cogged Ingots

## 06. Near-Net-Shape-Casting

- 3540 Engineering and Technical Assistance

### 06.01 Plants

- 3550 Strip Casting Plants
- 3560 Thin Strip Casting Plants
- 3570 Thin-Slab Casters
- 3572 Combined Thin Slab Casting and Rolling Lines
- 3573 EUROSTRIP-Strip Casting Plants
- 3574 EUROSTRIP Strip Casting and Rolling Plants, directly combined
- 3575 Continuous Casting Plants for Billets

### 06.02 Components

- 3590 Flash Trimmers
- 3600 Flame Cutting Plants
- 3610 Stamping Machines
- 3630 Thin-Slab Slitters or Cutters
- 3640 Thin-Slab Grinders
- 3670 Paint Marking Plants
- 3680 Charging Devices for Casting Fluxes
- 3690 Moulds
- 3700 Read Systems for Automatic Identification of Marks
- 3710 Marking Inks
- 3712 Punching Machines (Hydraulic/Pneumatic Driven)

## Hot Rolling

3720 Spray Marking Systems  
for Thin-Slab Casters

### 06.03 Operating Materials

3750 Coolants  
3760 Lubricants

## 07. Hot Rolling

3770 Engineering and  
Technical Assistance  
3780 Second-Hand  
Hot-Rolling Mills

### 07.01 Hot Strip Mills

3773 Flat Ingot Plants  
3776 Flat Ingot Plants  
for Rolling  
3790 Thin Slab Rolling Mills  
3805 Modernizing of Rolling  
Mills  
3820 Steckel Mills, complete  
3830 Rolling Mills, complete  
3840 Hot Rolling Mills for Slab  
Products

### 07.02 Plate Rolling Mills

3850 Hot Rolling Mills,  
complete

### 07.03 Rolling Mills for Billets and Semi-finished Products

3860 Rolling Mills for Blooms,  
Billets and Sheet Bars

### 07.04 Section Mills

3870 Rolling Mills for Light  
Sections  
3875 Section Machines  
3880 Special Steel Section  
Mills  
3890 Rolling Mills for Beams  
and other Sections

### 07.05 Bar and Rod Mills

3900 Automatic Coil Handling  
3910 Guide Equipment for  
Wire, Bar, or Light-  
Section Rolling Mills  
3920 Sizing Mills  
3930 Precision Sizing Blocks  
3940 Reducing and Sizing  
Blocks

3944 Reducing and Sizing Mill  
3950 Bar and Rod Mills  
3955 Bar and Wire Rod Mills  
for Quality and Special  
Steels  
3960 Bar Mills  
3968 Rolling Mills for Flat  
Products  
3970 Hot Rolling Mills for Long  
Products  
3974 Rolling Mills for Wire  
Rods, Rebars, and Bars

### 07.06 Ring Rolling Mills

3980 Ring Rolling Machines  
and Mills

### 07.07 Dressing and Straightening Plants

3990 Dressing and  
Straightening Facilities  
4000 Dressing and  
Straightening Machines  
4010 Chamfering Grinders for  
Cylindrical and Square  
Billets  
4017 Flat Ingot Plants for  
Rolling  
4020 Flying Shears  
4030 Hot/Cold Abrasive  
Cut-Off-Machines  
4040 Cold Circular Sawing  
Machines  
4050 Roller Levellers for  
Section Steel  
4060 Rotary Saws  
4065 Second-Hand Dressing  
and Straightening Lines  
4070 Packaging Lines  
4080 Hot Levelling and  
Cropping Machines  
4085 Shearing Machines  
(automatic, hydraulic)

### 07.08 Rolls for Hot Rolling Mills

4090 Work Rolls  
4100 Plate Rolls  
4110 Blooming Rolls  
4120 Slab Rolls  
4123 Coiler Drums  
4128 EcoRolls  
4130 Small-Section  
and Wire Rolls  
4140 Forged Rolls  
4160 Chilled Cast Iron Rolls  
4170 Tungsten Carbide/Steel  
Rolls

## Hot Rolling

- 4180 Grooved Rolls
- 4190 Rolls for Billets and Semi-finished Products
- 4200 Straightening Rolls
- 4210 Spheroidal Graphite Rolls
- 4220 Cast Steel Rolls
- 4230 Back-up Rolls
- 4240 Composite Cast Rolls
- 4250 Composite Cast Rolls of High-Chromium and Indefinite Materials
- 4260 Composite Chilled Cast Rolls
- 4270 Composite Rolls
- 4280 Rolls for Tube Mills
- 4290 Roll Rings

### 07.09 Roll Machining and Machines

- 4300 EDT Systems
- 4310 Surface Grinding Machines
- 4320 Highly Wear-Resisting Coatings on Rolls etc.
- 4330 Roll Pass Dressing Machines
- 4340 Groove Grinding Machines
- 4350 Notch Milling Machines
- 4360 Special Machines
- 4370 Roll Machining Devices
- 4380 Roll Lathes
- 4390 Roll Grinding Machines
- 4395 Roll Grinding Wheels
- 4400 Shot-Blasting Machines for Rolls
- 4410 Roll Forming Lines
- 4420 Services for Roll Surface

### 07.10 Components

- 4430 Decoilers - Recoilers
- 4432 Coiler/Gear Components
- 4440 Drives, Gearings and Pinion Stands
- 4450 Strip Cooling Equipment
- 4460 Strip Grinding Machines
- 4470 Brakes
- 4479 Coil Magnets
- 4480 Coil Cooling Boilers
- 4482 Coiler Drums
- 4490 Nozzles for Descaling
- 4500 Nozzles for Roll Cooling
- 4502 Selective Roll Cooling Systems
- 4503 Stainless Steel Roll Cooling

- 4510 Electric Motor Rollers and Roller Tables
- 4515 Skimmers for Hot Rolling Strip Plants up to 1000 °C
- 4520 Descaling Systems using Solid Abrasives
- 4528 Descaling Systems using High Pressure Water
- 4530 Descaling Systems using Liquid Abrasives
- 4540 Inks for Marking Equipment
- 4550 Paint Marking Systems
- 4555 Chains and Sprockets
- 4560 Lubrification Installations
- 4570 Flame-scarfing Machines, Hot and Cold
- 4580 Flame-Scarfing Instruments, Machines, and Plants
- 4582 Robotic Scarfing Machines
- 4590 Transmission Rolls
- 4600 Testing, Sorting and Cleaning Lines for Semi-finished Products
- 4610 Reels
- 4630 Manipulators for Turning-over and Shifting
- 4640 Marking Paints for Sheets, Slabs, and Tubes
- 4650 Marking Systems for Sections, Coils and Plates
- 4660 Marking Systems for Slabs, Blooms and Billets
- 4680 Devices for Coil Compaction and Strapping of Wire Rod
- 4690 Cooling Banks
- 4700 Read Systems for Automatic Identification of Marks
- 4710 Oil-Hydraulic Adjusting Equipment
- 4720 Circulation Plants for Oil or Emulsion
- 4730 Rollers for Roller Tables
- 4740 Rotary and Straight Shear Knives
- 4750 Lubricating Plants
- 4760 Quick-Change Mill Stands
- 4770 Safety Device for Lifting Magnets
- 4780 Marking Inks
- 4790 Marking Pencils for Hot Surfaces
- 4800 Steel Strip Strapping

## Forging, Extrusion

- 4810 Stamping Machines
- 4820 Stamping Machines and Stamps for Hot and Cold Operation (incl. fully-automatic ones)
- 4830 Stamps and Dies
- 4840 Transport and Conveying Devices for Wide Strip
- 4850 Coil Strapping Machines
- 4860 Heat Exchangers
- 4870 Roll Handling Equipment
- 4880 Roll Cooling Systems
- 4890 Roll-Deadening Devices
- 4892 Rolling Stock Guiding
- 4893 Cantilevered Rolls
- 4897 Weighing Systems for Bundles and Coils

### 07.11 Operating Materials

- 4898 Controlled Atmosphere for Heat Treatment
- 4900 Lubricants for Hot Rolling Mills

### 07.12 Services

- 4910 Deposit Strip and Cord Overlaying of Rolls etc.
- 4920 Highly Wear-Resisting Coating of Rolls etc.

## 08. Forging, Extrusion

- 4930 Engineering and Technical Assistance
- 4940 Modernization of Water-Hydraulic Controls

### 08.01 Forging Mills

- 4950 CNC-Precision Forging Machines
- 4955 Cross Wedge Rolling Machines
- 4960 Open-Die Forging Plants
- 4970 Die Forging Plants
- 4980 Steel Die Spray Plants
- 4985 Hot Isotherming Forging Plants (HIF)
- 4990 Hydraulic Forging Presses
- 5000 Cold Flow Forming Presses
- 5020 Presses, in general
- 5030 Presses/Forging Machines
- 5040 Radial Forging Machines

- 5050 Radial and Axial Die Rolling Mills, Machines, and Plants
- 5060 Radial Forging Machines
- 5061 Radial Forging Machines, Hydraulic
- 5070 Ring Blank Presses
- 5080 Forging Presses
- 5084 Forge Rolling
- 5090 Horizontal Forging Equipment, Upsetting Machines

### 08.02 Extrusion

- 5100 Metal Tube Pressing and Metal Extrusion
- 5110 Steel Tube Extrusion
- 5120 Extrusion Presses for Sections (non-ferrous)

### 08.03 Components

- 5130 Brakes
- 5150 Forging Manipulators
- 5155 Rail-Bound Forging Manipulators
- 5160 Forging Robots
- 5170 Self-lubricated Guides and Bushes (High-Temperature)
- 5180 Transportation Manipulators
- 5184 Water-Hydraulic Drive and Control Technology

### 08.04 Operating Materials

- 5188 Controlled Atmosphere for Heat Treatment
- 5190 Lubricants for Extruding Presses
- 5195 Sliding Materials, Heat Resistant

## 09. Powder Metallurgy

- 5200 Engineering and Technical Assistance
- 5210 Powder Metallurgy

### 09.01 Hard Metal Alloys

- 5220 Hard Metal Alloys, in general
- 5230 Hard Metal Alloy, Machinable and Hardenable

**09.02 Carbides**

- 5240 Carbides, in general
- 5290 Tungsten Carbides

**09.03 Hard Material Powders**

- 5300 Iron-, Steel-, Alloy Powders, Non-Ferrous Metal Powders
- 5310 Hard Metal Powders

**09.04 Additions**

- 5320 Auxiliary Metals
- 5330 Organic Components

**09.05 Equipment for Powder Production**

- 5340 Machines and Plants for Water Atomization
- 5350 Melt Spinning Mchines and Plants
- 5360 Machines and Plants for Spray Drying

**09.06 Equipment for the Production of Sintered Carbide Alloys**

- 5370 Plants, complet
- 5380 Hot and Cold Isostatic Presses and Facilities
- 5390 Metal Powder Extruders
- 5400 Presses
- 5405 Hydraulic, Mechanical, and Hybrid Powder Presses
- 5410 Furnaces with Inert Gas Atmosphere
- 5420 Vacuum Furnaces
- 5422 Vacuum Pumps, Dry Running, for Vacuum Furnaces

**09.07 Metal Powder Parts**

- 5430 PM-Metals
- 5432 PM-Rolls Rings
- 5440 PM-Steels
- 5450 Compounds

**09.08 Further Processing of Metal Powder Parts**

- 5460 Plasma-Powder-Deposit Welding
- 5470 Thermal Spraying

**10. Cold Rolling**

- 5480 Engineering and Technical Assistance
- 5482 Handling Systems
- 5484 Engineering and Technical Assistance

**10.01 Cold Rolling Mills**

- 5490 Rolling Mills for Strip, Sheet, as well as Cold Rolling Mills and Metal Rolling Mills
- 5520 Cold Rolling Mills, complete
- 5523 Modernizing of Cold Rolling Mills
- 5530 Second-Hand Cold Rolling Mills
- 5540 Cold Rolling Mills for Flat Products

**10.02 Skin Pass Rolling Mills**

- 5550 Skin Pass Rolling Mills
- 5555 Skin Pass Stands for Hot and Cold Strip

**10.03 Dressing and Straightening Plants**

- 5559 Coil Build-up Lines
- 5560 Dressing and Straightening Plants
- 5570 Dressing and Straightening Machines
- 5580 Strip Edge-Rounding Plants
- 5590 Strip Processing Lines
- 5595 Cross-Stretching Rolls
- 5600 Slitting and Cut-to-Length Lines
- 5610 Cut-to-length-lines
- 5620 Straightening Machines for Strip and Plate
- 5630 Roller Levellers
- 5640 Stretch Levelling Facilities for Strip
- 5660 Packaging Lines
- 5663 Tension Levelling Lines

**10.04 Annealing Plants**

- 5668 Continuous Annealing Lines
- 5670 Annealing Plants
- 5672 Annealing and Pickling Lines
- 5673 Bright Annealing Lines

- 5680 Annealing Plants, inductive
- 5682 Annealing Lines, Continuous
- 5685 Modernizing of Annealing and Pickling Plants

### 10.05 Rolls for Cold Rolling Mills

- 5686 Consolidation Rolls
- 5690 Working Rolls for Cold Rolling Mills
- 5695 Curved Rolls
- 5700 Rolls for Skin Pass Rolling Mills
- 5710 Planishing Rolls
- 5715 Levelling Rolls
- 5720 Straightening Rolls
- 5730 Back-up Rolls for Cold Rolling Mills
- 5750 Mill Rolls (Non-Woven Rolls)
- 5760 Rolls
- 5766 Roll Core Production and Treatment
- 5770 Polyurethane-coated Rolls

### 10.06 Components

- 5780 Drives, Gearings and Pinion Stands
- 5784 Strip Flow Control
- 5790 Baling Cord Removal
- 5800 Brakes
- 5803 Brake Coverings made of Felts, Stripper Felts
- 5810 Types (Numerals and Characters) for Stamping Machines
- 5814 Labelling Machines for Rolled Sections (Cold)
- 5830 Labelling Machines
- 5835 Chains and Sprockets
- 5840 Paint Marking Systems
- 5845 Coil Covering Materials
- 5850 Read Systems for Automatic Identification of Marks
- 5860 Marking Systems
- 5870 Oil-Circulation Plants
- 5880 Shear Knives, Rotary and Straight
- 5890 Marking Inks for Stamp Machines
- 5900 Marking Instruments
- 5910 Marking Pencils for Metals

- 5920 Steel Strip Strapping
- 5930 Stamping Machines and Stamps for Hot and Cold Operation (incl. fully-automatic ones)
- 5932 Selective Roll Cooling Systems
- 5940 Heat Exchangers
- 5950 Coiling Reels
- 5952 Weighing Systems for Bundles and Coils

### 10.07 Operating Materials

- 5957 Controlled Atmosphere for Heat Treatment
- 5960 Lubricants for Rolls for Cold Rolling Mills

## 11. Surface Treatment

- 5970 Engineering and Technical Assistance
- 5980 Descaling of Sheet Parts
- 5988 Treating of Titanium

### 11.01 Descaling Plants

- 5990 Descaling by Bending of Strip
- 6000 Descaling by Bending of Wire
- 6010 Descaling Systems using Solid Abrasives
- 6018 Descaling Systems using High Pressure Water
- 6020 Descaling Systems using Liquid Abrasives
- 6030 Hose Blasting Machines
- 6040 Overhead Conveyor Machines
- 6050 Shot Peening Machines
- 6060 Tumbblast Machines
- 6070 Roller Conveyor Machines

### 11.02 Pickling Plants

- 6080 Preparation of Pickling Baths
- 6088 Pickling Plants for High-Grade Steel, free of Waste Gas Emissions
- 6090 Pickling Plants, in general
- 6100 Pickling Lines for Strip and Wire
- 6109 Pickling Vats, Highly Strainable

## Surface Treatment

- 6110 Pickling Vats and Electrolysis Cells for High Straining Rates (Mechanical)
- 6120 Pickling Baskets and Hooks
- 6130 Pickling Agents
- 6140 Pickling Agents for High-Grade Steels
- 6150 Pickling Products for Stainless Steel
- 6160 Pickling and Surface Treatment Lines, in general
- 6170 Pickling and Surface Treatment Plants
- 6180 Pickling Compounds
- 6190 Job Pickling
- 6192 Pumps for Pickling of Steel and Special Steel
- 6200 Pickling Solution Regeneration Plants
- 6203 Push Pickling Plants

### 11.03 Grinding and Polishing Machines/Systems

- 6210 Strip Grinding Machines
- 6220 Grinding and Polishing Machines for Strip
- 6230 Centrifugal Grinding Machines
- 6240 Planishing Systems
- 6250 Drag Grinding Machines

### 11.04 Surface Treatment Plants

- 6260 Coil Coating Plants
- 6270 Edge Working
- 6280 Equipment for Surface Treatment and Refinement of Strip
- 6285 Strip Washers
- 6290 Coating Plants
- 6295 Burnishing Plants and Appliances
- 6300 CVD Coating Plants
- 6305 Color Coating Lines
- 6310 Industrial Services of Pickling and Electro-polishing of Steel and High-Grade Steel
- 6315 Hammermill Deburrer
- 6320 Lubrication Machines
- 6330 Electric Polishing Plants
- 6340 Deburring
- 6350 Deburring Machines
- 6360 Paint Coating Lines
- 6370 Paint Spraying Systems

- 6380 Superfinishing Plants for Surface Treatment of Metal Parts
- 6385 Controlled Atmosphere for Heat Treatment
- 6386 High Pressure Water Jet Cleaning Technology
- 6390 Shot Peening
- 6400 Plastic Coating Lines
- 6410 Metal Processing Lines, Electrochemical
- 6420 Metal Degreasing Facilities
- 6430 Degreasing Lines for Metal Strip
- 6440 Metal Cleaning and Drying Plants
- 6450 Surface Treatment, Surface Techniques
- 6460 Surface Treatment Lines
- 6470 Surface Drying, in general
- 6480 Surface Drying, Inductive
- 6490 Surface Finishing
- 6500 Phosphate Coating Lines
- 6510 Phosphating Methods
- 6520 Plasma CVD Coating Plants
- 6523 Plasmanitriding Systems
- 6525 Plasma Power Generators, Power Supply
- 6527 Sheet Bar Cleaning Plants
- 6530 Plating Installations
- 6540 Plasma-CVD Plants
- 6550 PVD Coating Plants
- 6552 Rotary Deburrer
- 6560 Ion Implanters
- 6565 Abrasive Blasting Plants
- 6570 Pretreatment Plants for Electro galvanizing Plants
- 6580 Water Demineralization for Surface Treatment

### 11.05 Aluminizing, Galvanizing and Tinning

- 6590 Aluminizing, Galvanic/Electrolytic
- 6595 Aluminizing, Galvanizing and Tinning
- 6600 Continuous Strip Hot Dip Tinning and Aluminizing Equipment
- 6603 Equipment for Hot Dip Tinning, Galvanizing and Aluminising of Strips
- 6610 Electro galvanizing Plants
- 6620 Electrolytic Tinning Plants



## Surface Treatment / Production of Bright Steel and Wire

- 6630 Hot Dip Galvanizing Lines
- 6640 Hot Dip Galvanizing  
Plants, Equipment
- 6642 Hot Dip Galvanizing Line,  
Equipment for Zinc Bath
- 6648 Galvannealing
- 6650 Induction Galvannealing
- 6660 High-current Conductions  
for Electro galvanizing  
Plants
- 6670 Galvanizing
- 6675 Tinning Plants
- 6680 Fusing of Tin, Inductive  
(Tin Reflow)

### 11.06 Corrosion Protection

- 6690 Linings and Coatings
- 6700 Coatings, Anorganic
- 6702 Layers, Coatings,  
Reporting
- 6710 Burnishing Agents  
and Anti-corrosive  
Compounds
- 6720 Lubrication Machines
- 6740 Rubberizing
- 6744 Corrosion Protection  
Systems
- 6750 Protection against  
Corrosion and Oxidation
- 6755 Oil Felt Pads
- 6760 Powder Varnishes
- 6770 Anti-Corrosion Paints

### 11.07 Components

- 6790 Nozzles (also for Grit-  
Blasting and Descaling)
- 6800 Rubber and PU-Roller  
Covers for the Plate  
Refining Industry
- 6810 Rubber Rollers for Plate-  
refining Industry
- 6820 Spraying Systems
- 6826 Weighing Systems for  
Bundles and Coils

### 11.08 Operating Materials

- 6830 Chips and Compounds  
for Superfinishing
- 6840 Wire Cores
- 6850 Electro galvanizing  
Additives
- 6860 Electro Corundum  
Abrasives
- 6865 Sliding Lacquers
- 6870 Metal Cleaners
- 6880 Phosphatizing Agents

- 6890 Shot-Blast Glass-Beads
- 6898 Steel Abrasives
- 6900 Abrasives and Shot  
Techniques, in general

### 11.09 Consulting

- 6910 Job Refining

### 11.10 Wear Protection

- 6914 Ceramic Wear Protection
- 6915 Hard Cast Wear  
Protection
- 6916 Linings and Coatings
- 6917 Overlay Welding
- 6918 Wear Protection, Metal
- 6919 Wear Protection,  
in general

## 12. Production of Bright Steel and Wire

- 6920 Engineering and  
Technical Assistance
- 6925 Second-Hand Plants and  
Installations

### 12.01 Wire Rod Mills

- 6930 Rolling Mills for Rods and  
Light-Sections
- 6950 Guide Appliances for  
Wire, Steel Bars and  
Small Sections Rolling  
Mills
- 6960 Rolling Mills for Flat  
Wires and Wire Profiles

### 12.02 Drawing of Wire, Rods and Structures

- 6965 Wire Drawing Dies
- 6970 Wire Drawing Machines
- 6980 Wire Stretching Machines
- 6990 Drawing Machines for  
Bars and Sections
- 7000 Rod Drawing Benches

### 12.03 Dressing and Straightening Systems for Drawing Plants

- 7010 Automatic Stirrup  
Bending Machines
- 7020 Automatic Combi-  
Machines
- 7030 Wire Straightening and  
Cutting-off Machines

## Production of Tubes/Pipes

- 7040 Rotary Bar and Wire Peeling Machines
- 7050 Bar Straightening and Polishing Machines
- 7060 Bar Peeling Machines
- 7065 Grinders
- 7070 Bar Grinding Machines

### 12.04 Components

- 7080 Binding Machines for Wire Rod, Concrete Steel and Bars
- 7090 Brakes
- 7100 Jointings and Packings for Rolling Mills
- 7110 Wire Cooling Lines
- 7120 Wire Reeling and Coiling Machines
- 7140 Wire and Bar Pointing Machines
- 7150 Electric Motor Rollers and Roller Tables
- 7160 Inks for Marking Devices
- 7170 Paint Marking Systems
- 7180 Hook Conveyor Systems
- 7200 Devices for Coil Compaction and Strapping of Wire Rod
- 7210 Read Systems for Automatic Identification of Marks
- 7220 Marking Systems
- 7230 Marking Inks
- 7240 Stamping Machines and Stamps for Hot and Cold Operation (incl. fully-automatic ones)
- 7250 Heat Exchangers

### 12.05 Operating Materials

- 7267 Controlled Atmosphere for Heat Treatment
- 7270 Lubricants and Process Auxiliaries
- 7280 Drawing Agents (Greases, Oils, Soaps, etc.)

## 13. Production of Tubes/Pipes

- 7290 Engineering and Technical Assistance
- 7295 Second-Hand Plants

### 13.01 Tube Mills

- 7300 Becking Mills

- 7310 Diescher Mills
- 7312 Cross Roll Elongators
- 7320 Section Mills
- 7330 Sizing Mills
- 7332 Precision Sizing Mills
- 7335 Pilger Mills, Hot and Cold
- 7340 Sinking Mills
- 7350 Tube and Becking Mills
- 7360 Pipe Mill Trains with Planetary Rotary Piercing Mills
- 7368 Cone-Type Piercing Mills
- 7370 Rotary Piercing Mills
- 7380 Plug Mills
- 7390 Stretch Reducing Mills

### 13.02 Tube Drawing Machines

- 7400 Continuous Drawing Machines
- 7410 Tube Drawing Machines
- 7420 Bull-Block Machines
- 7430 Drawing Benches

### 13.03 Tube Welding Systems

- 7438 Large-Diameter Pipe Plants
- 7440 Longitudinal Tube Welding Systems
- 7450 Tube Welding Installations
- 7460 Spiral Tube Welding Plants

### 13.04 Tube Dressing and Straightening Systems

- 7480 Dressing and Straightening Machines
- 7490 Dressing and Straightening Systems for Tubes
- 7495 Deburring Machines for Tubes, Pipes, Sections, and Solid Bars
- 7500 Carry-over Separating Devices
- 7510 Straightening Machines for Tubes, Section Steel and Beams
- 7520 Machines for Bending Pipes
- 7525 Steel Wire Industrial Brushes for Tube Trimming
- 7530 Tube-End Sizing and Upsetting Presses
- 7540 Tube Deburring Devices

## Secondary Forming

- 7542 Deburring Machines for Tubes and Pipes
- 7550 Tube Straightening Presses
- 7560 Tube Straightening and Cutting Machines
- 7570 Tube Grinding Machines (inside and outside)

### 13.05 Components

- 7580 Binding Machines
- 7582 Pipe End Chamfering and Threading Machines
- 7585 Industrial Brushes for Tube Rolling Mills
- 7588 Chains and Sprockets
- 7590 Strip and Plate Edge Milling Machines
- 7600 Inks for Marking Devices
- 7610 Paint Marking Systems
- 7615 Cleaning Machines for Pipes, Sections, Profiles, and Solid Pieces
- 7620 Tube Pointing Machines
- 7630 Tube Marking Devices
- 7640 Tube Testing Installations
- 7650 Tube Sawing Installations
- 7653 Steel Wire Industrial Brushes to Clean Tube Coatings
- 7660 Tube Spoolers
- 7663 Sawing Machines, Automatic
- 7665 Technical Brushes

### 13.06 Operating Materials

- 7678 Controlled Atmosphere for Heat Treatment
- 7680 Lubricants for Mandrel Rods

## 14. Secondary Forming

- 7690 CAD Constructions
- 7700 Metal Spinning
- 7710 Roller Spinning of Sheets
- 7720 Engineering and Technical Assistance
- 7730 Cold Working of Sheets and Plates

### 14.01 Installations, Presses, Machines

- 7740 Bending-off Systems
- 7750 Strip Edge-Working Machines

- 7760 Strip Straightening Machines
- 7770 Edge Trimmers for Deep Drawing Parts
- 7775 Plate Deburrers
- 7776 Plate Edge Crimping Presses
- 7780 Machines for Bending Round Plates
- 7790 Sheet-Metal Stacking Devices, automatic
- 7800 Sheet Deformation
- 7810 Sheet-Metal Working Machines, in general
- 7820 Bordering Machines
- 7830 Deburring Machines
- 7835 Deburrers for Pipes, Profiles, and Solid Rods and Bars
- 7840 Die-Bending Presses
- 7845 Riveting Machines (Hot and Cold)
- 7848 Hydraulic High Pressure Sheet Metal Forming Presses and Plants
- 7849 Hydro Forming
- 7850 Hydraulic Presses and Machines
- 7860 Hydraulic Presses for Fine-blanking
- 7865 Hydroforming (IHPF)
- 7868 Internal High-Pressure Systems
- 7870 Cold Flow Presses
- 7880 Plants for Cold Profiling
- 7882 Feeders for Presses
- 7890 Mechanic Presses for Fine-blanking
- 7900 Pneumatic Feeders for Presses
- 7920 O-Press Installations
- 7921 Tilting Metal Forming Presses
- 7922 Special Plants for Coiling
- 7924 Punching Plants
- 7926 Setting Machines
- 7930 Deep-Drawing Presses
- 7940 U-Press Installations
- 7945 Feed Setting Machines
- 7947 Roller Feeds
- 7960 Second-Hand Machine Tools and Sheet Metal Working Machines

### 14.02 Plate Cutting Systems

- 7970 Strip Slitting Plants
- 7980 Sheet Slitting and Cut-to-Length Lines

## Secondary Forming

- 7990 Laser-Cut Sheet Blanks
- 7995 Slitter Knives and Accessories for Slitting Lines
- 8010 Fine-Edge Blanking Plants
- 8015 High Pressure Water Jet Cutting Technology
- 8020 Slitting and Cut-to-Length Lines
- 8030 Slitting and Cut-to-Length Machines
- 8040 Laser-Beam Cutting Systems
- 8050 Plasma-Cutting Systems
- 8070 Cut-to-Length Lines
- 8072 Plate Shears
- 8075 Shears for Plates
- 8080 Laser-Beam Cutting Systems, Second-Hand
- 8090 Tuning of Shot Blasting Plants
- 8100 Scrap Optimisation Systems

### 14.03 Welding Techniques

- 8110 Deposit Welding of Rolls etc.
- 8120 Strip Welding Machines
- 8121 Strip Welding Machines for Coil-Joining
- 8130 Stud Welding Plants
- 8140 Electron Beam and Laser Beam Welding (Service)
- 8150 Electron-Beam Welding Machines
- 8170 Planing Tools for Edges and Joints
- 8180 Lattice Girder Welding Machines
- 8190 Carbon Electrodes
- 8200 Ingot Mould Welding
- 8210 Laser-Beam Welding Systems
- 8211 Laser Welding Systems
- 8220 Welding Torches
- 8230 Peripheral Equipment for Robots
- 8250 Repair of Cracks, Engravings and other Defects
- 8260 Repair Weldings
- 8270 Friction Welding Machines
- 8280 Weldings, in general
- 8288 Welding Wires
- 8290 Welding Rods, Stainless

- 8300 Welding Rods and Additives (also made from CuAl-Alloys)
- 8310 Welding Electrodes
- 8320 Welded Structures
- 8330 Welding Machines, in general
- 8340 Welding Robots
- 8350 Welding Technology, in general
- 8360 Welding Auxiliaries, in general
- 8363 Wire-Mesh Welding
- 8370 Sensor Systems for Computer-Aided Welding
- 8380 Butt Welding Machines, electric
- 8400 Resistance Welding Plants

### 14.04 Components

- 8410 Brakes
- 8415 Paint Marking Plants
- 8420 Laser Beam Labelling
- 8430 Plate Stretchers
- 8435 Profile Stretchers
- 8440 Rotary Shear Blades and Equipment
- 8450 Cutting Tools and Blanking Tools
- 8460 Self-lubricated Guides and Bushes (high-temperature)
- 8470 Marking Pencils for Metals
- 8480 Deep-Drawing Dies

### 14.05 Services

- 8481 Electron and Laser Beam Welding
- 8482 Laser Beam Cutting of Steels and Sheet Metal Forming
- 8483 Laser Beam Welding
- 8484 Water Jet Cutting of Steels
- 8485 Cutting Tubes and Pipes with Laser Tube Machine

## 15. Steel Products

### 15.01 Rolled Steel

- 8490 Aluminized Sheet (Hot-dip Aluminized or Cladded by Rolling)

## Steel Products

- 8500 Al-Zn-Coated Steel Sheet
- 8510 Noise Absorbing Sheets
- 8520 Elevator Tees
- 8530 Strip Steel, Hot-Rolled
- 8540 Machined Plates
- 8550 Tank Bottoms
- 8560 Coated Sheet  
(Lacquered, Foil Coated)
- 8570 Concrete Reinforcing  
Steel
- 8580 Cold-Ribbed Concrete  
Steel in Coils
- 8590 Concrete Reinforcing  
Steel in Coils, Hot Rolled
- 8600 Concrete Reinforcing  
Steel, Bars
- 8610 Concrete Reinforcing  
Steel Bars and Rings
- 8620 Concrete Steel  
(Stainless)
- 8630 Wide-Strip Sections,  
organically coated
- 8640 Wide Strips, Cold Rolled
- 8650 Wide Strip, Hot Rolled/  
Cold Rolled
- 8660 Wide Flat Steel
- 8670 Wide Flanged Beams
- 8680 Electrical Quality Sheet  
and Strip
- 8690 Steel Sheet, Suitable for  
Enamelling
- 8700 Sheet Metals, Special  
Productions
- 8710 Sheet, Cold Rolled
- 8720 Sheet, Surface Treated
- 8740 Laser-Welded Sheet  
Products
- 8750 Mash-Seam Welded  
Sheet Products
- 8760 Flat Steel
- 8769 Section Steel
- 8770 Section Steel (incl.  
Colliery Arches)
- 8780 Welded Sections
- 8790 Heavy Plate
- 8795 Blanks of Heavy Plate
- 8800 Heavy-Plate Products,  
Pressed, Dished,  
Bended, Edge-trimmed
- 8810 Heavy Plate and Light  
Plate, incl. Coat Plate
- 8820 Semi-finished Products
- 8830 Semi-finished Products,  
Continuously Cast
- 8831 Semi-finished Products,  
Continuously Cast, Ingot
- 8840 Semi-finished Products  
for Finish-Rolling
- 8850 Semi-finished Products  
for Forging
- 8860 Track Material
- 8870 Cladded Sheets
- 8880 Rails
- 8890 Ship-Building Material
- 8900 Shipbuilding Profiles
- 8910 Semi-finished Products,  
Forged
- 8915 Forged Bars
- 8920 Slit Strip
- 8922 Slit Strip with Surface  
Finishing
- 8930 Cold Drawn Special Steel  
Sections
- 8940 Special Steel Sections,  
Hot-Rolled
- 8950 Special Sections, Hot  
Rolled or Drawn, for  
Fork Lifts, Automotive  
Construction, Machine  
Building and Pipeline  
Construction
- 8960 Special Steel Sections,  
Hot Extruded
- 8970 Steel Bars (Quality Steel,  
Case Hardening Steel,  
Heat-Treatable Steel,  
Spring Steel, Free-  
Cutting Steel)
- 8975 Steel Bars (Angles)
- 8976 Bars (High-Grade Steel,  
of all Dimensions)
- 8980 Steel Sheet Piling  
Sections (Box-Shaped  
Piling Planks and  
Auxiliaries, Sheet Piling)
- 8981 Steel Sheet Piling  
Sections (Box-Shaped  
Piling Planks and Sheet  
Piling)
- 8985 Steel Sheat Piling  
Sections, Box Piles,  
Steel Piles, Pinnings, and  
Auxiliaries
- 8990 CC-Billets
- 8992 Trapezoid Sections -  
PUR and Mineral Mode,  
Sandwich Elements,  
Acoustic Elements
- 9010 Galvanized Steel Strip
- 9020 Galvanized, Shaped  
Steel Sheets
- 9029 Galvanized Steel Sheets  
in Coils, Galvanized Strip  
Steel
- 9030 Galvanized Steel Sheets  
in Panels or Coils,  
Galvanized Strip Steel

## Steel Products

- 9040 Castellated Beams, Fixed Beams
- 9050 Wire Rod
- 9060 Wire Rod, Rectangular or Round Cross-Section
- 9070 Wire Rod, Round
- 9080 Wire Rod, Spring Steel Quality
- 9090 Wire Rod, Cold Upsetting Quality
- 9100 Wire Rod, Welding Rod
- 9130 Rolled Steel
- 9140 Hot Wide Strip
- 9150 Tinplate, Chromium Coated Steel (ECCS/TFS) Blackplate
- 9160 Y Thresholds

### 15.02 Tubes

- 9170 Stainless Steel Fittings
- 9180 Line Pipes
- 9190 Line Pipes, Spiral Welded
- 9200 Boiler Tubes
- 9210 Stainless Steel Elbows
- 9220 Stainless Steel Flanges
- 9230 Line Pipes for Oil Fields
- 9240 Oil Country Tubular Goods
- 9260 Clad Tubes
- 9270 Precision Steel Tubes, Welded
- 9280 Precision Steel Tubes, Seamless or Seam-Welded (round, oval, square, rectangular, as well as special Shapes)
- 9290 Precision Steel Tubes, Seamless or Welded, Surface Treated (e.g. electro galvanized, chromized, phosphatized, etc.)
- 9300 Tube Billets (round/square)
- 9310 Tubes
- 9320 Oxide Ceramic Tubes
- 9330 Tubes made of Cryogenic Steels or Weldable Fine Grained Structural Steels
- 9332 Tubes, ceramic
- 9334 Tubes, Cross Section Square and Circular
- 9335 Tubes with Round or Square Cross-Sections, Hot-Dip Galvanized
- 9340 Stainless Steel Tubes
- 9345 Tubular Parts and Components

- 9350 Tubular Products (Tube Bends with Special Radii, Pipe Work Systems)
- 9360 Spun Iron Pipes (also made of High-Grade Steel)
- 9370 Special Section Tubes, Welded, Cold Rolled
- 9380 Steel Outlet Pipes, Hot Dip Galvanized
- 9390 Mechanical Steel Tubes
- 9395 Mould Tubes
- 9400 Steel Tubes, Seam Welded
- 9410 Steel Tubes, Seamless
- 9415 Tubes, Pipes, and Services
- 9420 Reinforcing Sections for Gates, Welded
- 9430 Reinforcing Sections for Gates, Seamless
- 9440 Cylinder Tubes
- 9442 Fittings, in general

### 15.03 Forged Pieces

- 9450 Tanks
- 9460 Products for Mechanical Engineering (Crankshafts, Tools, Gears, etc.)
- 9470 Products for Energy Mechanical Engineering (for Generators, Turbines, etc.)
- 9480 Products for Constructing Aero-Engines (e. g. Compressor Blades, Discs)
- 9490 Products for Shipbuilding
- 9500 Open-die Forgings, in general
- 9510 Drop Forgings, in general
- 9520 Seamless Rings
- 9530 Forgings, in general
- 9532 Forgings of Non-Ferrous Metals (Copper and Copper Alloys, Aluminium Alloys)

### 15.04 Railway Material

- 9540 Axles
- 9550 Wheel Tyres

### 15.05 High-Grade Steel

- Following deliveries:
- a) Semi-finished Products, Rolled or Forged

## Steel Products

- b) Merchant Bars, Rolled or Forged
  - c) Wire Rod
  - d) Sheets, Hot Rolled or Cold Rolled
  - e) Wide Strip, Hot Rolled or Cold Rolled
  - f) Strip Steel, Hot Rolled
  - g) Cold Strip
  - h) Cladded Sheets
  - i) Hammer Forgings
  - j) Drop Forgings
  - k) Bright Steel (bars or wires, drawn, rough turned, grounded, polished)
  - l) Seamless or Seam-welded Tubes and Joints
  - m) Special Sections, Hot Rolled, Hot Extruded or Drawn
  - n) Cold-rolled Sections
  - o) Vacuum-melted Steel, ESR-Steel
  - p) Heavy-plate Products, Pressed, Dished, Bended, Edge-trimmed
  - q) Seamless Rings
  - r) Narrow Strip, GK (cut edges), and Round-off Edges
  - s) Blanks, Round Blanks, Rings
  - t) Bars made of Strip, GK (cut edges), Round-off Edges
  - u) Flat Steel
  - v) Wide Flat Steel
  - 9560 Engineering Steel, in general
  - 9570 Special Structural Steels, Tempering Steels, Steels for Surface Hardening, Cryogenic Steels, High-Temperature Steels, Cold Upsetting Steel (a-v)
  - 9580 High-Grade Steel Special and Off-Line Items (Ia and IIa Quality)
  - 9590 High-Grade Steels (a-v)
  - 9600 Case Hardening Steel, Wear Resisting Steel (a-v)
  - 9610 Case Hardening Steels, Nitriding Steels, Spring Steels, Wear Resisting Steels (a-v)
  - 9620 Spring Steel Wire, Stainless
  - 9625 Sheet Metal
  - 9630 High-Temperature Steels and Alloys (a-v)
  - 9635 Perforated Plates
  - 9638 Cold Rolled Sections
  - 9640 Stainless Bars and Tubes
  - 9642 Special Sections, Hot Rolled, Hot Extruded or Drawn
  - 9645 Stainless Steel Wire
  - 9650 Stainless, Acid, and Heat Resistant Steels (a-v)
  - 9655 Stainless, Acid and Heat Resistant Steels and Alloys (a-v)
  - 9660 Stainless, Acid-resisting, and Heat-resistant Steels and Alloys, also Alloys for Electric Resistance (a-v)
  - 9670 High-Speed Steels (a-v)
  - 9680 Special Steels, Alloyed, Weldable (a-v)
  - 9685 Special Constructional Steel, Alloyed, Weldable (a-v)
  - 9690 Steels with Special Physical Properties (a-v)
  - 9696 Chrome Plated Steel
  - 9700 Rough-machined Steel Bars or Panels, Rough Milled, Precision Milled, Ground
  - 9710 Roller-Bearing Steels (a-v)
  - 9714 Low-Carbon Steel
  - 9716 Tool Steel, Bars, hardened (a-v)
  - 9718 Tool Steel, hardened (a-v)
  - 9720 Tool Steel, alloyed or unalloyed (a-v)
- 15.06 Products from Drawing Plants and Cold-Rolling Mills**
- 9730 Bright Steel (incl. Bright Free-Cutting Steel, Bright-Steel shafts, Bright Special shapes)
  - 9740 Steel Strip for Springs
  - 9750 Cold Rolled Strip
  - 9755 Cold Strip with Plated Surface
  - 9760 Cold Strip with Bright Surface
  - 9770 Cold Strip with Refined Surface
  - 9780 Cold Strip, Cladded by Rolling

## Steel Products / Furnace and Energy Technology

- 9790 Cold-Shaped Profiles  
Made of Hot or Cold  
Strip
- 9800 Cold-Shaped Profiles  
with Refined Surface
- 9810 Autobody Components
- 9814 Plate Shapes
- 9817 Precision Strip Steel
- 9820 Pressed, Stamped and  
Drawn Parts
- 9830 Steel Strips for Baling
- 9838 Tailored Beams
- 9840 Tailored Blanks
- 9850 Metal-Working  
Components for  
Automobile Industry  
(made of Tubes or  
Sheets)
- 9860 Products from Drawing  
Plants and Cold-Rolling  
Mills
- 9870 Cylindrical Tubes  
for Hydraulics and  
Pneumatics

### 15.07 Wire and Wire Products

- 9880 Tie Steel, Screwable
- 9885 Welded Wire Fabrics
- 9890 Reinforcing Wire,  
Reinforcing Wire Mesh,  
Mine Matting
- 9900 Rod Mats for Concrete  
Reinforcing Steel
- 9920 Wire Nettings
- 9930 Wire Weavings
- 9932 Wire Grates
- 9948 Wire Ropes
- 9950 Wire Ropes and Braided  
Wire
- 9960 Wire and Wire Products
- 9970 Wires (Galvanised Iron,  
Easy-Machining, Cold  
Upsetting and Extrusion)
- 9980 Fine Wire (Iron)
- 9990 Iron and Steel Wire,  
Drawn
- 10000 Spring Steel Wire,  
Oil Hardened
- 10010 Spring Steel Wires,  
Unalloyed
- 10015 Section Wire
- 10020 Flat Wire, Section Wire
- 10025 Chaser
- 10030 Other Wire Products
- 10035 Prestressing Steel
- 10040 Prestressing Steel,  
Prestressed Concrete  
Strand

- 10050 Galvanised and PVC-  
Coated Iron Wire

### 15.08 Steel Structural Work

- 10058 Lifting Devices,  
Automotive, Mobile
- 10060 Automatic Reinforcing  
System
- 10070 Plate and Sheet  
Construction
- 10080 Bridge Construction
- 10090 Construction of Halls
- 10100 Masts
- 10110 Steel Structural Work,  
in general
- 10115 Joining in Structural  
Steel Work
- 10120 Steel Structural  
Engineering
- 10130 Construction of  
Assembly Buildings

### 15.09 Services

- 10145 Finish Rolling
- 10146 Blanks (Tool Steel)

## 16. Furnace and Energy Technology

- 10150 Engineering and  
Technical Assistance
- 10160 Heating Installations,  
complete
- 10170 Furnace Optimization  
(Low NOx Combustion)
- 10180 Process Control  
Systems for Industrial  
Furnaces and Power  
Plants
- 10190 Economic Energy  
Employment

### 16.01 Rolling Mill Furnaces

- 10200 Soaking Pits for  
Annealing
- 10210 Rolling-Mill Furnaces,  
Inductive
- 10220 Soaking Pits for Rolling  
Mills

### 16.02 Forging Furnaces

- 10230 Forging Furnaces
- 10240 Forging Furnaces, Gas  
Fired
- 10250 Forging Furnaces,  
Inductive



### 16.03 Continuous Roller-Hearth Annealing Furnaces

- 10260 Continuous Roller-Hearth Furnaces
- 10270 Roller Hearth and Walking Beam Furnaces

### 16.04 Continuous Furnaces for Wire Strip

- 10280 Strip Heating, Inductive
- 10290 Strip Edge Heating, Inductive
- 10300 Continuous Furnaces for Wide Strip

### 16.05 Bell-Type Furnaces

- 10310 Bell-Type Furnaces
- 10320 Bell-Type Annealing and Pot Annealing Furnaces

### 16.06 Vacuum Furnaces

- 10330 Vacuum Annealing Furnaces
- 10340 Vacuum Hardening Furnaces
- 10341 Vacuum Pumps, Dry Running, for Vacuum Furnaces

### 16.07 Hardening and QT-Plants

- 10350 Quenching Baths
- 10355 Carburizing Furnaces
- 10360 Hardening Furnaces
- 10370 Hardening Shop Installations, in general
- 10375 Hardening and QT-Plants, Electric Heated
- 10380 Hardening and QT-Plants, Gas-fired
- 10390 Hardening and QT-Plants, Induction-heated
- 10400 Hardening and QT-Plants, with Resistance Heating
- 10401 Laser Hardening Plants
- 10403 Nitriding Furnaces

### 16.08 Heating and Heat Treatment Installations

- 10408 Continuous Furnaces
- 10410 Double Walking Beam Furnaces

- 10420 Hardening Shops
- 10430 Bogie-Type Furnaces
- 10440 Induction Heating Systems
- 10450 Industrial Furnaces, Second Hand
- 10460 Cell Furnaces
- 10470 Conductive Heating Plants
- 10480 Furnaces with Mechanically Driven Hearth
- 10490 Wire Patenting Plants
- 10500 Plasma Nitriding Plants
- 10505 Radiators
- 10510 Roller Hearth and Walking Beam Furnaces
- 10520 Shaft Furnaces
- 10530 Steckel Furnaces
- 10540 Pusher-Type Furnaces, Roller Hearth, and Rotary Hearth Furnaces
- 10545 Tempering and Drying Stations
- 10550 Continuous Strand Furnaces for Heat Treatment, Vertical and Horizontal
- 10560 Heat Treatment Installations
- 10565 Automated Heat Treatment Units for Quality Assurance
- 10570 Intermittent Reheating and Heat-treating Furnaces, Open-fired

### 16.09 Bath Furnaces

- 10580 Melting Furnaces for Aluminium
- 10590 Furnaces and Installations for Lead-coating, Galvanizing and Tinning
- 10600 Salt Bath and Metal Bath Furnaces

### 16.10 Industrial Furnaces for Special Use

- 10606 Furnaces for Heat Stability Testing of Steam Turbine Rotors
- 10607 Furnaces for Fire Resistance Testing
- 10608 Furnaces for Materials Testing

## Furnace and Energy Technology

- 10610 Kilns for Ceramic Industry
- 10615 Lime Kilns
- 10620 Controlled Atmosphere And Vacuum Furnaces
- 10630 Malleablizing Furnaces
- 10640 Drying Ovens for Cores, Moulds and Die Hoods
- 10650 Drying Ovens for Stopper Rods
- 10652 Microwave Furnaces/ Dryers
- 10660 Auxiliaries for Industrial Furnaces

### 16.11 Inert Gas Plants

- 10670 Inert Gas Plants

### 16.12 Insulations

- 10680 Ingot Insulation
- 10690 Burning Supports
- 10700 Calcium Silicate
- 10710 Insulation Materials
- 10720 Concussion Protection
- 10730 Backing Insulating
- 10735 Heat Protection and Insulation Products
- 10750 Insulating Bricks
- 10760 Cooling Tube Insulations
- 10770 Building Components for Furnaces
- 10780 Sound Insulation
- 10790 Vibration Insulation
- 10800 Thermal Insulation
- 10803 Wools Felts for Bright Annealing Boxes

### 16.13 Components

- 10805 Waste Gas Technology
- 10810 Bath Rollers
- 10820 Strip Coolers and Dryers
- 10830 Ingot Pushers
- 10840 Ingot and Slab Pusher for Heating Furnaces
- 10850 Burners for Gas and Oil
- 10860 Burners, Special Design
- 10870 Charging and Discharging Machines
- 10880 Electric Heating Elements
- 10890 Natural Gas Burners
- 10895 Fire Place Probes (for Video Cameras)
- 10900 Gas Burners
- 10910 Generators for Inert and Reaction Gases

- 10915 Hardening Agents
- 10920 Heating Conductors
- 10950 Pulverised Coal Firing, Plants and Equipment
- 10960 Laser Light Barriers
- 10970 Oil Burners
- 10990 Furnace Riders
- 11000 Furnace Rolls
- 11005 Plasma Power Generator
- 11010 Regenerative Burners
- 11020 Recuperator Burners
- 11028 Recuperators
- 11030 Recuperators, Regenerators
- 11050 Safety Devices for EAF Oxy Fuel Burners
- 11060 Radiant Tubes
- 11070 Radiant Tube Burners
- 11078 Vacuum Pumps, Dry Running, for Vacuum Furnaces
- 11080 Heat Exchangers
- 11085 Furnace Charging/ Discharging Systems
- 11090 Heat Recovery Systems
- 11092 Weighing Systems for Melting Furnaces
- 11093 Wool Felts for Bright Annealing Boxes

### 16.14 Operating Materials

- 11100 Heat Carrier Oil Systems
- 11110 Hardening Agents (also Hardening Powders and Recarburizing Agents)
- 11120 Hardening Oils
- 11130 Hardening Protection Agents
- 11140 High Quenching Oils
- 11150 Fire Resistant Hydraulic Fluids
- 11155 Controlled Atmosphere for Heat Treatment
- 11160 Polymer Solutions
- 11170 Lubricants
- 11180 Spraying Cleaners
- 11190 Heat Transfer Fluids

### 16.15 Services

- 11200 Energy Consulting
- 11210 Energy Savings
- 11215 Launching, Attendance and Service for Heating Equipment
- 11240 Planning and Projecting of Power Plants

## 17. Refractories Technology

- 11245 Product Know How for Basic Refractory Bricks and Mixes
- 11248 Controlling of Refractory Components

### 17.01 Heating and Heat Treatment Installations

- 11250 Aluminum Hydroxide
- 11260 Aluminium Oxide, Alumina
- 11263 Reinforcement Rods for Refractories
- 11265 Binding Agents for Refractory Materials
- 11270 Electro Corundum
- 11280 Graphite
- 11290 Ganister
- 11300 Coke Breeze
- 11310 Coke Breeze, Dry
- 11320 Burnt Magnesite
- 11330 Micro Silica
- 11340 Fused Aluminium Oxide
- 11360 Silicon Carbide
- 11366 Titanium Dioxide
- 11370 Clays
- 11380 Alumina Specials
- 11390 Zirconium Oxide

### 17.02 Refractory Producing Plants

- 11400 Refractory Producing Plants

### 17.03 Refractories

- 11410 Taphole Bricks for Converter Vessels and Electric Arc Furnaces
- 11420 Coating, Primer and Gunning Materials
- 11430 Basic Tamping Clay, Spraying Mixtures and Refractory Mixtures
- 11440 Basic Bricks (Magnesia-, Magnesia-Chromium-, Chromium Ore-, Chromite-, Dolomite-, Forsterite bricks)
- 11450 Calcium Silicate
- 11460 Dolomite Products
- 11470 Electrode Pastes

- 11480 Fibre-Ceramic Moulded Articles, Vacuum Moulded
- 11481 Finre-Ceramic Moulded Articles, Vacuum Moulded, up to 1750 °C
- 11485 Fibre Mats and Felts up to 1600 °C
- 11490 Fibre Products, Ceramic
- 11500 Prefabricated Units, Refractory
- 11510 Refractory Concrete
- 11512 Refractory Concrete, High Strength, for Industrial Floors
- 11520 Refractories, in general
- 11521 Release Lubricants for Monoliths Moulds and Formers
- 11530 Refractory Tamping Clays
- 11540 Anchorages, Refractory
- 11550 Refractory Materials
- 11560 Light-Weight Refractory Bricks
- 11570 Light-Weight and Insulating Refractory Mixes
- 11580 Light-Weight and Insulating Refractory Bricks
- 11590 Gas Rinsing Devices, Refractory
- 11600 Foundry Refractory Mixtures, Self-fluxing
- 11603 Foundry Mica Slipping plane, Coil Protection, System Coilguard
- 11610 Hearth Mixes
- 11620 High-Temperature Burnt Bricks
- 11630 Blast-Furnace Bricks
- 11640 Induction-Furnace Mixes
- 11650 Insulating Material, free from Asbestos
- 11660 Isostatically Pressed Products
- 11670 Carbon- and Graphite Bricks
- 11690 Converter Bricks
- 11700 Arc-Furnace Bricks
- 11710 Perforated Bricks
- 11720 Refractory Mixes, in general
- 11725 MgO-C-Stones
- 11730 Mortars and Putties, Refractory
- 11740 Injection Materials
- 11750 Ladle Mixes

11752 Torpedo Ladle Linings  
11753 Tundish Lining  
Refractories  
11755 Ladle Lining, monolithic  
11760 Ladle Bricks  
11768 High Temperature Wool  
(HTW) Products  
11790 Runner- and Taphole  
Linings  
11800 Gutter Relining, Cooled  
11810 Acid-Proof Bricks  
11820 Acid Ramming Masses  
and Slinger Masses  
11830 Fire-Clay Bricks  
11840 Ladle Shrouds  
11850 Slide Gate Nozzle  
Ceramics  
11860 Cast Basalt  
11865 Protection Coats,  
Fabric, Fire-Resisting  
11870 Silicon-Carbide Bricks  
11880 Silica Bricks,  
Refractories "Tondinas"  
11886 Special Adhesives  
(up to 1200 °C)  
11890 Spraying and Repair  
Compounds  
11900 Casting Pit Refractories  
11910 Tamping Clays, Foundry  
Refractory Mixtures, and  
Vibrating Compounds  
11915 Tamping Clays,  
Spraying and Refractory  
Mixtures  
11920 Stoppers and Nozzles  
11930 CC-Products, Refractory  
11940 Submerged Entry  
Nozzle (SEN), Mono  
Submerged Nozzle  
11950 Technical Ceramics  
11960 High-Alumina Bricks  
(Andalusite, Bauxite,  
Corundum, Mullite, and  
Sillimanite bricks)  
11970 Torpedo Ladle Bricks  
11978 Release Lubricants for  
Sliding Valve Refractory  
Nozzles  
11979 Release Lubricants for  
Sliding Valve, Nozzles  
as well as Steel Ladle  
Gas pouring Cones  
11980 Tundish Compounds  
11985 Cementfree Castables  
for Blast Furnace  
Runners  
11990 Vermiculite

12000 Thermal Insulation  
Materials, free from  
Asbestos  
12004 Vacuum Moulded  
Articles  
12005 Vacuum Moulded  
Articles, free from  
Ceramic Fibre  
12020 Zirconium Nozzles  
12030 Zirconium Bearing  
Bricks  
12040 Zirconium Silicate and  
Powder

### 17.04 Processing of Refractories

12050 Preparation of Used  
Refractories  
12060 Testing of Refractory  
Material

### 17.05 Machines for Refractory Construction

12070 Air Hammers to  
Break-out Slag and  
Refractories  
12071 Lining and Removal  
Robots  
12075 Chaff  
12080 Converter-Taphole  
Repair Cars  
12090 Converter Lining  
Devices, Mobile  
12100 Manipulators for  
Refractories  
12110 Ladle Spraying and  
Gunning Installations  
12120 Pumping Machines  
for Refractories  
12130 Centrifugal Machines  
for Refractories  
12140 Spraying and Gunning  
Machines  
for Refractories  
12142 Tundish Lining, Casting  
and Spraying  
12150 Ladle Ramming  
Equipment, automatic

### 17.06 Refractory Constructions

12160 Linings for Furnaces of  
all Types  
12170 Combustion Chambers  
12180 Refractory  
Constructions  
12190 Refractory Tamping  
Clays

## Machinery and Plant Engineering

12200 Suspended Roofs

### 17.07 Services

- 12204 Training Measures - Refractories
- 12205 Refractory Maintenance at Operating Temperature
- 12206 Refractory Systems

## 18. Machinery and Plant Engineering

- 12210 Plant Construction, in general
- 12220 CAD Constructions
- 12230 Engineering and Technical Assistance
- 12240 Bars, Columns, and Shafts
- 12250 Industrial Engineering
- 12258 Standard Elements for the Production of Cutting and Punching Tools
- 12260 Cleaning Material
- 12270 Second-Hand Machines (Buy and Sell)
- 12280 Special Constructions
- 12285 Heat Exchangers

### 18.01 Mining Plants, Machines and Equipment

- 12290 Underground Plants and Machines
- 12300 Bucket Conveyors
- 12309 Conveyors
- 12310 Conveying Plants and Machines
- 12330 Structural Steel Sections for Mines

### 18.02 Chemical Plants and Auxiliaries

- 12350 Construction of Vessels and Apparatus
- 12360 Liquid Gas - Deposit Stations
- 12370 Gas Holders, Gasometers
- 12390 Acid Stacks
- 12400 Acid and Chemical Resisting Plants and Installations
- 12410 Nitrogen Extraction Plants

12420 Hydrogen Producing Plants

### 18.03 Steam Generators, Plants and Auxiliaries

- 12425 Waste Gas Techniques
- 12430 Waste Heat Boilers
- 12440 Steam Filters
- 12450 Steam Boilers, in general
- 12460 Pressure Vessels
- 12480 Pulverized Coal Firing Plants and Equipment

### 18.04 Foundry Plants, Machines and Requirements

- 12354 Pouring Ladles
- 12489 Automatic Pouring Control
- 12490 Shot Blast Equipment
- 12500 Moulding Machines
- 12520 Pouring Units
- 12530 Foundry Plants, Machines and Equipment
- 12535 Casting Auxiliaries
- 12536 Foundry Tools
- 12540 Foundry Consulting and Engineering
- 12542 Casting Software
- 12550 Core Shooters
- 12560 Boshing Machines
- 12570 Robots
- 12580 Sandmixer
- 12586 Melting Furnaces, inductive
- 12590 Shaking Ladles
- 12592 Lifter
- 12600 Mould Plates
- 12605 Vacuum Precision Casting Plants - Super Alloys
- 12607 Vacuum Precision Casting Plants with Cold Crucibles for Titanium or rather Titanium Alloys

### 18.05 Power Stations

- 12610 Steam Power Stations
- 12620 Power Stations (Plants and Centers), Electric

### 18.06 Airing Plants and Appliances

- 12630 Blowers

## Machinery and Plant Engineering

- 12635 Ventilators for Industrial Use
- 12650 Air-Conditioning Systems, in general
- 12660 Heating/Cooling Instruments for Hot Shops
- 12670 Air-Conditioning Systems for High Temperatures up to 90 °C, for Crane Cabins, Control Rooms, etc.
- 12690 Expansion Pipes
- 12700 Air Ducts
- 12710 Airing Plants and Appliances, in general
- 12720 Natural Ventilation
- 12730 Exhausters
- 12740 Ventilators

### 18.07 Water-Economic Plants, Appliances and Auxiliaries

- 12750 Chemical Water Treatment
- 12760 Equipment for Hydraulic Water and Accumulators
- 12770 Filtering Installations for Circulating Water
- 12780 Expansion Pipes (Rubber)
- 12790 Cooling Towers
- 12796 Magnetic Filters
- 12800 Additions for Hydraulic Pressure Water
- 12810 Water Preparation Plants
- 12820 Water Treatment Plants
- 12830 Chemical-free Water Demineralization, Water Purification and Recycling
- 12840 Water Re-cooling Plants
- 12845 Liquide Chillers
- 12846 Water Filtration

### 18.08 Other Plants

- 12850 Flexible Tubes for Granulated Slags
- 12860 Slag-Disposal Plants (incl. Slag Granulation Plants)
- 12862 Slag Granulation Plants
- 12870 Plants for Lubricating Oil

### 18.09 Maintenance

- 12875 Erection and Maintenance
- 12880 Spare Parts and Consumer Goods
- 12890 Maintenance, in general
- 12894 Maintenance Systems
- 12895 Steel Mill Services
- 12896 Repairing and Modernizing of Machine-Tools
- 12900 Maintenance of Large Gearings
- 12920 Maintenance for Continuous Casting Plants for Blooms and Slabs
- 12930 Maintenance for Continuous Casting Plants for Blooms and Billets
- 12940 Maintenance for Continuous Casting Plants for Blooms and Rounds
- 12950 Mould Repair
- 12960 Ingot Mould Repairs
- 12964 Cleaning of Cooling Systems
- 12970 Ladle Repair Technique, Refractories
- 12980 Repairs, Spare Parts
- 12983 Software for Maintenance
- 12990 Preventive Maintenance
- 13000 Cleaning of Heat Transfer Systems
- 13010 State-dependent Maintenance of Machines

### 18.10 Engines and Machines

- 13020 Steam Turbines
- 13021 Gas Turbines
- 13030 Rotary-Piston Compressors
- 13040 Compressed Air Equipment
- 13050 Compressors for Natural Gas and Long-Distance Gas
- 13060 HD Stores for Natural Gas
- 13070 Piston Pumps
- 13080 Piston Compressors
- 13083 Corrosion Resistant Pumps

- 13090 Centrifugal Pumps
- 13100 Mixers for Fuel Gases
- 13120 Lubricating Pumps
- 13130 Screw-Type Compressors
- 13150 Turbo Compressors
- 13160 Vacuum Pumps

### 18.11 Gearings and Driving Elements

- 13168 Driving Elements
- 13170 Driving Technology Engineering
- 13174 Steel Fitting Gears
- 13180 Brakes
- 13190 Brake-Disc Fastening
- 13195 Torque Limiting
- 13200 Flanged Couplings
- 13210 Articulations (Wearing Pieces)
- 13220 Universal-joint Shafts
- 13230 Geared Rollers
- 13240 Gearings and Driving Elements
- 13250 Heavy Gearings
- 13255 Chain Gears and Wheels
- 13260 Hirth Serration
- 13261 Serration
- 13270 Couplings
- 13280 Couplings, Elastic
- 13285 Couplings, Flexible, Elastic
- 13290 Couplings, Mechanical and Hydrodynamic
- 13298 Planetary Gearboxes
- 13300 Planetary Gearings
- 13308 Swivelling Drives
- 13310 Safety Couplings
- 13318 Shafts, Spindles
- 13320 Special Constructions
- 13350 Shaft-Hub Junctions, free from Play
- 13360 Shaft Couplings (Rigid)
- 13365 Shaft Couplings, Flexible, Gear- and Disc
- 13380 Gearings (Toothed Wheel)
- 13390 Cogged Wheels

### 18.12 Bearings

- 13400 Rotating Unions
- 13404 Elastomer Bearings
- 13406 Joint Bearings/Tops
- 13410 Sleeve Bearings
- 13420 Compact Sleeve Bearings (Ceramics-Metal)

- 13430 Ball Bearings
- 13440 Cam Rollers
- 13460 Linear Systems
- 13470 Roller Bearings
- 13480 Back-up Rollers
- 13484 Thermal Separation
- 13485 Supporting and Controlling Rollers
- 13490 Anti-Friction Bearings
- 13492 High-Temperature Ball and Roller Bearings
- 13500 Roll Bearings

### 18.13 Oil-Hydraulic Equipment, Appliances and Auxiliaries

- 13510 Rotary Feeders
- 13520 Pressure Gauges, Switchgears, and Logging Devices
- 13530 Pressure Switches
- 13540 High-Pressure Flange Couplings
- 13548 Hydraulic Accumulators
- 13550 Hydraulic Power Units
- 13560 Hydraulic Jointings and Shaft Seals
- 13570 Hydrogearings
- 13580 Hydromotors
- 13590 Hydropumps
- 13595 Hydro-Stores
- 13600 Hydrovalves
- 13610 Hydrocylinders
- 13620 Oil-hydraulic Equipment, Appliances and Auxiliaries
- 13630 Vibration Dampers
- 13640 Servo Valves
- 13645 Continuous Valves
- 13660 Oil-hydraulic Plants (complete)
- 13670 Water Hydraulics

### 18.14 Control Equipment and Components

- 13680 Cut-off Fittings
- 13695 Torque Limiting
- 13710 Electric-hydraulic Actuators
- 13718 Cylinders, Power-Assisted
- 13720 Multiple-Spot, Single-Purpose and All-Purpose Controllers
- 13730 Control Equipment, complete
- 13740 Control Armatures
- 13745 Control Valves

## Machinery and Plant Engineering

- 13760 Servomotors
- 13780 Continuous Single-Purpose and All-Purpose Controllers

### 18.15 Pipelines and Auxiliaries

- 13786 Waste Gas Technology
- 13790 Retaining Valves
- 13810 Fittings
- 13820 Flanges
- 13840 Rubber Expansion Joints
- 13850 High-Pressure-Tube Technology
- 13859 Excess Flow Cut Off Valves
- 13860 Expansion Joints
- 13890 Pipe-Break Safety Valves
- 13900 Pipe Swivel Joints
- 13910 Pipelines and Auxiliaries
- 13920 Pipework
- 13930 Pipeline Auxiliaries
- 13940 Return Valves
- 13945 Flexible Tubes
- 13947 Flexible Tubes with Ceramic Wear Protection
- 13950 Goggle Valves

### 18.16 Wire-Stranding Machines

- 13955 Cable-Stranding Machines
- 13958 Rope-Stranding Machines

### 18.17 Pattern Construction

- 13960 Material for Pattern and Prototype Construction
- 13970 Pattern and Prototype Construction

### 18.18 Machine Tools

- 13980 Slicing Machines
- 13990 Threading Machines
- 14000 Band Sawing Machines
- 14010 Bending and Straightening Machines
- 14015 Slab-Sawing-Machines
- 14020 Wire Processing Machines
- 14030 Roller Spinning Machines
- 14040 Milling Machines
- 14060 Spark-Erosion Machines

- 14070 Honing and Lapping Machines
- 14080 Cable Sheathing Presses
- 14081 Cable Sheathing Presses (Lead and Aluminium)
- 14088 Sharpening Machines
- 14090 Cold Circular Sawing Machines
- 14095 Hot Circular Sawing Machines
- 14100 Mould-working Machines
- 14130 Shears for Metallurgical Plants
- 14140 Flying Shears, Pedestal Shears, Plate-working Machines
- 14148 Shear Blade Grinders
- 14150 Shears Centers
- 14158 Rotary Table Grinders
- 14160 Grinding and Polishing Machines
- 14168 Slitter Knife Grinders
- 14170 Special Machines for Machining
- 14180 Special Machines for Chipless Forming
- 14190 Special Machines for Special Jobs
- 14195 Concrete Cutting Saws
- 14200 Stone-cutting Saws
- 14210 Plate Shears
- 14215 Saw Manufacturers
- 14220 Friction Sawing Machines

### 18.19 Tools

- 14230 Bending-off Tools
- 14240 Drills
- 14242 Drills for Tapholes
- 14250 Diamond Tools
- 14260 Pneumatic Tools
- 14280 Cemented Carbide Alloys (Cermets)
- 14290 Hard Metal Cutting Panels and Shape Elements
- 14300 Carbide/Hard Metal Cutting Tools
- 14302 Saw Blades Armed with Carbide Alloy
- 14304 HP-Grinding Wheels
- 14306 Sawing Bands and Blades for Metallic and Non-Metallic Materials
- 14310 Saw Blades for Metal



- 14318 Mill Blades
- 14320 Shear Blades
- 14323 Slitter Knives and  
Accessories for Slitting  
Lines
- 14324 HP-grinding Wheels
- 14325 Cut-off Wheels
- 14326 Roll Grinding Wheels
- 14330 Abrasive Materials and  
Wheels
- 14334 Special Tools for Die  
Casting
- 14336 Cutting Wheels
- 14337 Roll Grinding Discs
- 14338 Machining Tools,  
Special Machining Tools

### **18.20 Tooling and Chucking Techniques**

- 14380 Clamping Hydraulic
- 14400 Prestressing Elements
- 14401 Bolting, large

### **18.21 Components**

- 14410 Sealings
- 14412 High Chemical- and  
Thermal-Resistant  
Sealings
- 14420 Rotary Sealings for  
Charging of Gases or  
Liquids
- 14430 Rotating Unions for  
Cooling Water for  
Continuous-Caster  
Rollers
- 14440 Nozzles (incl. Blow-off  
Nozzles and Descaling  
Nozzles)
- 14450 Pistons
- 14460 Flexible Tubes, made  
of Metal
- 14470 Buffers (made of Rubber  
or Cellulose)
- 14480 Stuffing-Box Packings
- 14490 Wear Plates

### **18.22 Operating Materials**

- 14500 Solid Lubricants
- 14510 Industrial Oils
- 14520 Cooling Lubricants

### **18.23 Tribology**

- 14522 Metering and Monitoring  
Devices for Lubricants
- 14523 Oil Circulating Systems  
for Bearing and Gear  
Lubrication

- 14524 Dual-line Grease  
Lubrication Systems for  
Steel Works and Rolling  
Mill Plants
- 14525 Special Lubricants
- 14526 Lubricating Devices,  
Central
- 14527 Oiling and Deoiling  
Machines

### **18.24 Services**

- 14528 Service for Compressors  
and Turbines
- 14529 Mechanical Treatment  
of Hydraulic Setters

## **19. Transport and Storage Techniques**

- 14530 Engineering and  
Technical Assistance
- 14532 Steel Logistics
- 14538 Magnetic Stackers and  
Conveyors
- 14540 Transports and Logistics  
for Industrial Recyclings
- 14548 Transports, Forwarding,  
Haulage
- 14550 Transport Technology
- 14551 Heavy Duty  
Transporters  
(Manufacturers)

### **19.01 Iron and Steel Works Vehicles**

- 14560 Slab, Bloom and Billet  
Transporting Equipment,  
Rubber-Mounted
- 14570 Coil Transport Systems
- 14580 Coil Transfer Cars
- 14590 Iron and Steel Works  
Vehicles, in general
- 14600 Railmounted Vehicles  
for Metallurgical Plants
- 14605 Air Cushion Vehicle
- 14610 Slag Pot Carriers
- 14620 Slag Transfer Cars
- 14630 Scrap Transport Trailer  
with Weighing Device
- 14640 Steel Work Vehicles

### **19.02 Rail-Born Vehicles**

- 14650 Diesel Locomotives/  
Engines
- 14660 Railway Wagons
- 14670 Self-propelling Wagons

## Transport and Storage Techniques

### 19.03 Track Technique

- 14680 Turntables and Transfer Tables
- 14684 Track Technique
- 14690 Shunting Units

### 19.04 Trackless Vehicles

- 14700 Trailers
- 14705 Trucks and Trailers
- 14720 Electric Ground Level Transporters
- 14730 Electric Trucks
- 14734 Electric Four-Way Sideloaders
- 14740 Driverless Transport Systems
- 14742 Driverless Transport Systems for Steel and Aluminium Coils
- 14750 Fork Pilers and Transverse Fork Pilers
- 14760 Rubber-tired Heavy-Load Vehicles
- 14790 Trucks
- 14810 Heavy-Load Tractors (Vehicles)
- 14820 Telescopic Excavators
- 14822 Transport Systems for Coils

### 19.05 Continuous Conveyors

- 14830 Conveying Installations, in general
- 14840 Pneumatic Conveyors
- 14850 Vibrating Conveyors
- 14860 Vertical Conveying
- 14880 Steeply Inclined Conveyors
- 14890 Continuous Conveyors for Bulk Material
- 14900 Continuous Conveyors for Parcelled Goods
- 14910 Belt Conveyors and Worm Conveyors
- 14920 Troughed Chain Conveyor

### 19.06 Cranes

- 14930 Rotary Cranes
- 14940 Casting Cranes
- 14950 Cranes, Lifting Gears, and Auxiliaries, in general
- 14955 Crane Services
- 14960 Overhead Travelling Cranes

- 14970 Portal Cranes
- 14980 Claw Cranes
- 14990 Buffers
- 14992 Vacuum Devices for Heavy Industry
- 14993 Automatic Pilers/Stackers (vacuum lifting devices)

### 19.07 Balances

- 14997 Balances for Bunches and Coils
- 15000 Blending and Mixing Scales
- 15010 Wagon Weighbridges and Vehicle Balances
- 15020 Crane Scales
- 15030 Scales for Roller Tables
- 15040 Balances for Continuous Weighing
- 15041 Balances for Alloying Elements
- 15042 Balances for Pig Iron
- 15043 Balances for Scrap
- 15044 Balances for Static Weighing
- 15045 Balances for Stationary Weighing
- 15050 Load Systems for Ladle-Turrets or Cars
- 15057 Profile Measuring Gauges
- 15060 Load Cells
- 15080 Weighing Systems for Silos

### 19.08 Storage and Handling Equipment

- 15090 Coil High-Bay Warehouses
- 15100 Flowbien Yard Systems
- 15110 Labelling Systems
- 15120 Lattice Girder Storage Systems
- 15134 Lift Working Stage
- 15140 Storage Technology and Automation Systems for Sheets, Long Products, and Stackable Boxes
- 15141 Storage Technology and Automation Systems for Sheets, Long Products, and Bunker Stocks
- 15150 Storage and Handling Equipment
- 15154 Vacuum Lifting Devices for Large and Medium Formate Plates

## Transport and Storage Techniques

- 15155 Storage Systems for Coils
  - 15160 Stock and Shelf Systems
  - 15164 Dispatch Equipment for Long Items, Stackers for High-Bay Warehouses
  - 15170 Marking Systems
  - 15180 Pallets and Cassettes
  - 15188 Vertical Carousels (Paternosters)
  - 15189 AS/RS (automated storage/retrieval system)
  - 15190 Operation of Shelves
  - 15192 Sideloaders
  - 15193 Crossheads and Turning Arrangements
  - 15195 Castellated Shelves Systems
- 19.09 Stores Organization**
- 15198 Labels
  - 15200 Identification
  - 15208 Stock Logistics
  - 15210 Stores Organization
- 19.10 Components**
- 15220 Arresting Appliances
  - 15230 Loading and Unloading Devices
  - 15240 Sheet Pack Dogs
  - 15250 Ingot Pusher, Withdrawing Devices
  - 15270 Bunker Discharging Equipment
  - 15280 Bunkers and Silos
  - 15290 Coil and Sheet Packaging
  - 15300 Dogs for Coils
  - 15310 Permanent Magnets
  - 15320 Electric Equipment for Cranes etc.
  - 15330 Electric Hoists
  - 15335 Labels
  - 15350 Conveyor Belt Skimmers
  - 15360 Conveying Plants and Appliances
  - 15380 Conveyor-Belt Vulcanizing Devices and Materials
  - 15390 Grabs and Tongs
  - 15400 Manipulators
  - 15410 Lifting Clamps, Safety Clamps
  - 15420 Industrial Robots, Suitable for Ironworks, Sensor-controlled
  - 15430 Chains
  - 15431 Chain Wheels
  - 15435 Sprockets
  - 15440 Tilting Shackles, Heavy Shackles
  - 15450 Crane Traversing Wheels
  - 15455 Crane Cables
  - 15460 Stock Yard Equipment
  - 15470 Laser Distance Measuring Instruments for Cranes
  - 15480 Lifting Belts
  - 15490 Lifting Magnets and Equipment
  - 15500 Electromagnetic Brake Systems
  - 15510 Magnets, Magnetic Systems
  - 15511 Safety Appliance for Electric Load Lifting Magnets
  - 15515 Slab Turning and Transportation Magnets
  - 15516 Safety Appliance for Electric Load Lifting Magnets
  - 15520 Wheels
  - 15530 Corrosion-, Friction and Wear Protection
  - 15540 Containers for Bulk Materials
  - 15550 Sheaves
  - 15555 Safety Device for Lifting Magnets
  - 15560 Separation Magnets
  - 15570 Silos for Refractories
  - 15580 Silos for Bulk Materials
  - 15590 Bulk Handling Plants
  - 15600 Guide Pulleys
  - 15610 Packaging Technique
  - 15620 Wear Resisting Coating (Aluminum Oxide Ceramics)
  - 15630 Wear Resisting Coatings (Rubber)
  - 15632 Wear Protection
  - 15635 Rotary Railcar Dumpers
  - 15640 Wagon Tiplers
  - 15650 Hot Transport and Thermo-Hoods for Steel Ingots
  - 15652 Weighing Systems for Steelmaking

### 19.11 Operating Materials

15660 Lubricants

### 19.12 Packaging Technique

15664 Packaging Materials

## 20. Electrical Engineering and Automation

15670 Linear Actuators and Turn Tables, electromechanically

15680 Engineering and Technical Assistance

15690 Technical Translations and Documentation

### 20.01 Electrical Equipment for Metallurgical Plants and Rolling Mills

15700 Work Layout Systems

15720 Three-Phase AC Motors

15730 Electrical Equipment for Metallurgical Plants and Rolling Mills

15740 Electrical Equipment for Rolling Mills

15750 Electric Large Plants, complete

15760 Energy Supply for Movable Consumers

15770 Spring Cable Reels

15780 Spring Hose Reels

15785 Remote Radio Control Systems

15788 Radio Systems

15790 Radio Control Systems

15800 Geared Motors

15810 DC Motors

15820 High Current Cables and Electric Wires, Water Cooled

15830 Cables and Electric Wires

15850 Motor Wire Reels

15860 Low-Voltage Switch Gears

15864 Switches, Pressure

15866 Switches, Temperature

15870 Switch Stations

15880 Slipping Assemblies

15890 Safety Systems

15900 Heavy Current Capacitors

15910 Plug Appliances

15920 Rectifiers (Frequency Converters)

15930 Current Leads (incl. Moveable ones and Bus-Bars)

15932 Thermowells

15940 Transformers (also for Industrial Furnaces)

15960 Intercom Telephone Systems

15962 High Tension Leads and Contact Pieces

15964 Speed and Position Measurement Units

15965 Speed and Position Measurement Encoders

### 20.02 Automation

15967 Electrical-, measuring- and control technical plant construction, in general

15970 Automation, in general

15980 Automation Lines for Ores and Fines

15990 Automation Lines for Blast Furnaces

16000 Automation Lines for Industrial Furnaces, in general

16010 Automation Systems for Cold-Rolling Mills

16020 Automation Lines for Cokery

16030 Automation Lines for Steelworks

16035 Automation Systems for Blast Furnaces

16040 Automation Systems for Hot Rolling and Pipe Mills

16041 Automation Systems for Hot Rolling

16050 Automation Lines and Process

Control Systems for Metallurgical Plants

16055 Automation of Strip Processing Lines

16060 Automatic Character Recognition Systems

16063 Strip Flow Control

16070 Data Transmission Systems

16080 Industrial TV-Engineering

- 16090 Information and Communication Systems
- 16100 Identification
- 16110 Tailor-Made Complete Systems
- 16120 Automation Systems for Vehicles (inductive)
- 16130 Automation Systems (by Image Processing) for Vehicles
- 16140 Automation, in general
- 16150 Positioning Devices for Cranes
- 16160 Process Automation
- 16162 Process Automation for Strip Processing Lines
- 16170 Process Automation for Continuous Steel Casters
- 16180 Process Automation for Steelworks Plants
- 16190 Process Control Systems
- 16192 Process Control with IR-Detectors
- 16200 Process Optimization
- 16202 Process Optimization with Weighing Systems
- 16205 Shopfloor Systems
- 16210 Control Equipment, complete
- 16220 Control Centres for Metallurgical Plants and Rolling Mills
- 16230 Controls, electric
- 16240 Controls, electronic
- 16250 Controls for Pressure-Water Tanks
- 16260 Controls, hydraulic
- 16270 Controlling Devices, Infrared
- 16280 Current Supply for Automation and Control
- 16290 Networks (LAN, WAN)
- 16293 Video Technology
- 16295 Weighing Systems for Steel Plant Process Automation

### **20.03 Data Processing**

- 16300 Analog Instruments and Auxiliaries
- 16305 Archiving
- 16310 Acquisition of Operating Data and Machine Data
- 16320 Data Acquisition Systems

- 16330 Data Processing
- 16338 Digital Image Processing
- 16340 Digital Instruments and Auxiliaries
- 16350 Expert Systems
- 16355 Manufacturing Execution System (MES)
- 16360 Turnkey Hard-/Software Systems
- 16376 Weighing Systems for Steel Plant Data Processing
- 16380 X-Window Terminal

### **20.04 Software**

- 16390 Software for Simulations
- 16393 Software for Archiving, Document Management, and Workflow
- 16395 Software for Order Processing, Warehouse, and Test Certificate Management
- 16400 Application Software
- 16410 Software for Slitting Lines
- 16415 Merchandise Planning and Control Systems for Steel and Metal Trade
- 16420 Software for Production Planning and Control
- 16430 Software for Statistic Process Control and Quality Control
- 16440 Technical Calculation Programs

### **20.05 Maintenance**

- 16450 Machine Diagnosis
- 16460 Maintenance and Inspection

## **21. Measuring and Testing Techniques**

- 16470 Gas Measuring Instruments for Degreasing Lines
- 16472 Gas Measuring Instruments for Metal Degreasing Plants
- 16480 Gas Measuring Instruments for Metal Cleaning Systems

## Measuring and Testing Techniques

### 21.01 Measuring and Testing Techniques, in general

- 16490 Automation and Measuring, Colorimetry
- 16500 Pressure Transmitter
- 16508 Corrosion Testing Sets
- 16510 Measuring Techniques
- 16511 Measuring of Magnetism
- 16520 Measuring and Testing Systems, in general
- 16530 Measuring and Testing Techniques, in general
- 16540 Data Acquisition
- 16550 Data Processing
- 16552 Identification Markers for Measuring and Testing Means
- 16553 Labels for Measuring Devices and Testing Status Marking
- 16560 Radio Activity Signalling
- 16564 Recorders
- 16565 Tension Control and Tension Measurement
- 16566 Breakout Detection and Residual Wall Thickness Testing (Refractory Relining)
- 16568 Roll Measuring Instruments

### 21.02 Measurement Physical Properties

- 16570 Distance Gauges
- 16580 Distance Sensors for Positioning and Length Measurement (Laser, Ultrasonic, and Inductive)
- 16581 Distance Sensors for Positioning and Length Measurement (magnetostrictive)
- 16585 Molten Metal Level Control
- 16590 Converter Bath-Level Indication
- 16600 Bath Level Control Systems
- 16605 Coating Measurement Systems
- 16608 Automatic Gauge Control (AGC)
- 16610 Slip Gauge
- 16612 Strip Flatness Gauges
- 16613 Strip Flatness Control
- 16615 Strip Flow Control

- 16620 Strip Tension Measuring Systems
- 16625 Strip Tension Installations for Driven S-Rolls
- 16630 Width Gauges
- 16640 Extensometers and Resistance Strain Gauges
- 16645 Extensometers (non-contact, optical)
- 16650 Elongation and Massflow Measuring Systems
- 16652 Temper Rolling and Bulk Flow Measuring Systems
- 16660 Thickness Measuring Devices and Gauges
- 16670 Thickness Gauge
- 16680 Distance-to-Fault Switches and Measuring Devices (Optical, Acoustical and Inductive)
- 16690 Torque Measuring Installations for S-Rolls
- 16700 Torque Measuring Devices
- 16702 Edge Defect Detection
- 16704 Section and Profile Measurement for Rods and Bars
- 16710 Revolution Counters
- 16720 Flow Meters
- 16721 Flow Meters, e. g. for Coal Injection
- 16730 Flow Control
- 16740 Measuring of Diameter
- 16750 Electrical Measuring of Mechanical Quantities
- 16755 Electronic Measuring Systems for Hydraulic and Lubricating Oils
- 16770 Shape Measuring Technology
- 16780 Level Indicators
- 16790 Level Control
- 16791 Mould Level Control (AMLC)
- 16800 Level Control
- 16810 Gas-measuring Instruments
- 16815 Oxygen Probes for Flue Gas
- 16820 Instruments and Chemicals for Waste Water Control
- 16830 Speed Gauges

## Measuring and Testing Techniques

- |  |  |
|--|--|
| 16840 Mold Flow Measurement Systems  | 17040 Measuring Instruments, opto-electronic   |
| 16850 IR-Switches  | 17050 Flatness Measuring Devices   |
| 16860 IR-Radiation Pyrometers  | 17057 Profile Measuring Gauges   |
| 16861 IR-Radiation Thermometers  | 17060 Shape Measuring Systems (Non-Contact)  |
| 16870 IR-Radiation Pyrometers with Scanner   | 17080 Pyrometers   |
| 16871 IR-Radiation Thermometers with Scanner   | 17090 Pyrometer Pipes  |
| 16875 Infra-red Thermography   | 17100 Quotient Pyrometers  |
| 16877 IR-Cameras, Infrared Slag Detection  | 17105 Inline concentration measurement of liquids  |
| 16878 Cameras, Furnace Cameras   | 17110 Hot Metal Detectors, HMD   |
| 16879 Cast Temperature Detection   | 17118 Measurement Devices for Rolls  |
| 16880 Insulating Capillaries   | 17120 Measuring Devices for Tubes  |
| 16890 Dynamometers for Tension and Pressure  | 17130 Layer Thickness Gauges   |
| 16891 Force Measurement and Weighing Systems   | 17133 Layer Thickness Controlling  |
| 16900 Cooling-Water Control  | 17135 Layer Thickness Controlling  |
| 16910 Length-Measuring Devices for Tubes   | 17138 Slag Detection by Infrared   |
| 16920 Length Gauges  | 17140 Slag Detectors   |
| 16930 Length Measuring Instruments (also for Lines and Paths)                            | 17150 Slag Thickness Measurement   |
| 16940 Length Measuring Equipment, Ultrasonic, (also for Distances, Intervals, and Lines) | 17155 Ladle Hot Spot Detection   |
| 16950 Length and Speed Measuring Systems (Optical)                                       | 17160 Forgings, Measuring  |
| 16955 Speed and Position Measurement Units   | 17170 Lubrication Control for Roller Bearings  |
| 16956 Speed and Position Measurement Encoders  | 17180 Vibration Measuring Devices  |
| 16960 Laser Speed and Length Measuring Instruments                                       | 17190 Wire Rope Testing Machines for Steel Ropes having Round or Rectangular Cross-Sections (Rope Belt Conveyor) |
| 16970 Measuring Devices for pH and Conductibility  | 17200 Dust Measuring Devices   |
| 16980 Mass Flowmeters  | 17210 Radiation Detection Equipment  |
| 17000 Measuring of Refractory Linings (under Operating Conditions)                       | 17220 Input Inspection Concerning Nuclear Radiation  |
| 17010 Electric Measuring Instruments   | 17230 Immersion Thermocouples  |
| 17020 Measuring Machines   | 17240 Dew-Point Measuring Devices  |
| 17030 Data Printers  | 17250 Thermometers   |
| 17033 Microstructure/Roughness Measurement   | 17260 Thermocouples  |
| 17035 Surface Crack Identification   | 17270 Sheath Tubes for Thermocouples   |

- 17274 Thermographic Measurement
- 17276 Thermometers
- 17280 Measuring Instruments for Thermal Conductivity
- 17290 Roll Force Measuring Systems
- 17300 Measuring Devices for Rolling Mills
- 17310 Resistance Thermometers
- 17320 Line Scan Cameras
- 17322 Non-destructive Thickness Measuring of Refractory Linings (while Shut Down)
- 17325 2-Colour Pyrometers with Glass Fibre Optics
- 17326 Crop Optimization
- 17327 Absolute Displacement Transducers

### 21.03 Quality Management

- 17340 3-D Shape Measuring of Rails and Similar Profiles
- 17341 3-D Shape Measuring of Welded Joints
- 17345 Inline Measurement of Pickling Bath Concentrations
- 17350 Breakout Predetection
- 17352 Break-out Protection and Control
- 17354 Break-out Prevention Systems
- 17360 Break-Out Control
- 17365 Inline Measurement of Chrome Plating Bath Concentrations
- 17368 Inline Measurement of Rolling Emulsion Concentrations
- 17370 In-line Optical Surface Inspection
- 17380 Measuring Instruments for Quality Management
- 17384 Mould Check
- 17387 Mould Check
- 17390 Length, Speed, and Profile Measuring Systems
- 17395 Pinhole Detection
- 17400 Pit Detection
- 17408 Surface Inspection
- 17410 Surface Inspection
- 17415 Surface Inspection of Strip Steel

- 17420 Measuring of Refractory Linings (under Operating Conditions)
- 17426 On-line Measuring of Oils and Waxes
- 17430 On-line Optical Surface Inspection
- 17432 Online Surface Quality Control, Optical
- 17440 Roughness Detection, online
- 17442 Weld Seam Tracking Systems for Tubes
- 17445 Systems for Quality Data Inspection and Treatment

### 21.04 Quality Control

- 17385 Early Diagnosis (Sticking Type of Breakout)
- 17447 Surface Inspection of Strip Steel, automatic and complete
- 17448 Surface Inspection of Strip Steel, automatic, complete
- 17450 Quality Control, visual

### 21.05 Services

- 17470 Measuring Techniques, Services

## 22. Materials Testing

- 17473 Destructive and Non-destructive Testing

### 22.01 Non-destructive Testing

- 17480 Consulting, Performance, and Equipment
- 17490 Image Processing, IR, Barcode with Radio-MDE
- 17500 Demagnetising Facilities
- 17510 Testing Devices for Internal Pressure
- 17520 Corrosion Testing
- 17530 Measuring and Testing Devices, Automatic
- 17540 Ultrasonic Testing Instruments/Machines
- 17560 Non-Destructive Testing of Steel Ropes having Round or Rectangular Cross-Sections



- 17570 Non-Destructive Tube Testing Devices
- 17580 Non-Destructive Materials Testing Instruments, in general
- 17589 Non-Destructive Materials Testing Devices, Acoustic
- 17590 Non-Destructive Materials Testing Instruments, electromagnetic
- 17610 Non-destructive Materials Testing Instruments, X-ray Operated, Computer-Tomography
- 17620 Non-Destructive Material Testing Instruments, optical
- 17630 Non-Destructive Materials Testing, X-ray Operated
- 17640 Non-destructive Material Testing by Acoustic Emission Analysis
- 17650 Ultrasonic Testing
- 17660 Non-Destructive Materials Testing
- 17664 Non-destructive Material Testing by Fluorescent and Red/White Penetration Methods
- 17665 Non-Destructive Material Testing by Fluorescent and Red/White Testing Methods
- 17670 Non-Destructive Materials Testing with Ultrasonic Excitation without Coupling Agent
- 17680 Non-Destructive Materials Testing, Opto-electronic
- 17690 Non-Destructive Materials Testing (Services)

### 22.02 Tensile Testing, Fatigue Testing

- 17698 Grips for Tensile Testing
- 17700 Stress Analyses and Reliability Tests for Machines and Components
- 17710 Consulting, Performance, and Equipment

- 17720 Fatigue Testing Machines
- 17730 Hardness Testing Instruments/Machines
- 17740 Hardness Testing Instruments
- 17750 Machines for Preparation of Tensile Test Specimens
- 17760 Testing And Analysis of Friction and Scuffing
- 17770 Crack Detecting Devices
- 17780 Presses for Tube Testing
- 17790 Torsion Testing Machines
- 17800 Universal Testing Machines for Tensile, Compression, Bending and Tensile Test Specimens

### 22.03 Test Methods

- 17810 Chemical Analysis
- 17820 Particle Size Analysis
- 17830 Mechanical-technological Testing
- 17840 Metallographic Testing
- 17845 Specific Surface Analyser according BET Method
- 17850 Technological Testing Methods
- 17852 Technological Testing Methods, Microscope Video Analysis
- 17860 Deep Drawing Testing Machines (Plates, Sheets, and Strips)
- 17880 Testing of Rolls (Concentric Running, Eccentricity)
- 17888 Corrosion Testing
- 17890 Machines for Impact Tests

### 22.05 Fatigue Strength Tests under Variable Stress Amplitude

- 17896 Testing of Safety Valves under Operating Conditions

### 22.06 Failure Analysis

- 17898 Failure Analysis

## **23. Analysis and Laboratory Equipment**

17900 Engineering and  
Technical Assistance

### **23.01 Sampling and Preparation**

17910 Gas Probes  
17915 Sampling  
17920 Sampling Devices  
17940 Sample Stamping Dies  
17950 Transport of Samples  
17960 Preparation of Samples  
17970 Specimen Preparation  
for X-ray Fluorescence  
Analysis  
17980 Sample Preparation for  
OES and XRF  
17990 Sample-Preparation  
Machines  
18000 Spectrometer Sample  
Preparation with  
Remelting Units  
18010 Stamping Tools for  
Samples

### **23.02 Analytical Equipment**

18020 Analytical Equipment  
18022 Tools for inline  
concentration  
measurements of liquids  
18025 Evaluating Instruments  
for Oxygen Measuring  
18027 Automated Analysis  
for Process Control  
and Waste Water  
Management  
18030 Automation Lines  
for Analysis and  
Laboratories  
18035 Carbon and Sulfur  
Analyser  
18040 Gas Analysing  
Instruments  
18048 Laser Induced  
Fluorescence  
18050 Laser Plasma  
Spectrometers  
18059 Mass Spectrometers  
18060 Measuring Devices for  
pH and Conductivity  
18070 Oil-in-Water Monitoring  
in Laboratories and  
Industries

18080 Optical Emission  
Spectrometers  
18090 Analytical Equipment  
for O2  
18100 Plasma Spectrometers  
18105 X-ray Diffractometers  
18110 X-ray Fluorescence  
Spectrometers  
18120 X-ray Fluorescence  
Spectrometer, portable  
18130 Oxygen Probes  
18138 Heavy Metal Analysis  
in Water, Laboratories,  
Field, Process, and  
Online  
18140 Nitrogen Analysis  
Systems for Direct  
Evaluation  
18150 Nitrogen Probes  
18160 Hydrogen Analysis  
Systems for Direct  
Evaluation  
18170 Hydrogen Probes  
18180 Auxiliaries for Analysis

### **23.03 Laboratory Equipment, in general**

18190 Analytical Standards  
18200 Analytical Reference  
Materials  
18202 Sample Preparation  
Equipment for OES  
and XRF  
18210 Calibration Test Pieces  
18220 Annealing Boxes  
18230 Laboratory Furnaces  
18240 Laboratory Equipment  
18250 Laboratory Automation  
18260 Saggars  
18270 Spectrographic Samples/  
Tests  
18280 Crucibles

### **23.04 Metallography**

18290 Services  
18300 Metallographic  
Equipment  
18310 Metallographic  
Laboratories  
18320 Metallographic Testing

## **24. Environmental Protection and Disposal**

18330 Consulting and  
Measuring

## Environmental Protection and Disposal

- 18340 Engineering and Technical Assistance
- 18343 Environmental Protection and Disposal  
Recycling of Steel Mill Wastes
- 18344 Environmental Systems
- 24.01 Dust Removal and Gas Purification**
- 18342 Waste Gas Techniques
- 18348 Oxygen Probes for Flue Gas
- 18350 Suction Systems and Equipment
- 18360 Waste-Gas Cooling Facilities
- 18362 Waste Gas Cooling with Heat Reclamation
- 18370 Waste-Gas Purification Plants
- 18375 Secondary Waste Gas Cleaning Systems
- 18376 Sintering Waste Gas Cleaning Systems
- 18377 Desulphurisation of Sintering Waste Gas
- 18378 Waste Gas Cleaning for Pelletizing Plants
- 18380 Waste Heat Boilers
- 18390 Aerosol Separation
- 18400 Agglomeration of Fines from Foundries and Steelworks
- 18410 Electrostatic Precipitators (also Wet)
- 18420 Dust Removal and Gas Purification
- 18430 Dust Removal Installations and Auxiliaries, in general
- 18434 Dedusting Systems
- 18436 Primary Dedusting
- 18438 Secondary Dedusting
- 18440 Dust Removal Filters and Installations (Cartridge, Circular and Hose Filters)
- 18450 Plants for Nitrogen Removal
- 18460 Catalysts for Nitrogen Removal (DENOX)
- 18470 Secondary Dust Removal for Sintering Plants
- 18480 Filter Media
- 18490 Gas-Recovery Plants
- 18500 Cloth Filters
- 18502 Puls Jet Filters
- 18504 Reverse Air Filters
- 18510 Casthouse Dust-Removal
- 18515 Blast Furnace Off-Gas Cleaning
- 18520 Hot-Gas Filtration
- 18530 Industrial Vacuum Cleaners
- 18535 Catalytic Plants
- 18536 Service for Catalysts
- 18540 Compact Air Purifiers
- 18550 Laser-Clean-Box
- 18560 Air Filters (also Tandem Filters)
- 18570 Cyclones
- 18580 Post-Combustion, Catalytic
- 18590 Post-Combustion, Thermal
- 18600 Wet Separators
- 18608 Wet Dust Removing Plants
- 18610 Secondary Dust Removal (wet) for Sintering Plants
- 18615 Wet Electro Filters
- 18620 Wet Cleaning Plants
- 18630 Exhaust Gas Desulphurization for Boiler and Sintering Plants
- 18640 Flue Gas Collectors for Waste and Miscellaneous Waste Combustion Plants
- 18645 Recycling of Steel Mill Wastes
- 18650 Dust Separators
- 18660 Dust Measuring Devices
- 18670 Dust Recovery Plants
- 18675 Dust and Erosion Control
- 18680 Dust Suction Systems and Equipment
- 18690 Thermal Waste Air Cleaning
- 18693 Dry Cleaning Plants for Waste Gas
- 18695 Quenching Towers
- 18700 Dust Removing Plants, Dry
- 18710 Dry Cleaning Plants
- 18720 Venturi-Tube-Type Dust Removers
- 18728 Central Exhausting Plants

## Environmental Protection and Disposal

- 18730 Central Dust Suction Fans
- 18735 Forced Draught Coolers
- 18737 Canopy Hoods

### 24.02 Sewage Clarification

- 18740 Waste Water Plants, Grease Separators, Chemistry Pumps
- 18750 Waste Water Treatment
- 18755 Waste Water Treatment, thermal
- 18760 Sewage Treatment Plants
- 18770 Chemical Water Treatment
- 18774 Evaporation Plants
- 18790 Waste-Water Purification Plants
- 18800 Circuit Systems
- 18802 Water Recirculation Treatment
- 18810 Solvent Recovery Plants
- 18820 Neutralization and Detoxification Plants
- 18830 Sludge-draining Systems, mobile
- 18840 Sludge-Draining Systems, stationary
- 18841 Vacuum Evaporators for Waste Water Treatment
- 18842 Water Management

### 24.03 Regeneration Plants

- 18860 Plants for Regeneration of Hydrochlorid Acid
- 18870 Plants for Regeneration of Spent Pickle Liquor
- 18880 Acid Resistant Drip Pans and Wall Coatings with DIBT Character Check
- 18890 Plants for Regeneration of Sand

### 24.04 Disposal Plants

- 18900 Waste Air Purification
- 18910 Reprocessing of Contaminated Materials
- 18920 Plants for Recycling of Raw Materials (Dusts)
- 18921 Residue Recycling Plants
- 18923 Electric Arc Dust Utilisation
- 18925 Exhaust Air Cleaning, Natural

- 18928 Briquetting of Steel Swarf
- 18930 Reprocessing of Sites and Ground Water
- 18940 Excess Gas Burning Systems, Thermal Post Combustion
- 18970 Injection Installations for Filter Residues
- 18975 Injection Plants for Alloying Additions and other Residuals (by Oxygen Burners)
- 18980 Storage of Water Polluting Materials
- 18990 Oil and Grease Removal
- 18997 Radioactive Materials
- 19000 Superfinishing, free from Waste Material
- 19005 Preparation of Slags (Slag Transportation and Slag Recycling)
- 19009 Construction and Building of Chimneys and Smokestacks
- 19010 Chimneys and Smokestacks
- 19020 Separation of NF-Metals
- 19040 Plants for Vacuum Thermal Recycling
- 19045 Plants for Processing and Recycling of Residuals from Blast Furnaces
- 19050 Other Disposal Plants
- 19060 Utilisation of Residuals (like Ashes, Slags, Dusts, Granulates)
- 19070 Roll Scale Sludge Oil Separation
- 19072 Dezincification of Blast Furnace Dusts
- 19080 Recovery of Valuable Materials

### 24.05 Components

- 19110 Separators (Distillate Fuel, Benzene, Oil, Water)
- 19120 Demulsifier Plants
- 19130 Preparation and Injection of Dusts, Fines and Oily Mill Scale Sludge
- 19140 Injection Installations for CARBOFER
- 19150 Injection Installations for PE-Granules

19160 Heat Exchangers

## **24.06 Operating Materials**

19170 Activated Carbon  
19180 Lignite Coke  
19190 Oil Binding Agents  
19200 Lubricants

## **24.07 Services**

19210 Waste Gas Measurements  
19220 Chemical and Mineralogical Analyses  
19230 Emission Measurements  
19232 Simulation Software for Waste Gas Data and Optimizing of Waste Gas Systems

## **25. Accident Prevention and Ergonomics**

### **25.01 Accident Prevention**

19240 Workers' Protective Clothes  
19260 Respiratory Protection Masks  
19263 Fire Protection Covers  
19266 Fireproof Protection Covers  
19270 Gas Alarm Apparatus  
19280 Heat Protective Clothing  
19285 High-Temperature Resistant Protection Covers  
19289 Protective Glass  
19290 Protective Glass for Industries  
19300 Light Protection Curtains (for Accident Prevention etc.)  
19305 Soldering Protection Cover  
19310 Siting Glass for Observing Melting Furnaces, Neotherm©  
19320 Switchboards  
19340 Protective Glass for Welders' Goggles (Athermal©)  
19350 Welding Equipment  
19360 Dust Measuring Devices

### **25.02 Noise-protecting Installations**

19368 Hearing Protection Devices  
19370 Noise-Deadening  
19380 Industrial Sound Protection  
19390 Noise Protection Systems  
19400 Noise Control  
19410 Level Recorders  
19420 Sound Absorption  
19430 Sound Level Meters  
19432 Sound Protection

## **26. Other Products**

### **26.01 Foundry Products**

19469 Foundry Products, in general  
19470 Special Steel Centrifugal Casting  
19490 Investment Casting  
19500 Spheroidal Graphit Cast Iron  
19510 Grey Cast Iron  
19520 Cast-Iron Mould Casting  
19530 Cast-Iron Continuous Casting  
19540 Chilled-Iron Castings  
19550 Heat-resisting Casting  
19560 Die Casting  
19570 Copper and Copper Alloy Casting  
19580 Light-Metal Casting  
19590 Engineering Casting  
19610 Acid-Proof Casting  
19630 Centrifugal Casting  
19640 Heavy-Metal Casting  
19660 Steel Casting  
19670 Wear-resistant Casting

## **27. Consulting, Planning, Services**

19695 Hot Tapping  
19700 Accessories' Services  
19710 Skill in Welding Technology  
19715 Consulting, Planning, Services  
19720 Information Centres  
19721 Weighing System Optimization Consulting  
19730 Consulting Services

## Steels in Civil and Structural Engineering / Consulting, Planning, Services

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- |  |   |
|--|---|
| <p>19731 Purchasing, Procurement, eProcurement</p> <p>19734 Blended Learning</p> <p>19740 Services, Quality Assurance</p> <p>19750 Emission Measuring</p> <p>19760 Energy Consulting</p> <p>19770 Energy Savings</p> <p>19780 Energy Services (Optimizing, Recycling, Supply)</p> <p>19785 Complete Coke Battery Maintenance</p> <p>19786 Complete Coke Battery Maintenance and Rebricking</p> <p>19790 Decoating</p> <p>19792 Spare Parts for Start-Ups</p> <p>19794 Commissioning</p> <p>19800 Industry and Market Assessment</p> <p>19805 Inspection Services</p> <p>19806 Inspection Services and Condition Monitoring</p> <p>19810 Consulting Engineers (also start-up of iron and steel works equipment)</p> <p>19815 Technical Problem Solutions</p> <p>19820 Maintenance Organization</p> <p>19822 Cooling and Boiling Water Treatment</p> <p>19824 Lean Management</p> <p>19825 Leak Tightening under Operating Pressure</p> <p>19830 Logistic Consulting</p> <p>19850 Job Annealings (own Mobile Annealing Plants)</p> <p>19860 Management Consulting</p> <p>19862 Management Consulting - Coaching</p> <p>19875 Mechanical Processing (Milling, Drilling, Turning, Grinding, etc.)</p> <p>19880 Erection and Maintenance</p> <p>19890 Marketing Services</p> <p>19892 Offline Maintenance</p> <p>19893 Online Maintenance</p> <p>19895 Quality Management Consulting</p> <p>19900 Experts</p> <p>19910 Cutting and Welding Consulting</p> | <p>19911 Cutting, Nesting, and Slitting Optimisation Software</p> <p>19920 Welding Technology, Research and Teaching</p> <p>19930 Simulation Studies and Software</p> <p>19935 Software for Metals Processing</p> <p>19940 Steel Industry Suppliers for Spare Parts, Machinery, and Equipment, in general</p> <p>19950 Shot Blasting</p> <p>19952 Radiation Protection</p> <p>19955 Supply Chain Management</p> <p>19960 Subcontracting PVD Coating</p> <p>19970 Subcontracting Heat Treatment</p> <p>19980 Ion Implantation Service</p> <p>19990 Technical Translations and Documentation</p> <p>20000 Training and Start-Up of Iron and Steel Works Equipment</p> <p>20005 Management Consultancies</p> <p>20010 Rental of Electronic Measuring Instruments, Data Technology and Computers</p> <p>20015 Training, Vocational</p> <p>20016 Training Measures - Refractories</p> <p>20020 Certification</p><br><p><b>28. Steels in Civil and Structural Engineering</b></p><br><p><b>28.01 Software for Building and Construction</b></p> <p>20050 CAD-Software</p><br><p><b>28.02 Steel for Structural Steelwork</b></p> <p>20058 Constructional Steel</p> <p>20070 Hall Gates</p> <p>20086 Pipelines</p><br><p><b>28.03 Steels in Civil Engineering</b></p> <p>20100 Offshore Tchnology</p> |
|--|---|

20106 Tubes  
20112 Sheet Piling

### **30. Service concerning Steel Materials, in general**

#### **30.01 Joining**

20178 Brazing Technology

#### **30.02 Cutting/Separating**

20190 Folding and Cutting

#### **30.03 Stainless Steel Cutting Services**

20230 Laser Cutting  
20238 Plasma Cutting  
20246 Shearing

#### **30.04 Metal Forming and Shaping**

20258 Cold and Warm Bending  
of Tubes and Sections  
20260 Cold Bending of Tubes,  
Profiles etc.

#### **30.05 Surface Treatment**

20310 Pickling  
20320 Descaling  
20332 Surface Treatment  
20335 Surface Conditioning  
Services (grinding/  
scarfing)  
20340 Treating of Titanium

#### **30.06 Heat Treatment and Drying**

20346 Services  
20374 Heat Treatment,  
Annealing  
20375 Heat Treatment and  
Drying

### **31. Steel Trading/ Distribution**

20400 Steel Trading/  
Distribution

#### **31.01 Products, in general**

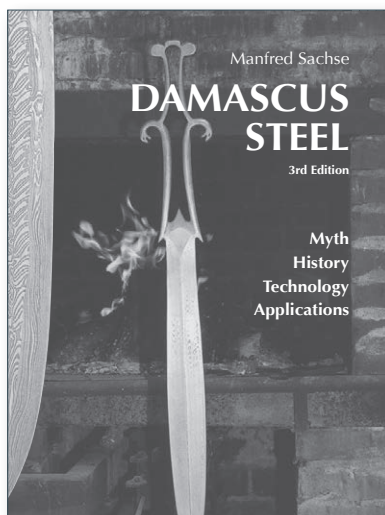
20420 Bright Steel, in general

#### **31.02 Products, particularly**

20450 Shapes and Sections,  
bright drawn

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Manfred Sachse



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