1. Building system technology electrical engineering, sanitation, heating, air conditioning

1.1 House and building automation

1.1.1 House automations
1.1.1.1 In-house and external operating and observation facilities
1.1.1.2 Automatic facilities for heating engineering
1.1.1.3 Automatic facilities for ventilation, air-conditioning and refrigeration engineering
1.1.1.4 Automatic facilities for plumbing
1.1.1.5 Automatic facilities for safety technology
1.1.1.6 Automatic facilities for lighting/shading engineering
1.1.1.7 Automatic facilities outdoor installations (e.g. garage doors)
1.1.1.8 Automatic facilities for in-house communication and telecommunication
1.1.1.9 Automatic facilities for further applications
1.1.2 Building automation
1.1.2.1 Centralised/decentralised management systems
1.1.2.2 System components for data communication
1.1.2.3 Automation systems for heating engineering
1.1.2.4 Automation systems for ventilation/air-conditio-ning/refrigeration engineering
1.1.2.5 Automation systems for plumbing
1.1.2.6 Automation systems for fire alarm technology
1.1.2.7 Automation systems for safety technology
1.1.2.8 Automation systems for lighting engineering
1.1.2.9 Automation systems for electrical distribution
1.1.2.10 Automation systems for shadowing technology
1.1.2.11 Automaton systems for lift engineering
1.1.2.12 Automation systems for outdoor installations (e.g. gate systems)
1.1.2.13 Automation systems for further applications
1.1.3 Building systems technology
1.1.3.1 Systems technology
1.1.3.2 Bus compatible installation systems
1.1.3.3 Modular wiring systems
1.1.3.4 Radio bus
1.1.4 Energy efficiency
1.1.4.1 Smart home
1.1.4.2 Smart metering
1.1.5 Lift installations
1.1.6 Staircase lifts

1.2 Measurement and process control engineering

1.2.1 Measurement engineering
1.2.1.1 Flush-type measuring instruments
1.2.1.2 Recording measuring instruments
1.2.1.3 Transducers
1.2.1.4 Sensors
1.2.1.5 Optical and acoustic signal-ling instruments, displays
1.2.1.6 Network analysers
1.2.1.7 Current and energy consumption analysers
1.2.1.8 Measuring instruments and equipment for ...
1.2.1.8.1 ... quantity, filling level, flow rate of liquids and gases
1.2.1.8.2 ... pressure
1.2.1.8.3 ... temperature
1.2.1.9 Amount of heat
1.2.1.9.1 Calorimetric counters (electronic)
1.2.1.9.2 Heating costs distributors
1.2.1.10 Moisture
1.2.1.11 Room climate
1.2.1.12 Smoke spot number
1.2.1.13 CO
1.2.1.14 CO_2
1.2.1.15 Sound, structure-borne noise
1.2.1.16 Air speed
1.2.1.17 Smoke gas analysis 22
1.2.1.18 kW value
1.2.2 Control engineering
1.2.2.1 Programmable logic controllers
1.2.2.2 Control units (e.g. heating, air conditioning and lighting)
1.2.2.3 Control, adapter and power electronics
1.2.3 Control engineering
1.2.3.1 Controllers
1.2.3.2 Maximum monitors
1.2.3.3 Network monitoring systems
1.2.3.4 Control drives
1.2.3.5 Reactive power compensation
1.2.3.6 Light barriers
1.2.3.7 Flush-type systems, governor casings
1.2.3.8 Remote control systems
1.2.3.9 House instrumentation and control systems (I & C systems)
1.2.3.10 Single room automatic controllers
1.2.4 Pneumatic control systems
1.2.5 Hydraulic control systems
1.2.6 Bus systems for measurement and process control engineering
1.2.7 Firing automatons
1.2.7.1 Oil firing automatons
1.2.7.2 Gas firing automatons
1.2.8 Heating, air-conditioning, ventilation controls and building automatons
1.2.8.1 Electrical/electronic I & C installations for central heating control
1.2.8.1.1 Central controllers in basic design
1.2.8.1.2 Central controllers with optimisation function
1.2.8.1.3 Central controllers with communication interface
1.2.8.1.4 Central regulating and control instruments for single room temperature control
1.2.8.1.5 Probes (e.g. for indoor and outdoor temperatures)
1.2.8.1.6 Remote control and display equipment
1.2.8.1.7 Pressure regulators, thermostats, clocks
1.2.8.1.8 Control drives, mixers, valves, throttle valves
1.2.8.1.9 Switchboards
1.2.8.2 Electrical/electronic I & C installations for decentrali-sed heating control
1.2.8.2.1 Single room temperature and zone regulators with communication interface
1.2.8.2.2 Room temperature probes
1.2.8.2.3 Remote control and display equipment
1.2.8.2.4 Clock thermostats
1.2.8.2.5 Thermostats
1.2.8.3 Electrical/electronic/pneu-matic I & C installations for central ventilation and air-conditioning control
1.2.8.3.1 Controllers, converters, amplifiers
1.2.8.3.2 Controllers, converters, amplifiers with communica-tion interface
1.2.8.3.3 Probes, transducers (e.g. for temperature, pressure, moisture)
1.2.8.3.4 Transducers for CO_2 and air quality
1.2.8.3.5 Remote control and display equipment
1.2.8.3.6 Pressure regulators, controlled humidity cabinets, clocks
1.2.8.3.7 Control drives, valves, throttle valves
1.2.8.3.8 Switchboards
1.2.8.4 Electrical/electronic/pneu-matic I & C installations for decentralised ventilation and air-conditioning control
1.2.8.4.1 Controllers for post-processing instruments (e.g. induction instruments, expansion valves, stirrers, flow regulators)
1.2.8.4.2 Controllers for post-processing instruments (e.g. induction instruments, expansion valves, stirrers, flow regulators)
1.2.8.4.3 Probes (e.g. for temperature, pressure, moisture, air speed)
1.2.8.4.4 Transducers for CO_2 and air quality
1.2.8.4.5 Presence sensing elements
1.2.8.4.6 Remote control and display equipment
1.2.8.4.7 Controlled humidity cabinets, thermostats, clocks
1.2.8.4.8 Control drives, valves, throttle valves
1.2.8.5 Building instrumentation and control
1.2.8.5.1 Master computer
1.2.8.5.2 Operating and observation units (alphanumerical)
1.2.8.5.3 Operating and observation units (can be graphically presented)
1.2.8.5.4 Data logging equipment
1.2.8.5.5 Insular centres/sub-centres
1.2.8.5.6 Open communication between master computer and insular centres/ sub-centres
1.2.8.5.7 Telecommunication for public switched telephone network
1.2.8.5.8 Maintenance management systems
1.2.8.5.9 Energy management systems

1.2.8.6 Direct digital controls (DDC)
1.2.8.6.1 Digital programmable stations for measurement and process control tasks in engineering operation and maintenance installations e.g. HVAC systems)
1.2.8.6.2 Digital programmable stations for systems integrated in technical building equipment (e.g. fire alarm devices, access control, time-operator acquisition)
1.2.8.6.3 Operating and observation units (alphanumerical)
1.2.8.6.4 Operating and observation units (can be graphically presented)
1.2.8.6.5 Data logging equipment
1.2.8.6.6 Telecommunication for public switched telephone network
1.2.8.6.7 Field devices
1.2.9 Other instruments and accessories
1.2.9.1 Operating hours meters

1.3 Management and visualisation systems
1.3.1 Production management systems
1.3.2 Remote control management systems
1.3.3 Visualisation systems
1.3.4 Other management systems

1.4 Information and communication installations
1.4.1 Telecommunication equipment and systems
1.4.1.1 Private branch exchanges
1.4.1.2 Installation systems and resources
1.4.1.3 Terminal equipment
1.4.1.4 Cordless terminal equipment and systems
1.4.1.5 Message systems
1.4.1.6 Test and measuring instruments
1.4.2 Intercom and two-way radio installations
1.4.3 In-house communication
1.4.4 Door interphones
1.4.5 Bell-ringing installations
1.4.6 Light-signal call and person search installations
1.4.7 Electro-acoustic installations
1.4.8 Mobile communication
1.4.8.1 Radio telephones
1.4.8.2 Radio calls
1.4.8.3 Operating radio
1.4.8.4 Data radio
1.4.8.5 Satellite communication
1.4.9 Multimedia applications
1.4.9.1 Hardware
1.4.9.2 Software
1.4.9.3 Digital television
1.4.9.4 Video conferences
1.4.9.5 Consumer electronics
1.4.10 Aerial masts
1.4.10.1 Standpipes
1.4.10.2 Mounting systems
1.4.11 Aerials
1.4.11.1 Terrestrial receiving stations
1.4.11.2 Satellite receiving aerials
1.4.12 Distribution systems
1.4.12.1 Amplifiers
1.4.12.2 Distributors
1.4.12.3 Branching
1.4.12.4 Channel preparation
1.4.12.5 Receivers
1.4.12.6 Installation materials

1.5 Alarm, safety and monitoring systems
1.5.1 Alarm systems
1.5.1.1 Burglar alarm systems
1.5.1.2 Deliberately operated alarms
1.5.1.3 Fire alarm systems
1.5.1.4 Escape route guidance, dynamic
1.5.2 Safety systems
1.5.2.1 Gas alarm installations
1.5.2.2 Smoke and heat extracting installations
1.5.2.2.1 Natural smoke and heat extracting systems which meet DIN EN
1.5.2.2.2 Lift shaft smoke extraction
1.5.2.2.3 Control units for smoke and heat extracting systems
1.5.2.2.4. Smoke extraction activation button
1.5.2.2.5. Motors
1.5.2.2.6. Detectors
1.5.2.2.7. Alarm devices
1.5.2.3 Closing and opening systems
1.5.2.4 Automatic controller systems
1.5.2.5 Lift shaft smoke extraction
1.5.3 Monitoring systems
1.5.3.1 Video monitoring systems
1.5.3.2 Access control systems
1.5.3.3 Anti-theft alarm systems
1.5.3.4 Clock and service time installations
1.5.3.5 Movement detecting systems
1.5.4 Fire door holders

1.6 Data systems and network technology
1.6.1 Passive components
1.6.2 Active components

1.7 Energy generation
1.6.1 Power generating aggregates, small generators

1.8 Energy supply
1.8.1 Current supply systems up to 1,000 volts
1.8.2 Uninterruptible power systems (UPS)
1.8.3 Transformers

1.9 Power conversion
1.9.1 Conversion
1.9.1.1 Current-voltage converters
1.9.1.2 Frequency converters
1.9.1.3 Inverters
1.9.1.4 Rectifiers

1.10 Energy storage
1.10.1 Storage
1.10.1.1 Batteries
1.10.1.2 Accumulators
1.10.1.3 Chargers

1.11 E-mobility
1.11.1 E-vehicles
1.11.2 Charging infrastructure
1.11.2.1 Charging stations
1.11.2.2 Wallboxes
1.11.3 Energy service providers

2. Electrical and sanitary technology

2.1 Installation technology and systems
2.1.1 Pipes and accessories
2.1.1.1 Pipes for radiant panel heating
2.1.1.2 Pipes for hot water heating
2.1.1.3 Pipes for drinking water and long-distance transmission lines
2.1.1.3.1 Fibre cement pipes
2.1.1.3.2 Cast-iron pipes
2.1.1.3.3 Plastic pipes
2.1.1.3.4 Copper or aluminium pipes, also factory insulated
2.1.1.3.5 Steel/stainless steel pipes, also factory insulated
2.1.1.3.6 Flexible pipes
2.1.1.3.7 Rebated pipes
2.1.1.3.8 Utility supplied heating pipes
2.1.1.3.9 Industrial water pipelines
2.1.1.3.10 Long-distance oil pipelines
2.1.1.3.11 Accessories for long distance pipelines
2.1.1.3.12 Protective piping
2.1.1.3.13 Pipe retrofitting
2.1.1.3.14 Chemical engineering cleaning
2.1.1.4 Fittings, pipe connectors and closures ...
2.1.1.4.1 ... made of fibre cement
2.1.1.4.2 ... cast iron
2.1.1.4.3 ... plastic
2.1.1.4.4 ... steel/stainless steel/ aluminium
2.1.1.4.5 ... cast steel
2.1.1.4.6 ... malleable cast iron
2.1.1.4.7 ... copper, brass, red brass
2.1.1.4.8 Joining technology
2.1.1.4.8.1 Thread connections
2.1.1.4.8.2 Adhesive bonding
2.1.1.4.8.3 Soldering
2.1.1.4.8.4 Welding
2.1.1.4.8.5 Pipe couplings
2.1.1.4.8.6 Compression fittings
2.1.1.4.8.7 Connectors
2.1.1.4.8.8 Clamps
2.1.1.4.8.9 Thread dry-seal material
2.1.1.4.9 Expansion joints, compensators
2.1.1.5 Discharge pipes and adapting pieces
2.1.1.5.1 Discharge pipes and adapting pieces for building, site and road drainage
2.1.1.5.2 Fibre cement discharge pipes and adapting pieces
2.1.1.5.3 Glass discharge pipes and adapting pieces
2.1.1.5.4 Cast-iron discharge pipes and adapting pieces
2.1.1.5.5 Plastic discharge pipes and adapting pieces, also sound-insulated
2.1.1.5.6 Steel/stainless steel discharge pipes and adapting pieces
2.1.1.5.7 Vitrified clay discharge pipes and adapting pieces
2.1.1.6 Exhaust gas pipes, vents, chimneys and accessories
2.1.1.6.1 Exhaust gas pipes and accessories
2.1.1.6.1.1 Exhaust gas pipes
2.1.1.6.1.2 Flue gas dampers
2.1.1.6.1.3 Furnace flues
2.1.1.6.2 Chimney flues and accessories
2.1.1.6.2.1 Chimney flues
2.1.1.6.2.2 Flue-gas ventilators
2.1.1.6.2.3 Explosion shutters
2.1.1.6.2.4 Chimney flue silencers
2.1.1.6.3 Exhaust pipes for condensing equipment and low-temperature boilers made of ...
2.1.1.6.3.1 ... Plastic
2.1.1.6.3.2 ... Stainless steel
2.1.1.6.3.3 ... Glass
2.1.1.6.3.4 ... Aluminium
2.1.1.6.3.5 ... Ceramics
2.1.1.6.4 Chimneys and accessories
2.1.1.6.4.1 Chimneys
2.1.1.6.4.2 Chimney bonnets
2.1.1.6.4.3 Chimney framing
2.1.1.6.4.4 Stainless steel chimneys
2.1.1.7 Tubes and bellows
2.1.1.7.1 Plastic tubes
2.1.1.7.2 Metal tubes
2.1.1.7.3 Rubber tubes
2.1.1.7.4 Hose connections
2.1.1.7.5 Metal bellows
2.1.1.7.6 Plastic bellows
2.1.1.7.7 Bellows made of other materials
2.1.1.8 Sealants
2.1.1.8.1 Sealing strips
2.1.1.8.2 Luting
2.1.1.8.3 Sealing and packing rings
2.1.1.8.4 Filling compounds
2.1.1.8.5 Rolling rings
2.1.1.8.6 Joint sealing compounds
2.1.1.9 Heat and noise insulation, corrosion and fire protection
2.1.1.9.1 Corrosion protection and insulating wrapping
2.1.1.9.2 Insulating material for pipes and containers

2.1.1.9.3 Protective paint coatings
2.1.1.9.4 Vibration dampers and spring elements
2.1.1.9.5 Fire protection for piping (water, wastewater)
2.1.1.9.6 Sound-proofing for piping (water, wastewater)
2.1.1.9.7 Plastic plates and sheets
2.1.1.10 Pipe penetrations
2.1.2 Drainage technology
2.1.2.1 Site drainage objects
2.1.2.2 Cellar drainage and backwater shut-offs
2.1.2.3 Soil drainage and bath drainage
2.1.2.4 Yard drainage and inlet top
2.1.2.5 Manhole covers
2.1.2.6 Balcony drainage
2.1.2.7 Roof drainage
2.1.2.8 Odour traps for sewers
2.1.2.9 Petrol separators
2.1.2.10 Grease separators
2.1.2.11 Fuel oil separators
2.1.2.12 Starch separators
2.1.2.13 Sewage treatment works
2.1.2.14 Wastewater treatment plants
2.1.2.15 Rainwater percolation technology
2.1.2.16 Trenchless pipe systems
2.1.3 Rainwater utilisation
2.1.3.1 Containers/pumps/fittings
2.1.4 Water treatment/ water purification
2.1.4.1 Dosing plants
2.1.4.2 Filters and filter plants
2.1.4.3 Chemical additives
2.1.4.4 Softening plants
2.1.4.5 Water degermination equipment
2.1.4.6 Physical water treatment
2.1.4.7 Deionisation plants
2.1.5 Fittings
2.1.5.1 Pipe fittings for water supplies to buildings/sites (excluding sanitary)
2.1.5.1.1 Shut-off and run-off fittings
2.1.5.1.1.1 Shut-off valves, straight and inclined seat types
2.1.5.1.1.2 Shut-off valves, corner type
2.1.5.1.1.3 Shut-off gates/cocks
2.1.5.1.2 Safety fittings
2.1.5.1.2.1 Backflow preventers
2.1.5.1.2.2 Pipe separators, interrupters, ventilators
2.1.5.1.3 Pressure reducers
2.1.5.1.3.1 Household water pressure reducers
2.1.5.1.3.2 Pressure reducer combinations for household water installations
2.1.5.1.4 Connecting fittings
2.1.5.1.4.1 Metal clamping screw joints for plastic pipes
2.1.5.1.4.2 Quick-release couplings and screw joins
2.1.5.2 Sanitary fittings
2.1.5.2.1 Mixer fittings
2.1.5.2.1.1 Dual-grip mixer fittings
2.1.5.2.1.2 Single-grip mixer fittings
2.1.5.2.1.3 Thermostatically controlled fittings
2.1.5.2.1.4 Contactless controlled fittings
2.1.5.2.1.5 Safety mixer fittings
2.1.5.2.1.6 Hairdresser fittings
2.1.5.2.1.7 Doctor's and hospital fittings
2.1.5.2.1.8 Series and circular wash-basin installation fittings
2.1.5.2.1.9 Shower fittings combinations
2.1.5.2.2 Shut-off and run-off fittings
2.1.5.2.2.1 Flush-type shut-off valves and gates with sanitary upper part
2.1.5.2.2.2 Pre-shut-off valves
2.1.5.2.2.3 Corner valves, sanitary versions
2.1.5.2.2.4 Shut-off and run-off fittings for pressure-tight hot water heaters (pressure type)
2.1.5.2.2.5 Shut-off and run-off fittings for open hot water heaters (low-pressure type)
2.1.5.2.2.6 Run-off valves
2.1.5.2.2.7 Appliance connecting fittings
2.1.5.2.2.8 Self-closing fittings (also for appliances)
2.1.5.2.2.9 Distributor fittings
2.1.5.2.2.10 Distributors for cold/hot water and circulation
2.1.5.2.2.11 Electronic fittings
2.1.5.2.3 Drain and overflow fittings
2.1.5.2.3.1 Drain valves
2.1.5.2.3.2 Drain and overflow fitting incl. odour traps
2.1.5.2.4 Showers
2.1.5.2.4.1 Hand showers
2.1.5.2.4.2 Head showers
2.1.5.2.4.3 Side showers
2.1.5.2.5 Flushing fittings
2.1.5.2.5.1 Pressure flusher/cistern fittings
2.1.5.2.5.2 Urinal flushes
2.1.5.2.5.3 Flushing heads for urinal installations
2.1.5.2.5.4 Jet regulators, air bubblers
2.1.5.2.5.5 Flow restrictors
2.1.5.3 Fittings for related appliances
2.1.5.3.1 Laboratory fittings
2.1.5.3.2 Safety showers
2.1.5.3.3 Fittings for medical equipment
2.1.5.3.4 Fittings for fountains and drinking fountains
2.1.5.4 Fittings for heating and drinking water heating installations
2.1.5.4.1 Metal shut-off fittings
2.1.5.4.1.1 Slides
2.1.5.4.1.2 Flaps
2.1.5.4.1.3 Valves
2.1.5.4.1.4 Taps
2.1.5.4.2 Non-ferrous metal shut-off fittings
2.1.5.4.2.1 Slides
2.1.5.4.2.2 Flaps
2.1.5.4.2.3 Valves
2.1.5.4.2.4 Taps
2.1.5.4.3 Backflow preventers
2.1.5.4.3.1 Flap valves
2.1.5.4.3.2 Check valves
2.1.5.4.3.3 Gravity brakes
2.1.5.4.4 Arrester, separator, drain fittings
2.1.5.4.4.1 Boiler filling and emptying taps
2.1.5.4.4.2 Quick exhausters, air separators
2.1.5.4.4.3 Condensate separators
2.1.5.4.4.4 Separators for solid, liquid and gaseous substances
2.1.5.4.4.5 Testing equipment
2.1.5.4.5 Monitoring fittings
2.1.5.4.5.1 Acoustic monitoring fittings
2.1.5.4.5.2 Sight glasses
2.1.5.4.5.3 Flow monitors
2.1.5.4.5.4 Water-level indicators
2.1.5.4.5.5 Flush-type and shut-off devices, status display and measuring instruments
2.1.5.4.6 Regulating fittings
2.1.5.4.6.1 Pressure regulators
2.1.5.4.6.2 Temperature controllers
2.1.5.4.6.3 Level controllers
2.1.5.4.6.4 Diaphragm and piston steered regulating fittings
2.1.5.4.7 Mixer fittings
2.1.5.4.7.1 Heater mixers
2.1.5.4.7.2 Straight-way, multi-way valves
2.1.5.4.7.3 Drinking water mixers
2.1.5.4.8 Fittings for pressure regulation of household installations
2.1.5.4.8.1 Differential pressure control systems
2.1.5.4.8.2 Line regulating valves
2.1.5.4.8.3 Over-current valves
2.1.5.4.9 Safety valves
2.1.5.4.9.1 Safety valves for drinking water treatment
2.1.5.4.9.2 Safety valves for central heating installations
2.1.5.4.9.3 Weight and spring loaded safety valves
2.1.5.4.9.4 Safety valves with pilot control
2.1.5.4.10 Other safety fittings
2.1.5.4.10.1 Rupture discs, blow-out fuses etc.
2.1.5.4.10.2 Pipe burst safeguards
2.1.5.4.10.3 Overfill safeguards
2.1.5.4.10.4 Explosion safeguards and flame traps
2.1.5.4.11 Fittings for radiator regulation
2.1.5.4.11.1 Radiator thermostat valves
2.1.5.4.11.2 Control drives for radiator thermostats
2.1.5.4.11.3 Zone valves
2.1.5.4.11.4 Radiator manual control valves
2.1.5.4.11.5 Special valve versions e.g. for one-pipe heating etc.
2.1.5.4.12 Other radiator fittings
2.1.5.4.12.1 Radiator screw joints
2.1.5.4.12.2 Radiator vents
2.1.5.4.13 Heating loop distributors
2.1.5.4.13.1 Distributors for under-floor heating, one and two tube systems
2.1.5.4.13.2 Boiler distributors/collectors
2.1.5.4.13.3 Hydraulic switches
2.1.5.4.14 Oil burning system fittings
2.1.5.4.14.1 Shut-off, connecting and distribution fittings for fuel oil central heating incl. oil storage container
2.1.5.4.14.2 Shut-off and connecting fittings for central fuel oil supply
2.1.5.4.14.3 Fuel oil pressure reducer
2.1.5.4.14.4 Fuel oil filter
2.1.5.4.14.5 Run-off fittings for fuel oil barrels
2.1.5.4.14.6 Oil taps that can be lubricated
2.1.5.4.14.7 Oil ball valves (cannot be lubricated)
2.1.5.4.14.8 Solenoid valves/ control valves for oil
2.1.5.4.14.9 Oil distributors
2.1.5.5 Gas fittings
2.1.5.5.1 Gas fittings for household installations
2.1.5.5.2 Ball valves (cannot be lubricated)
2.1.5.5.3 Solenoid valves/ control valves
2.1.5.5.4 Taps (can be lubricated)
2.1.5.5.5 Gas equipment flush fittings
2.1.5.5.5.1 Gas filters
2.1.5.5.6 Liquefied gas fittings
2.1.5.5.6.1 Pressure regulators
2.1.5.5.6.2 Cylinder valves
2.1.5.6 Fire extinguisher and similar fittings
2.1.5.6.1 Fittings for fire brigade equipment and hydrants
2.1.5.6.2 Fittings for small fire extinguishers and sprinkler systems
2.1.6 Curtain wall installations
2.1.6.1 Prefabricated installations, sanitary cores
2.1.6.1.1 Installation frames, walls and blocks
2.1.6.1.2 Prefabricated wash, bath and shower units
2.1.6.1.3 Accessories for prefabrications
2.1.6.1.4 Equipment and systems for curtain wall installations
2.1.6.1.5 Supporting structures for sanitary objects
2.1.7 Cables/conductors
2.1.7.1 Insulated leads
2.1.7.2 Cables
2.1.7.3 Wires
2.1.7.4 Power rails
2.1.7.5 Fibre-optic light guides
2.1.8 Connecting material, small parts, accessories
2.1.8.1 Clamps
2.1.8.2 Cable sleeves, cable accessories
2.1.8.3 Bushes
2.1.8.4 Compression connectors
2.1.8.5 Insulating material

2.1.8.6 Cable relief
2.1.8.7 Fixing and mounting material
2.1.8.8 Fork terminals
2.1.8.9 Fixing material
2.1.8.9.1 Dowels
2.1.8.9.2 Pipe tape
2.1.8.9.3 Mounting rails
2.1.8.9.4 Fixing systems
2.1.8.9.5 Pipe hooks
2.1.8.9.6 Pipe clamps
2.1.8.9.7 Screws and rivets
2.1.9 Electrical installation systems
2.1.9.1 Channel systems
2.1.9.2 Cable channels, cable-ways, cable racks, troughs
2.1.9.3 Pipes, tubes
2.1.9.4 Under-floor installation systems
2.1.9.5 Vertically installed post systems
2.1.9.6 Flush-type units for installation systems
2.1.9.7 Connectors, branches, switches, sockets and boxes
2.1.9.8 Leads/cable, bushings, bulkheads
2.1.9.9 Adhesives technology
2.1.9.10 Identification and labelling materials
2.1.10 Fire technology
2.1.10.1 Coatings
2.1.10.2 Coverings
2.1.10.3 Fire walls
2.1.10.4 Fire doors
2.1.11 Energy distribution
2.1.11.1 Service boxes
2.1.11.2 Meter cabinets, boards
2.1.11.3 Distribution cabinets, small-scale distributors
2.1.11.4 Building current, mobile distributors
2.1.11.5 Switch cabinets
2.1.11.6 Mains stations
2.1.11.7 Low-voltage switching installations
2.1.11.8 Medium-high voltage switching installations
2.1.12 Switching devices, protectors, plugs and sockets
2.1.12.1 Installation switches
2.1.12.2 Current impulse switches
2.1.12.3 Time switches
2.1.12.4 Push buttons
2.1.12.5 Contactors, relays (also explosion-proof)
2.1.12.6 Power switches
2.1.12.7 Main switches
2.1.12.8 On-load switches
2.1.12.9 Separating devices
2.1.12.10 Mains shunt switches
2.1.12.11 Emergency-off switches
2.1.12.12 Protective switches for motors
2.1.12.13 Limit switches
2.1.12.14 Fuses
2.1.12.15 Line circuit protectors
2.1.12.16 Fault current protectors
2.1.12.17 Insulation monitoring systems
2.1.12.18 Plugs
2.1.12.19 Couplings
2.1.12.20 Sockets
2.1.12.21 Combinations
2.1.12.22 Radio switches
2.1.12.23 Dimmer switches
2.1.13 Earthing, potential balance
2.1.13.1 Earthing material
2.1.13.2 Materials for potential balance
2.1.14 Interior lightning protection, over-voltage protection
2.1.14.1 Interior lightning protection
2.1.14.2 Network limiters
2.1.14.3 Equipment protection
2.1.14.4 Screening
2.1.14.5 Material and equipment against electrostatic charging

2.2 Showers, baths, W.C.

2.2.1 Sanitary equipment for bathrooms, washrooms, W.C.
2.2.1.1 Baths and shower trays
2.2.1.2 Whirlpools
2.2.1.3 Bath supports
2.2.1.4 Bath inserts
2.2.1.5 Washstands, hand-basins, washbasins (bidets)
2.2.1.6 Washing, series washing installations, washing rows, washing wells
2.2.1.7 Shower cabinets, facilities, systems
2.2.1.8 Shower-W.C.
2.2.1.9 Drinking fountains
2.2.1.10 Flushing systems, cisterns, pressure flushing
2.2.1.11 W.C. and urinal accessories
2.2.1.11.1 Flush pipes
2.2.1.11.2 W.C. and urinal supports
2.2.1.11.3 W.C., connector and screw connections
2.2.1.11.4 W.C. seats and lids
2.2.1.11.5 W.C. and W.C. seat fixing
2.2.1.11.6 W.C. ventilation installations
2.2.1.11.7 W.C. cleaning agents
2.2.1.11.8 W.C. conveying systems
2.2.1.11.9 Sound insulating systems against structure-borne noise
2.2.1.12 Outfitting objects for bathroom and W.C.
2.2.1.12.1 Bathroom furniture, mirrored bathroom cabinets, mirrors
2.2.1.12.2 Sliding and folding doors, sidewalls, shower curtains
2.2.1.12.3 Bathroom and shower grids, seats, footrests, stools for bathroom showers
2.2.1.12.4 Textile accessories, bath inserts, mats and rugs
2.2.1.12.5 Towels, bath towels, tooth mugs and toilet paper holders, bathroom hooks, shelves, bath grips
2.2.1.12.6 Soap and towel dispensers, hair and hand driers
2.2.1.12.7 Bath aprons (also heated)
2.2.1.12.8 Wall and floor covering, tiles
2.2.2 Electrical equipment
2.2.2.1 Special design-oriented switching devices, plug installations
2.2.2.1.1 Installation switches
2.2.2.1.2 Radio switches
2.2.2.1.3 Sockets
2.2.2.1.4 Combinations
2.2.2.2 Special protective devices
2.2.2.2.1 Emergency-off switches
2.2.2.2.2 Fault current protective switches
2.2.2.3 Special design-oriented lamps
2.2.2.3.1 Key lights
2.2.2.3.2 Low-voltage lighting systems
2.2.2.3.3 Light controls
2.2.2.4 Special audio-systems for bathrooms

2.3 Kitchen, domestic rooms

2.3.1 Sanitary equipment
2.3.1.1 Extended and flush-type kitchens, kitchen furniture
2.3.1.2 Washing-up tables and sinks, kitchen sinks
2.3.1.3 Washing-up table under-part
2.3.1.4 Washing-up table accessories
2.3.1.5 Kitchen ventilation and venting equipment
2.3.1.5.1 Fume hoods for large commercial kitchens
2.3.1.6 Washing and drying equipment
2.3.2 Electrical equipment
2.3.2.1 Electric ovens
2.3.2.2 Refrigerators
2.3.2.3 Freezing cabinets
2.3.2.4 Dish washing machines
2.3.2.5 Washing machines
2.3.2.6 Washing driers
2.3.2.7 Ironing appliances
2.3.2.8 Other electrical equipment for kitchens and domestic applications

2.4 Barrier-free and elderly accessible

2.4.1 Safety equipment
2.4.2 Bath and shower aids
2.4.3 Toilet aids
2.4.4 Wash basin systems & accessories
2.4.5 Electrical emergency systems
2.4.6 Electrical monitoring systems for stoves/gas
2.4.7 Lighting systems
2.4.8 Opening/access systems

2.5 Wellness

2.5.1 Swimming pools
2.5.1.1 Swimming baths
2.5.1.2 Swimming pool water filters
2.5.1.3 Swimming pool water heating systems
2.5.1.4 Swimming pool pumps
2.5.1.5 Swimming pool water disinfection systems
2.5.1.6 Swimming pool water disinfectants
2.5.1.7 Swimming pool accessories
2.5.1.8 Whirlpools
2.5.2 Sauna, solarium, fitness
2.5.2.1 Sauna cabins and houses
2.5.2.2 Sauna ovens
2.5.2.3 Sauna accessories
2.5.2.4 Solarium
2.5.2.5 Steam baths
2.5.2.6 Light therapy installations

3. Heating technology

3.1 Heat generator(s), heat distribution, heat emission, components

3.1.1 Boilers, drinking water heaters and accessories
3.1.1.1 Oil/gas boilers for forced draught burners with and without hot water preparation
3.1.1.1.1 Cast-iron or steel boilers
3.1.1.1.2 Boilers made of other materials
3.1.1.1.3 Boiler-burner units
3.1.1.2 Condensing equipment
3.1.1.2.1 Condensing equipment with gas, with or without hot water preparation
3.1.1.2.2 Condensing boiler for gas
3.1.1.2.3 Condensing boiler for oil
3.1.1.3 Gas special boilers
3.1.1.3.1 Gas special boilers with/without drinking water heating
3.1.1.4 Gas circulating water heaters/combined gas water heaters
3.1.1.4.1 Gas wall heaters, combined water heaters
3.1.1.5 Solid fuel boilers
3.1.1.5.1 Solid fuel boilers
3.1.1.5.2 Reversing and alternating fired boiler/two chamber boilers
3.1.1.6 Drinking water heaters (storage)
3.1.1.6.1 Directly heated gas drinking water storage
3.1.1.6.2 Directly heated electrical drinking water storage
3.1.1.6.3 Directly heated oil drinking water storage
3.1.1.6.4 Indirectly heated drinking water storage, internally and externally heated
3.1.1.6.5 Directly heated gas condensers for hot water
3.1.1.7 Drinking water heaters (instant)
3.1.1.7.1 Gas instant water heaters
3.1.1.7.2 Electrical instant water heaters
3.1.1.8 Drinking water heat pumps
3.1.1.9 Heat exchangers
3.1.1.9.1 Heat exchangers for steam
3.1.1.9.2 Heat exchangers for warm and hot water
3.1.1.9.3 Exhaust gas heat exchangers

3.1.1.9.4 Degassers
3.1.1.9.5 Pressure hold equipment
3.1.1.10 Hot water preparation
3.1.1.10.1 Hot water storage
3.1.1.10.2 Instant water heaters
3.1.2 Oil burners and accessories
3.1.2.1 Oil burners
3.1.2.2 Injection atomising burners (air/steam atomising burner)
3.1.2.3 Pressure atomising burners
3.1.2.4 Rotating atomising burners (combined burners)
3.1.2.5 Vaporising burners for oil boilers
3.1.2.6 Oil boiler accessories
3.1.3 Gas burners and accessories
3.1.3.1 Gas burners
3.1.3.2 Gas burners with fan
3.1.3.3 Gas burners without fan (atmospheric)
3.1.3.4 Two-fuel burners (gas/oil)
3.1.3.5 Gas infrared emitters
3.1.3.6 Gas burner accessories
3.1.4 Radiators, radiant panel heating systems and accessories
3.1.4.1 Aluminium radiators
3.1.4.1.1 Cast-iron radiators
3.1.4.1.2 Steel radiators
3.1.4.2 Convectors and baseboard heaters
3.1.4.3 Panel heaters, radiant panel heaters, towel driers
3.1.4.3.1 Flat radiators
3.1.4.3.2 Heated towel rails
3.1.4.3.3 Panel radiator
3.1.4.3.4 Accessories for panel and flat radiators
3.1.4.4 Ribbed tube radiators
3.1.4.5 Tubular radiators
3.1.4.6 Bathroom radiators
3.1.4.7 Radiator mounts
3.1.4.8 Radiator casings
3.1.4.8.1 Rolling grids, convector ducts
3.1.4.8.2 Plinths for covering radiator pipes
3.1.4.8.3 Radiator linking systems
3.1.4.9 Radiant panel heaters
3.1.4.9.1 Ceiling-mounted radiant heating
3.1.4.9.2 Floor heating systems
3.1.4.9.3 Wall-mounted heating systems
3.1.5 Other heaters
3.1.5.1 Gas-fired heaters
3.1.5.1.1 Gas-fuel firing automatons, gas radiators (with exhaust gas connector)
3.1.5.1.2 Gas radiators
3.1.5.1.3 Gas infra-red radiators
3.1.5.1.4 Heaters without vent
3.1.5.1.5 Outside wall heaters
3.1.5.1.6 Garage heating automatons
3.1.5.1.7 Caravan heating
3.1.5.2 Antifreeze equipment
3.1.5.3 Systems for heat recovery
3.1.6 Containers, oil tanks and accessories
3.1.6.1 Expansion tanks
3.1.6.2 Domestic water heaters
3.1.6.3 Pressure tanks
3.1.6.3.1 Storage tanks
3.1.6.4 Fuel oil storage tanks and accessories
3.1.6.4.1 Cylindrical above and below ground storage tanks
3.1.6.4.2 Battery containers and spherical tanks
3.1.6.4.3 Cellar welded tanks
3.1.6.4.4 Wall elements for cellar welded tanks
3.1.6.4.5 Plastic fuel oil storage tanks
3.1.6.4.6 Fuel oil piping and accessories
3.1.6.4.7 Safety pipes for oil
3.1.6.5 Leak displays and alarm systems, leak-proofing equipment
3.1.6.6 Oil catch basins
3.1.6.7 Oil tank covers and ducts
3.1.6.8 Tank content displays
3.1.6.9 Tank interior protection (incl. appropriate service)
3.1.6.10 Tank testing instruments
3.1.6.11 Overfilling safeguards
3.1.6.12 Tank cleaning
3.1.6.12.1 Tank cleaning agents
3.1.6.12.2 Tank cleaning installations
3.1.7 Corrosion protection, scaling protection
3.1.7.1 Corrosion protection installations
3.1.7.1.1 Cathodic corrosion protection
3.1.7.1.2 Chemical corrosion protection
3.1.7.2 Scaling protection, anti-scaling and de-scaling agents, de-scaling installations
3.1.8 Tiled stoves – open fireplaces
3.1.8.1 Heating inserts for tiled stoves
3.1.8.1.1 Heating inserts for oil
3.1.8.1.2 Heating inserts for gas
3.1.8.1.3 Heating inserts for solid fuel
3.1.8.1.4 Heating inserts with water heat exchanger
3.1.8.1.5 Electric heaters
3.1.8.1.6 Hot air tiled stoves
3.1.8.1.7 Basic tiled stoves
3.1.8.2 Chimney inserts, chimney cassettes, stoves with chimney
3.1.8.2.1 Chimney inserts with and without various doors
3.1.8.2.2 Cast-iron/steel plate prefabricated furnaces
3.1.8.2.3 Fire-brick prefabricated furnaces
3.1.8.2.4 Chimney cassettes
3.1.8.2.5 Smoke collectors
3.1.8.2.6 Stoves with chimney
3.1.8.3 Ovens, stoves
3.1.8.3.1 Heating stoves
3.1.8.3.2 Stoves for fuel oil, natural gas, liquid gas, solid fuels
3.1.8.3.3 Tiled stoves
3.1.8.3.4 Continuous fire ovens for solid fuels
3.1.8.3.5 Oil ovens
3.1.8.3.6 Tiled ovens
3.1.8.4 Component sets for tiled ovens and open fireplaces ...
3.1.8.4.1 ... using solid fuels
3.1.8.4.2 ... using gaseous fuels
3.1.8.4.3 Finished tiled stoves
3.1.8.4.4 Basic stove component sets
3.1.8.4.5 Finished fireplaces
3.1.8.4.6 Complete fireplaces
3.1.8.4.7 Fireplace cassettes
3.1.8.5 Stove tiles
3.1.8.5.1 Stove tiles
3.1.8.5.2 Tiled stoves
3.1.8.5.3 Ceramics for radiating areas
3.1.8.5.4 Tepidarium
3.1.8.6 Accessories for tiled stove construction
3.1.8.6.1 Post-heating areas of cast-iron/steel plate, bends, double bends
3.1.8.6.2 Exhaust gas piping and accessories
3.1.8.6.3 Pipe connections for ceramic flues
3.1.8.6.4 Cleaning openings, capsules
3.1.8.6.5 Supporting materials for heating chambers (insulation and metal sheets)
3.1.8.6.6 Pre-doors, pipe doors, heating pipes, air grids
3.1.8.6.7 Tiled stove doors (fire gates for basic tiled stoves)
3.1.8.6.8 Fire up flaps and slides
3.1.8.6.9 Air lines, connecting and fixing elements
3.1.9 Combined heat and power plants
3.1.9.1 Combined heat and power
3.1.9.1.1 Combined heat and power plants, CHP modules
3.1.9.1.2 Combined heat and power/cooling and power
3.1.9.1.3 Utility supplied heating compact installations
3.1.10 Near and utility supplied heating technology
3.1.10.1 Remote and local supplied heating combined generation systems
3.1.10.1.1 Small combined heat and power plants (gas, steam)
3.1.10.1.2 Large combustion plant technology
3.1.10.1.3 Combined heat and power plants (CHP)
3.1.10.1.4 Heat storage tanks
3.1.10.1.5 Pressure-hold systems
3.1.10.1.6 Automating systems
3.1.10.1.7 Energy management systems
3.1.10.1.8 Building connecting and invoicing technology
3.1.10.1.9 Transfer stations
3.1.10.1.10 Automation technology
3.1.10.1.11 Energy registration and invoicing systems
3.1.10.1.12 Energy advice, delivery, invoicing
3.1.10.2 Utility supplied heat transfer stations
3.1.10.2.1 Utility supplied heat house stations
3.1.10.2.2 Mobile heating unit

3.2 Heating engineering, electrical systems

3.2.1 Electric heaters
3.2.1.1 Electric radiators
3.2.1.2 Electric irradiators and electric infra-red irradiators
3.2.1.3 Electric storage heaters
3.2.1.4 Electric convectors
3.2.1.5 Direct heaters
3.2.1.6 Floor storage, direct floor heating
3.2.1.7 Direct ceiling heating
3.2.2 Other heaters
3.2.2.1 Open air space heating
3.2.2.2 Pipe accompanying heating
3.2.2.3 Roof gutter heating
3.2.3 Electric heating elements
3.2.3.1 Heating pads
3.2.3.2 Heating loops
3.2.3.3 Immersion tube heaters, heating inserts

3.3 Hybrid heating systems

3.3.1 Heat pump with gas/oil condensing boiler
3.3.2 Gas/oil condensing devices with thermal solar system and/or solid biomass (single-unit heat-producing appliance with water vessel)
3.3.3 Domestic co-generation with thermal solar system and/or solid biomass (incl. fuel cell)
3.3.4 Gas heat pump with/without thermal solar system
3.3.5 Fuel cell
3.3.6 Domestic co-generation (mini, micro, large)

4. Renewable energy

4.1 Biogas plants
4.2 Fuel cell technology
4.3 Flat collectors
4.4 Wood chip boilers
4.5 Wood gasification boilers
4.6 Refrigerants
4.7 Refrigerating compressors/compressors
4.8 Collectors (thermal), solar collectors and absorbers
4.9 Combined storage
4.10 Complete systems (thermal)
4.11 CHP from biomass
4.12 I & C technology for solar installations
4.13 Wood piece pellets combi-boiler
4.14 Pellet feed machines (screw-drive, suction systems)
4.15 Pellet boilers

4.16 Pellet storage (tanks, silos)
4.17 Pellet ovens
4.18 Pellet ovens with water cup
4.19 Storage tanks
4.20 Photovoltaic systems
4.20.1 Photovoltaic solar cells and modules
4.20.1.1 Solar cells
4.20.1.2 Modules
4.20.1.3 Thin-film technology
4.20.2 Photovoltaic system technology
4.20.2.1 Inverters
4.20.2.2 Measurement and control technologies
4.20.2.3 Charging devices and rechargeable batteries
4.20.3 Photovoltaic parts, tracking systems, installation systems
4.20.3.1 Cables, connectors and junction boxes
4.20.3.2 Tracking systems
4.20.3.3 Installation systems
4.20.3.4 Installation aids
4.20.4 Photovoltaic applications
4.20.4.1 Power stations
4.20.4.2 Energy storage
4.20.4.3 Off-grid systems
4.20.4.4 Building-integrated photovoltaic (BIPV)
4.20.4.5 Solar-powered household devices (solar lamps, solar toys)
4.21 Wood piece boilers
4.22 Solar roofs
4.23 Solar cooling
4.24 Solar storage
4.25 Drinking water solar storage
4.26 Vacuum collectors
4.27 Heat recovery/exhaust gas heat exchangers
4.28 Heat exchangers (condensers, evaporators)
4.29 Heat transfer media
4.30 Wind energy technology and accessories
4.31 HP air-air
4.32 HP air-water
4.33 HP brine-water
4.34 HP water-water
4.35 Downhole heat exchangers
4.36 Brine circuit manifolds
4.37 Distributor shafts
4.38 Accessories for shallow ground geothermal systems
4.39 Accessories for solar technology
4.40 Accessories for heat pump technology
4.41 Accessories for pellet heating
4.42 Accessories for wood, wood-gas and solid-fuel boilers
4.43 Pipe systems
4.43.1 Flexible pipes
4.43.2 Metallic pipes
4.43.3 Multilayer pipes

5. 5. Lighting technology

5.1 Lamps
5.1.1 Lamps
5.1.1.1 Incandescent lamps
5.1.1.2 Gas discharge lamps
5.1.1.3 Starters for gas discharge lamps

5.2 Lighting fittings
5.2.1 Technical lighting fittings
5.2.2 Lighting fixtures with higher protection class
5.2.3 Light emitters
5.2.4 Emergency/safety illumination
5.2.5 Battery supported safety illumination
5.2.6 Portable special lighting fittings
5.2.7 Explosion-proof lighting fittings
5.2.8 Workplace lighting fittings
5.2.9 Key lighting fittings
5.2.10 Outdoor lighting fittings
5.2.11 Technical indoor lighting fittings for industry and trade
5.2.12 Technical indoor lighting fittings for special applications
5.2.13 Domestic space and representative lighting fittings
5.2.14 Accessories for electrical lighting fittings
5.2.15 Illumination systems, accessories
5.2.16 Low-voltage illumination systems
5.2.17 LED
5.2.17.1 LED lighting
5.2.17.2 LED modules
5.2.17.3 OLED
5.2.17.4 LED converters
5.2.17.5 LED bulb holders
5.2.17.6 Interior LED lighting
5.2.17.7 Outdoor LED lighting
5.2.17.8 LED advertising signs

5.3 Operational apparatus
5.3.1 Ballast for fluorescent lamps
5.3.2 Electronic ballast for fluorescent lamps
5.3.3 Ballast for other gas discharge lamps
5.3.4 Transformers for halogen lamps
5.3.5 Sockets for electronic lamps and lighting fittings
5.3.6 Holding systems for lighting fittings
5.3.7 Installation material for lighting fittings
5.3.8 Lighting control equipment
5.3.9 Other accessories for lighting fittings

5.4 Illuminated advertising installations
5.4.1 Illuminated transparencies
5.4.2 Illuminated transparency systems
5.4.3 Neon tubes
5.4.4 Lamps and illuminants

5.5 Lighting control, lighting management
5.5.1 Light and colour measuring instruments
5.5.2 Lighting control installations
5.5.3 Service performances, contracting

6. Air conditioning, refrigeration, ventilation

6.1 Air-conditioning technology
6.1.1 Room air, technical installations and equipment
6.1.1.1 Central systems for indrawn and exhaust air
6.1.1.2 Air humidifying and de-humidifying equipment
6.1.1.3 Air degermination equipment
6.1.1.4 Air heating equipment
6.1.1.5 Fan convectors for heating
6.1.1.6 Air heaters
6.1.1.7 Hot air generators for liquid fuels
6.1.1.8 Hot air generators for gaseous fuels
6.1.1.9 Room air conditioners Class 1 (consisting of fan and installations for warming and moistening the air)
6.1.1.9.1 Room air conditioners Class 1 for warming (moistening) indrawn air
6.1.1.10 Room air conditioners Class 2 (consisting of fan and installation for cooling (de-humidifying) indrawn air
6.1.1.10.1 Room air conditioners Class 2 (with and without integrated cooling or evaporating units)
6.1.1.10.2 Room air conditioners Class 2 with integrated climate chilling unit
6.1.1.10.3 Fan convectors for cooling
6.1.1.11 Room air conditioners Class 3 with and without climate chilling unit (consisting of fan and facilities for warming and cooling (de-humidifying) indrawn air)
6.1.1.11.1 Room air conditioners Class 3 with and without chilling unit or evaporating unit
6.1.1.11.2 Climate convectors with and without integrated climate chilling unit
6.1.1.12 Room air conditioners Class 4 (consisting of fan and facilities for warming, cooling (de-humidifying and moistening indrawn air)
6.1.1.12.1 Room air conditioners Class 4 with and without integrated chilling or evaporating unit
6.1.2 Room ventilation
6.1.2.1 Systems
6.1.2.2 Warm air generators (gas, oil, electricity)
6.1.2.3 Components
6.1.2.3.1 Central units
6.1.2.3.2 Decentral units
6.1.2.3.3 Heat recovery
6.1.2.3.4 Heat pumps
6.1.2.3.5 Air filters
6.1.2.3.6 Fans
6.1.2.3.7 Sound deadeners
6.1.2.3.8 Air ducts and accessories
6.1.2.3.9 Air passages
6.1.2.3.10 Room air conditioners
6.1.3 Used air ceilings for moist and grease-laden workrooms

6.2 Refrigerating engineering
6.2.1 Refrigeration installations and accessories
6.2.1.1 Refrigerating compressors
6.2.1.2 Refrigerated water sets
6.2.1.3 Refrigerating plants and accessories
6.2.1.4 Refrigerants
6.2.1.5 Cooling ceilings
6.2.1.6 Power/heat/cold coupling
6.2.1.7 Cooling towers
6.2.1.8 Compressor drive motors
6.2.1.9 Refrigeration fittings
6.2.1.9.1 Fittings for commercial refrigeration
6.2.1.9.2 Fittings for cryogenic technology
6.2.1.9.3 Cold furniture fittings

6.3 Ventilation engineering
6.3.1 Components for technical room air duct systems
6.3.1.1 Air technology ducts, pipes, air channels and adapters
6.3.1.1.1 Holding materials
6.3.1.1.2 Sealing materials for air technology ducts
6.3.1.1.3 Air distribution ducts in safety rooms
6.3.1.2 Air passages, air inlets, air outlets
6.3.1.3 Induction equipment
6.3.1.4 Ventilation flaps
6.3.1.4.1 Fire protection flaps
6.3.1.5 Mixing boxes, expansion boxes
6.3.1.6 Sound deadeners
6.3.2 Components for room air technology equipment or plants
6.3.2.1 Fans
6.3.2.1.1 Axial fans
6.3.2.1.2 Radial fans
6.3.2.1.3 Cross flow fans
6.3.2.1.4 Fan wheels, fan blades
6.3.2.1.5 Plastic fans
6.3.2.1.6 Roof fans
6.3.2.1.7 Wall ring fans
6.3.2.1.8 Fire gas fans

6.3.2.2 Air treatment facilities
6.3.2.2.1 Heat exchangers
6.3.2.2.1.1 Air heaters, air coolers
6.3.2.2.2 Components for heat recovery (recuperative, regenerative)
6.3.2.2.2.1 Air filters, mechanical
6.3.2.2.2.2 Air filters, absorption and chemical
6.3.2.2.2.3 Air filters, electrostatic
6.3.2.3 Air humidifiers/air washers, atomising nozzles, steam air humidifiers
6.3.2.4 Volume flow controls
6.3.2.5 Clean room technology
6.3.3 Other air technology equipment
6.3.3.1 Climatic test cabinets
6.3.3.2 Safety room ventilators
6.3.3.3 Air-curtain door sealing
6.3.3.4 Clean-room equipment
6.3.3.5 Drying engineering/ drying plants
6.3.3.6 Exhaust systems
6.3.3.6.1 Exhaust arms, point exhausts
6.3.3.6.2 Workplace exhausts
6.3.3.7 Central vacuum cleaners, central vacuum cleaning plants
6.3.3.8 Systems for domestic space ventilation with heat recovery
6.3.4 Natural ventilation
6.3.4.1 Mechatronic products for natural ventilation

7. Pumps and drive-technology

7.1 Electric motors and controls
7.1.1 Direct current motors
7.1.2 Three-phase a.c. motors
7.1.3 Servo and stepper motors
7.1.4 Control motors
7.1.5 Linear motors
7.1.6 Motor controls
7.1.7 Shutter controls

7.2 Mechanical drive elements
7.2.1 Rack-and-pinion drives
7.2.2 Chain drives
7.2.3 Motors for locks
7.2.4 Motors for blinds
7.2.5 Motors for windows
7.2.6 Motors for doors
7.2.7 Electromechanical driving elements
7.2.8 Motors for shutters

7.3 Pumps
7.3.1 Mechanically driven pumps
7.3.1.1 Wastewater pumps
7.3.1.2 Thick-stock and faeces pumps
7.3.1.3 Booster pumps
7.3.1.4 Drum pumps
7.3.1.5 Garden pumps
7.3.1.6 Household water supply pumps
7.3.1.7 Wastewater lifting plants
7.3.1.8 Cellar drainage pumps
7.3.1.9 Boiler feed-water pumps
7.3.1.10 Piston pumps
7.3.1.11 Condensate pumps
7.3.1.12 Impeller pumps, also self-priming
7.3.1.13 Diaphragm pumps
7.3.1.14 Oil burner pumps
7.3.1.15 Oil pumps
7.3.1.16 Rotating displacement pumps
7.3.1.17 Fountain pumps
7.3.1.18 Sewage pumps
7.3.1.19 Stator pumps
7.3.1.20 Submersible motor pumps
7.3.1.21 Drainage pumps
7.3.1.22 High-pressure cleaning pumps
7.3.1.23 Submersible pumps, swimming pool pumps
7.3.2 Circulation pumps
7.3.2.1 Hot water circulation pumps
7.3.2.2 Service water circulation pumps
7.3.2.3 Circulation pumps
7.3.2.4 Solar circulation pumps
7.3.2.5 Circulation pumps for air conditioning
7.3.3 Hand pumps
7.3.4 Special pumps
7.3.4.1 Metering pumps
7.3.4.2 Pressure test pumps
7.3.4.3 Scale removal pumps
7.3.4.4 Acid pumps
7.3.4.5 Water jet pumps
7.3.4.6 Pumps with cutting system
7.3.4.7 Pump installations (also with containers)
7.3.4.8 Pump stations
7.3.5 Accessories for pumps
7.3.5.1 Switchover installations
7.3.5.2 Pump controls
7.3.5.3 Other pump accessories

8. Plumbing engineering

8.1 Metal roof and façade casings …
8.1.1 … in tin-smith technology
8.1.2 … in system technology
8.1.3 Shingle technology

8.2 Metal intermediate products
8.2.1 Aluminium
8.2.1.1 Aluminium strips
8.2.1.2 Aluminium sheets
8.2.1.3 Aluminium tubes
8.2.1.4 Aluminium rods
8.2.2 Lead
8.2.2.1 Lead strips
8.2.2.2 Lead sheets
8.2.3 Copper
8.2.3.1 Copper strips
8.2.3.2 Copper sheets
8.2.3.3 Copper rods
8.2.3.4 Copper tubes
8.2.4 Brass
8.2.4.1 Brass strips
8.2.4.2 Brass sheets
8.2.4.3 Brass rods
8.2.4.4 Brass tubes
8.2.5 Zinc
8.2.5.1 Zinc strips
8.2.5.2 Zinc sheets
8.2.6 Galvanised steel
8.2.6.1 Galvanised steel strips
8.2.6.2 Galvanised steel sheets
8.2.6.3 Galvanised steel rods
8.2.6.4 Special grids and sheets
8.2.7 Stainless steel
8.2.7.1 Stainless steel strips
8.2.7.2 Stainless steel sheets
8.2.8 Professional lengths/ metal boards
8.2.9 Plastic roof lengths
8.2.9.1 Roof length systems made of PVC
8.2.9.2 Roof length systems made of EPDM

8.3 Roof gutters, stack pipes and accessories
8.3.1 Roof gutters and stack pipes
8.3.1.1 Fibre cement
8.3.1.2 Plastic
8.3.1.3 Copper
8.3.1.4 Galvanised steel plate
8.3.1.5 Zinc plate
8.3.1.6 Galvanised steel plate, plastic coated
8.3.1.7 Stainless steel
8.3.1.8 Aluminium
8.3.1.9 Standpipes of galvanised steel
8.3.1.10 Standpipes of copper
8.3.2 Flat roof drainage
8.3.2.1 Pressure roof drainage systems
8.3.3 Accessories
8.3.3.1 Lightning protection accessories
8.3.3.2 Roof windows
8.3.3.3 Roof gutter heating
8.3.3.4 Exhaust pipe hoods
8.3.3.5 Gutter holdings and guttering accessories
8.3.3.6 Snow catchers
8.3.3.7 Expansion compensating bodies for flat roofs and roof guttering
8.3.3.8 Wall installation profiles

8.4 Metal working machines/plumbing tools
8.4.1 Edging machines
8.4.2 Flanging presses
8.4.3 Turn-up machines
8.4.4 Structural shape machines
8.4.5 Sheet metal rollers
8.4.6 Beading machines
8.4.7 Stamping and cutting machines
8.4.8 Guillotine shears and band shears
8.4.9 Other machines

8.5 Heat and sound insulation
8.5.1 Heat insulation
8.5.2 Sound insulation

8.6 External lightning protection
8.6.1 Profiles
8.6.2 Accessories

9. Tools and factory equipment

9.1 Measuring and testing instruments and systems
9.1.1 Test instruments and installations for: …
9.1.1.1 … Calorific value, flash point
9.1.1.2 … Leak display and warning, leak proofing
9.1.1.3 … Leak testing procedures and equipment
9.1.1.4 … Gas leak detectors
9.1.1.5 … Tank testing
9.1.1.6 … Condensed water testing
9.1.1.7 … Other testing instruments and installations
9.1.2 Electro-technical measuring and testing instruments
9.1.2.1 Measuring instruments
9.1.2.1.1 Multi-meters
9.1.2.1.2 Measuring instruments for electrical and magnetic dimensions
9.1.2.1.3 Aerial measuring instruments
9.1.2.1.4 Oscilloscopes
9.1.2.1.5 Measuring instruments for non-electrical dimensions
9.1.2.1.6 Measured data acquisition, transmission, processing
9.1.2.2 Test instruments
9.1.2.2.1 Test boards
9.1.2.2.2 Measuring and testing instruments acc. to DIN VDE 0701/0702
9.1.2.2.3 Measuring and testing instruments acc. to DIN VDE 0100
9.1.2.2.4 Measuring and testing instruments acc. to BGV A3
9.1.2.2.5 Phase-sequence displays
9.1.2.2.6 Voltage testers
9.1.2.2.7 Continuity testers
9.1.2.2.8 Cable and circuit detectors
9.1.2.2.9 High-voltage test instruments
9.1.2.2.10 Test instruments for medical instruments
9.1.2.2.11 Network testers
9.1.2.2.12 Interferometers

9.2 Operation, storage and assembly systems
9.2.1 Construction and organisation protective outfitting

9.2.1.1 Scaffolding
9.2.1.2 Ladders and steps
9.2.1.3 Safety cages
9.2.1.4 Earthing and short-circuiting devices
9.2.1.5 Warning signs and boards
9.2.1.6 Working platforms
9.2.2 Storage and transfer systems
9.2.2.1 Tool containers and storage systems
9.2.2.2 Storage systems
9.2.2.3 Means of transport and transport systems
9.2.3 Office, information and communication technology, office furnishing
9.2.3.1 Office furnishing
9.2.3.2 Office organisation
9.2.3.2.1 Telephone and radio/ radio-telephone equipment
9.2.3.2.2 Organisation furniture
9.2.3.2.3 Drawing tables, layout tables
9.2.3.2.4 Copy-maker – accounts department
9.2.3.2.5 Printed business forms, forms
9.2.3.2.6 Other office and drawing machines as well as instruments
9.2.4 Shop fittings
9.2.4.1 Shop fittings
9.2.4.2 Self-service complete programmes
9.2.4.3 Other

9.3 Fastening technology

9.4 Tools and workshop outfitting

9.4.1 Tools
9.4.1.1 Hand tools
9.4.1.2 Electric tools
9.4.1.3 Pressing tools
9.4.1.4 Workshop outfitting
9.4.1.5 Thawing instruments
9.4.1.6 Mounting tools and elements
9.4.1.7 Pneumatic drills
9.4.1.8 Drills, power drills
9.4.1.9 Stud drivers
9.4.1.10 Pneumatic tools
9.4.1.11 Electric hammers
9.4.1.12 Plastic processing tools
9.4.1.13 Soldering equipment and accessories
9.4.1.14 Measuring tools
9.4.1.15 Assembly equipment
9.4.1.16 Wall cutters
9.4.1.17 Striking tools
9.4.1.18 Cutting tools
9.4.1.19 Welding and cutting equipment
9.4.1.20 Pipe freezing equipment
9.4.1.21 Electric tinmen's shears
9.4.1.22 Repair kits (ceramic, enamel etc.)
9.4.1.23 Flushing equipment (flushing tap water piping)
9.4.1.24 Camera systems for sewer pipes
9.4.1.25 Sealing systems to check sewer pipe pressure
9.4.1.26 Flushing and milling systems for sewer pipes
9.4.2 Workshop outfitting
9.4.2.1 Workshop outfitting
9.4.2.2 Vocational clothing/ protective clothing
9.4.2.3 Fire extinguishers
9.4.2.4 Lifting equipment/lifting platforms
9.4.2.5 Plumbing pre-production
9.4.2.6 Ladders
9.4.2.7 Shelves
9.4.2.8 Cupboards
9.4.2.9 Workbenches
9.4.2.10 Scaffolding
9.4.2.11 Other
9.4.2.12 Pipe-laying machines and tools
9.4.2.12.1 Thread parting nodules
9.4.2.12.2 Thread parting machines
9.4.2.12.3 Thread parting materials
9.4.2.12.4 Plastic pipe welding apparatus
9.4.2.12.5 Test instruments for piping
9.4.2.12.6 Pipe cutters
9.4.2.12.7 Pipe bending machines
9.4.2.12.8 Pipe cleaning equipment and materials
9.4.2.12.9 Pipe saws, machines
9.4.2.12.10 Pipe parting machines
9.4.2.12.11 Multi-grip pliers
9.4.2.12.12 Tools for fittings
9.4.2.12.13 Pipe burring reamers
9.4.2.13 Personal protective clothing
9.4.2.13.1 Safety plug-in grip for NH-fuse switches
9.4.2.13.2 Safety glasses, breath guards, hearing protection
9.4.2.13.3 Safety shoes
9.4.2.13.4 Protective clothing
9.4.2.13.5 Safety harnesses
9.4.2.13.6 First-aid kits
9.4.2.14 Office outfitting
9.4.2.14.1 Office furniture, office computers
9.4.2.14.2 Drawing materials
9.4.2.14.3 Office machines, copiers
9.4.2.14.4 Office communication
9.4.3 Cleaning equipment and installations
9.4.3.1 Vacuum cleaners
9.4.3.2 Vacuum cleaning, central installation
9.4.3.3 Other equipment and installations
9.4.4 Utility vehicles and facilities
9.4.4.1 Service and assembly vehicles
9.4.4.1.1 Transporting vehicles
9.4.4.2 Vehicles outfitting
9.4.4.2.1 Transporters outfitting
9.4.4.2.2 Workshop vehicles outfitting
9.4.4.2.3 Vehicle superstructure and consolidation
9.3.4.2.4 Trailers for hand workers and trade
9.3.4.2.5 Vehicle lettering

10. Service providers

10.1 Facility management, contracting

10.1.1 Planning, engineering
10.1.2 Project management
10.1.3 Installation/assembly
10.1.4 Commissioning
10.1.5 Documentation
10.1.6 Maintenance (inspection, maintenance, repair)
10.1.7 Technical house and building management
10.1.8 Business house and building management
10.1.9 Infrastructural house and building management
10.1.10 FM software
10.1.11 Facility and supply contracting
10.1.12 Performance contracting
10.1.13 Projecting

10.2 Training and continued training

10.2.1 Responsible educational bodies
10.2.2 Technical training systems
10.2.3 Training

10.3 EDP solutions

10.3.1 Branch software
10.3.2 Organisation software
10.3.3 Technical software
10.3.4 CAD/CAE software
10.3.5 EDP hardware
10.3.6 EDP system software
10.3.7 Office machines
10.3.8 Software for building I & C applications
10.3.9 Software for business/ commercial applications
10.3.10 Software for heating, plumbing, ventilation, and air-conditioning technologies as well as CAD

10.4 Institutions, authorities, organisations, associations

10.4.1 Ministries and authorities
10.4.1.1 Ministry
10.4.1.2 Urban development and environment agency
10.4.1.3 National trade offices
10.4.1.4 National environmental protection offices
10.4.1.5 Trade supervisory boards
10.4.1.6 Regulating authorities for post and telecommunications
10.4.2 Insurance companies
10.4.2.1 Trade associations
10.4.2.2 Associations of expert witnesses, umbrella association of German insurance companies
10.4.2.3 Property insurance
10.4.2.4 Third party insurance
10.4.2.5 Health insurance
10.4.3 Service providers
10.4.3.1 Products and systems certifiers
10.4.3.2 Test and calibration services
10.4.3.3 EMC consultants
10.4.3.4 Energy consultants
10.4.3.5 Technology transfer
10.4.3.6 Management consultants, consulting
10.4.3.7 Waste industry, disposal
10.4.4 Associations
10.4.4.1 National guilds
10.4.4.2 Regional wholesaler associations

10.5 Power supply companies

10.6 Technical publishers

10.6.1 Technical literature
10.6.2 Technical books
10.6.3 Trade journals

10.7 Miscellaneous

10.7.1 Service performances for branches/wholesalers
10.7.2 Wholesale

10.8 Technical planning office

10.8.1 Building services

Hamburg Messe und Congress GmbH · P.O. Box 30 24 80 · 20308 Hamburg · Messeplatz 1 · 20357 Hamburg · Germany · Telephone +49 40 3569-0 · Fax +49 40 3569-2203 · E-mail info@hamburg-messe.com
hamburg-messe.com · Managing Directors: Bernd Aufderheide (President and CEO), Uwe Fischer · Chairman of the supervisory board: Johann C. Lindenberg · Commercial Register: Local Court Hamburg (HRB 12 054)
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