

CHANGZHI CATALOGUE FOR PREFERRED
MANUFACTURING INDUSTRIES

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The manufacturing industries, encouraged by Changzhi to invest in, include 11 categories, namely auto, big data, general aviation, coal bed gas exploitation, new energy, environmental protection, new materials, medicine, rail transport equipment, other equipment, coal chemical etc.

1. Auto industry includes fuel-driven auto, new-energy auto(electric auto, methanol auto, key parts, charging equipment, battery, motor production equipment).
2. Big Data includes New Generation Information Network Industry, Information Technology Service, electronic core industry, new components, network information security products and services, artificial intelligence, Beidou and space information industry.
3. General aviation equipment manufacturing.

4. Coalbed methane (gas) exploration and extraction.
5. New Energy Industry includes New Energy Equipment Manufacturing, biomass energy, geothermal energy, gas power generation equipment, waste gas power generation equipment.
6. The energy conservation and Environmental Protection Industries include Energy Conservation and environmental protection equipment manufacturing, high-efficiency and energy-saving industries, advanced environmental protection industries, and comprehensive utilization of resources industries.
7. New materials industry includes New Metal Materials, new chemical materials, new inorganic non-metal materials, advanced new materials
8. The biomedicine industry includes biomedicine, Modern Chinese Medicine, bio-breeding and bio-manufacturing.
9. Rail Transportation Equipment Manufacturing.

10. Other equipment manufacturing includes heavy machinery manufacturing, coal chemical equipment manufacturing, textile machinery manufacturing, hydraulic systems and components, smart manufacturing equipment, agricultural machinery, casting, forging.

11. Modern Coal Chemical Industry includes coal-to-oil, coal-to-olefin, coal-to-natural gas, coal-to-ethylene Glycol, coal-to-aromatics and low-rank coal utilization.

▶▶AUTOMOBILE

I. OIL FIRED VEHICLE MANUFACTURING

1. Medium-and high-grade passenger cars and other commercial and special purpose vehicles, such as passenger cars, trucks and passenger cars, that conform to the state industrial policy
2. Heavy duty vehicle transmission, diesel generator, turbocharger, axle, clutch, transmission synchronizer cone ring, Torsion Bar, cylinder head, Vehicle Front axle, rear axle, rear axle, brake drum, brake disc, wheel hub, clutch, suspension parts, crankshaft, automotive airbag and other parts

II. NEW ENERGY AUTO

1. Electric Vehicles

- (1) Power Battery and management system, drive motor and system control, vehicle electronic control, vehicle matching, on-board charging, electric air conditioning, electric steering, electric

braking and other key technologies for electric vehicles, as well as intelligent charging service network construction

(2) Full vehicle system integration, full vehicle control technology, electric auxiliary system, full vehicle high voltage safety and system thermal management technology, high efficiency extender APU technology, lightweight technology, test and calibration technology, fault diagnosis and remote monitoring system, vehicle testing and production process, quality control technology, etc.

(3) Fuel Cell Vehicle General Layout, Vehicle Module Division and system integration technology, new material, new structure and new technology of key components of body and chassis, reliability and durability of water, dust and vibration resistance, low temperature start-up and environment adaptability technology, medium and high pressure fuel cell engine system integration, braking and energy recovery technology, high Voltage Electrical Safety, hydrogen storage, hydrogenation and Collision Safety Technology

2. Methanol Vehicles

(1) Methanol car, mini-bus

(2) Methanol engine

3. Gas Vehicles

Gas-fired heavy truck production

4. Key Parts

(1) Research and development of key technologies of power battery, drive motor, electric drive gearbox (Edu) , new energy vehicle control system and product manufacturing

(2) power battery pack, positive and negative electrode materials, battery separator, battery, motor, Electric Control System

(3) drive motor, high power electronic device, etc. , methanol, gas engine, etc.

(4) lightweight material application

5. High-performance two-way charging and discharging technology for charging, changing power and hydrogenation facilities, high-efficiency and intelligent charging technology, application of new fast charging technology for power battery life, application of interconnection technology for charging infrastructure, research and development of supporting charging pile,

Charging station and hydrogenation station for public high-power charging technology, Construction Code, infrastructure construction and operation guarantee

6. Battery and motor production equipment

(1) battery production equipment, motor production equipment, new energy vehicle production equipment, test equipment

(2) automotive product development, testing, testing equipment and Facilities Construction

(3) battery recycling and Utilization

(4) development of advanced engine assembly, Chassis Assembly, electronic control and Information Systems

(5) promotion of Parts Industry and vehicle production enterprises to achieve synchronous development, modular supply

▶▶BIG DATA

I. NEW GENERATION INFORMATION NETWORK INDUSTRY

1. Network equipment, information terminal equipment, Network Operation Services
2. Next-generation mobile communications and next-generation Internet devices
3. New Generation of broadband wireless multimedia network, system integration
4. A new generation of dedicated communications technology.
5. Triple play technology, equipment, etc
6. Optical Communication Equipment
7. Network equipment and terminal test/metering equipment
8. Cloud computing and IOT DEVICES
9. Next generation broadcast television network equipment, digital home products, digital video monitoring system

II. INFORMATION TECHNOLOGY SERVICES

1. Basic software, cloud computing software and services, mobile computing software platform, data processing and storage services, industrial software, radio and television network maintenance and operation support software
2. Information Technology Advisory Services, Information System Integration Services, high-end information technology services support software, Internet of things application services, blockchain technology and other emerging software products and services
3. Internet + Application Service
4. Application of big data and cloud computing in information technology service

III. CORE ELECTRONIC INDUSTRIES

1. IC Chip Design and Service
2. Chip Design Platform (EDA tools) and supporting Ip Library
3. Integrated Circuit chip packaging, manufacturing

4. Materials and equipment for integrated circuits
5. New Type Display Panel (device) , material and equipment

IV. NEW TYPE COMPONENTS AND PARTS

1. High-end energy storage device materials and devices
2. High-end energy storage devices and their management systems
3. List of semiconductor materials, photonics, and other key electronic materials
4. Special electronic equipment and apparatus
5. Hd Broadcasting and television live broadcast equipment
6. High performance secure servers and storage devices
7. Application of electronic products and integrated innovation systems
8. Industrial Control Equipment
9. Other high-end complete machine products
10. Sensors, ultracapacitors, MEMS, sensors

V. NETWORK INFORMATION SECURITY PRODUCTS AND SERVICES

1. Network and Information Security Hardware
2. Network and Information Security Software
3. Network and information security services

VI. ARTIFICIAL INTELLIGENCE

1. Artificial Intelligence Platform
2. Artificial intelligence software
3. SMART Hardware
4. Artificial Intelligence System
5. Artificial intelligence terminal product design, research and development, manufacture, promotion application and so on
6. The demonstration application of artificial intelligence in unmanned vehicle and intelligent

customer service

VII. BEIDOU AND SPACE INFORMATION INDUSTRY

1. Beidou navigation chip, terminal, system integration services, data services, operational services
2. Beidou navigation technology, manufacturing and Application Services
3. Satellite Navigation, geographic information, remote sensing, 3 s integrated applications, high precision GEODESIC GNSS receiver, Gis data acquisition terminal, wireless data transmission equipment, system integration
4. Practical inertial positioning technology and devices based on Mos Sensor Miniaturization
5. Indoor and outdoor positioning technical services and Solutions
6. Commercial and industrial application of Beidou

▶▶ **GENERAL AVIATION EQUIPMENT MANUFACTURING**

1. New helicopters, unmanned aerial vehicles, new operations such as general aircraft aircraft and other aircraft and key components
2. Aircraft Cockpit flight instruments, sensors and elastic components, atmospheric data systems

►► **COALBED METHANE (GAS) EXPLORATION AND EXTRACTION**

1. Advanced exploration technology and equipment for coalbed methane
2. Development and demonstration of combined well-up and down-hole extraction technology.
3. Study and demonstration of CBM extraction technology in abandoned mines.
4. Low-rank coalbed methane reservoir evaluation, deep coalbed methane stimulation and transformation, multi-gas resources comprehensive development, multi-coalbed partial pressure co-extraction, internet + coalbed methane and other key technical equipment
5. Coal-bed gas exploration and development equipment, compression equipment, liquefaction equipment, pipeline transportation equipment, compressed coal-bed gas (CNG)/liquefied coal-bed gas (LNG) vehicle equipment, CNG/LNG filling equipment, coal-bed gas transmission and distribution equipment, power generation equipment, industrial safety protection equipment, equipment technology research and Development
6. CBM Equipment Manufacturing, engineering services, compression liquefaction, logistics

transportation and other related industries

▶▶ **NEW ENERGY**

I. NEW ENERGY EQUIPMENT MANUFACTURING

1. 2.5 MW or more wind power unit
2. Wind Turbine, speed increaser, spindle, blade, tower, flange and other key components
3. Photovoltaic Equipment
4. Nuclear Power Ring Crane, nuclear island loading and unloading machine, nuclear power conventional forgings
5. Complete equipment for waste incineration and power generation

II. BIOMASS ENERGY

1. Rural Renewable Energy Construction
2. Non-food biofuels

3. Biomass solid Briquette Fuel

4. Ethanol and biodiesel are produced from non-grain crops, energy plants, animal fats and algae

III. GEOTHERMAL ENERGY

1. Ground water source heat pump

2. Geothermal heating equipment and application equipment manufacturing

IV. GAS GENERATING EQUIPMENT

V. WASTE HEAT AND GAS GENERATING EQUIPMENT

▶▶ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION

I. ENERGY CONSERVATION AND ENVIRONMENTAL PROTECTION EQUIPMENT MANUFACTURING

1. Equipment for resource recycling
2. Desulfurization, denitrification and dust removal equipment, domestic waste treatment equipment, automobile exhaust purification and pollution treatment equipment and other air pollution treatment equipment
3. Complete sets of treatment equipment for groundwater pollution and other water pollution treatment equipment
4. Soil bioremediation, safety treatment and resource utilization technology and equipment for soil pollution treatment
5. Pollution on-line monitoring equipment, real-time automatic monitoring system for regional characteristic pollutants, ecological environment rapid detection equipment, and other Environmental monitoring equipment.

6. Noise pollution control equipment such as impedance composite muffler, low frequency noise and solid acoustic pollution integrated control equipment
7. Transformer, high-voltage reactor, transmission lines, low-end converter transformers and other intelligent transmission and transformation equipment and user-end equipment
8. Ultra clean emission coal generating units
9. 1000 kw or above gas electric generator
10. Ultra supercritical circulating fluidized bed boiler
11. Low-temperature waste heat and pressure recovery equipment
12. Mine Air Oxidation Equipment
13. Led energy-saving lighting and other energy-saving environmental protection power equipment

II. ENERGY-EFFICIENT INDUSTRY

1. Energy System optimization, household appliances, green building materials and other energy-saving technology and equipment

2. Dry Coke quenching, coal moisture control, waste heat and pressure utilization, fly ash pneumatic conveying technology research and development
3. Energy Cascade Utilization, energy system optimization and other energy-saving technical transformation
4. Efficient pulverized coal boilers, circulating fluidized bed boilers and other products to promote the application
5. Boiler automation control, main and auxiliary matching optimization, fuel variety adaptation, low-temperature flue gas heat deep recovery, coal-fired boiler efficient combustion technology research and Development
6. Three-phase Induction Motor, rare earth permanent magnet motor and other energy-efficient motor products to promote the application
7. High-efficiency motor design, matching and key materials, equipment, as well as high-voltage inverter, reactive Power Compensation Control System Technology research and development
8. Led epitaxial growth technology research and development

9. 10-300 kw power dual-cycle low-temperature waste heat power generation equipment to promote the application

III. ADVANCED ENVIRONMENTAL PROTECTION INDUSTRIES

1. Development, promotion and application of new technologies and new products such as automatic monitoring system of pollution sources, complete sets of water treatment equipment, sewage treatment equipment, desulphurization and denitrification equipment, lack of air heat pump, lack of air oxidation, etc.

2. Control Cabinet, on-site intelligent energy-saving cabinet, denitration catalyst preparation and regeneration, recycling desulfurization technology equipment, high-concentration industrial wastewater treatment equipment

3. Membrane materials and membrane components, impermeable materials, filter media and fillers, flocculants, catalysts, desulfurizers and other research and application

4. Applications of Circulating Cooling Water Treatment Chemicals, bactericidal and ALGICIDAL

agents, water treatment disinfectants, solid waste treatment hardeners and soil stabilizers

IV. INDUSTRY OF COMPREHENSIVE UTILIZATION OF RESOURCES

1. New energy-saving and Environmental Protection Wall Material
2. Coal Gangue, fly ash, desulfurized gypsum, red mud and other industrial solid waste as the main raw materials for the production of products.
3. Recycling of renewable resources
4. The deep utilization of industrial solid waste.
5. Complete Technology and equipment for comprehensive utilization of Construction Waste
6. Electronic Waste, disposal and deep recycling.
7. Complete equipment for recovery and purification of waste electronic products and sludge containing heavy metals

▶▶NEW MATERIALS

I. NEW METAL MATERIALS

1. R & D and Industrialization of high-end steel products for major technical equipment in the fields of high-tech ships, marine engineering equipment, advanced rail transportation, electric power, aerospace, machinery, etc.
2. Nickel-saving stainless steel, antibacterial stainless steel and other new special steel products
3. Magnesium plate continuous casting and rolling technology, high-performance rare earth magnesium alloy and other key materials production technology research and development
4. High performance wrought magnesium alloy sheet, profile, magnesium alloy sheet rolled into coil, magnesium alloy wheel production
5. Large section magnesium alloy profiles, large diameter thick wall high strength magnesium alloy tubes, high performance magnesium alloy wide sheets, magnesium alloy large castings, forgings and new lightweight magnesium alloy products.

6. High strength and high toughness aluminum alloy, high-end deep aluminum alloy processing extension
7. Automotive aluminum wheels, connecting rods and other forgings
8. Large complex aluminum alloy sand casting precision molding technology, high-performance aluminum alloy material manufacturing technology research and development
9. Aluminum Alloy cable, aluminum alloy template, solar power generation and other new aluminum products
10. R & D and production of high-end materials such as large-scale aluminum alloy profiles for Rail Transit, aluminum alloy materials and forgings for automobile body, high-purity and high-voltage electronic aluminum foil.
11. High Strength, high conductivity, high wear resistance and high toughness copper alloy material, high performance copper alloy tape for IC packaging, lead frame for Lsi, cu-ni-si Alloy, etc. , bright high-conductive Copper Rod, rolled copper foil, flexible copper clad laminate and other deep-processing products

12. Research and development of reducing application technology of dysprosium or terbium in high performance rare earth permanent magnetic materials
13. Permanent magnet material, low rare earth content permanent magnet material and anisotropic bonded ndfeb permanent magnet material
14. Industrialization of high temperature resistant Matrix, corrosion resistance and low weight loss products

II. NEW CHEMICAL MATERIALS

1. Butyl rubber, chloroprene rubber, engineering plastics, Biodegradable plastic, polyurethane and other modern coal chemical new materials
2. High-grade carbon black, needle coke, ultra-high power graphite electrode, carbon fiber and other new coking materials

III. NEW INORGANIC NON-METALLIC MATERIALS

1. High quality synthetic Refractory such as homogeneity, electrofusion modification, etc.
2. Magnesite-calcium, magnesite-calcium zirconium and other stainless steel green refractories
3. Silicon Carbide, silicon nitride, Zirconia and other coal chemical refractory materials
4. Using Coal Gangue, fly ash, low grade bauxite and other resources to prepare refractory.
5. Research and development of new technology, new equipment and new products of calcined coal-series Kaolin.
6. Activated Carbon for catalyst carrier, desulfurization and denitrification, adsorption, water purification, special impregnation, etc.
7. Development of a variety of high-efficiency air purifier, water purifiers, gas masks and other application products
8. Low-radiation coated glass, true (middle) insulating glass, safety glass, thermal reflective film, photovoltaic-thermal integrated glass products and other products
9. Ceramic thin plate, ceramic tile, porous ceramics, ceramics and other structural ceramics and functional ceramics

10. Energy-saving, water-saving, intelligent high-grade sanitary ceramics
11. Alumina-based oil fracturing proppant
12. Continuous basalt fiber and products, carbon fiber and composites, glass beads and composites
13. Nano-materials, graphene materials, smart materials, new energy materials, etc.

IV. CUTTING EDGE NEW MATERIALS

1. T800 grade carbon fiber and other high-end fiber engineering applications and Industrialization
2. Asphalt-based carbon fiber, high-performance glass fiber, continuous basalt fiber, inorganic mineral fiber, aluminum silicate ceramic fiber and downstream product development
3. Polyacrylonitrile-PAN precursor-carbon Fiber and chopped carbon fiber-prepreg or preform-composite parts-end application of the entire industrial chain technology
4. Research and development of high-end products of polyacrylonitrile-based carbon fiber.
5. Wide Band gap List of semiconductor materials Silicon Carbide, gallium nitride, gallium arsenide, research, development and application of diamond materials and other new silicon-based materials

6. Flexible transistors, photonic crystals, organic display materials and a variety of nano-electronic materials, as well as copper indium gallium selenium, copper indium sulfur, cadmium telluride and other new thin-film photovoltaic materials R&D and applications
7. Industrialization of efficient and low-cost photovoltaic materials.
8. High efficient industrial preparation technology of single crystal graphene
9. Super capacitors, touch screens, structural materials and other graphene downstream areas of technology
10. Key technologies for the preparation and application of graphene, such as graphene thermal conductive film, graphene energy storage-high performance super-capacitor technology, etc.

►►BIOMEDICINE

I. BIOMEDICINE

1. To Imitate high-effective, quick-acting, long-acting, targeted drug delivery of new drug preparations, sustained-release, controlled-release, transdermal absorption preparations-based non-patent Preparations
2. Oral Mucosal Administration, inhalation administration, nasal administration, transdermal controlled-release products
3. Anti-tumor, hepatitis, influenza, Schistosomiasis and other vaccines, genetic engineering new vaccines
4. Blood products and use of genetic engineering to develop blood substitutes
5. Genetically engineered antibody drugs against malignant tumors, cerebrovascular disease, neurological disorder, gastrointestinal disease, AIDS, and immunodeficiency.
6. Radio pharmaceuticals for the diagnosis and treatment of biochemical drugs.

7. New Chemical Synthetic drugs, new antibiotic drugs

II. MORDERN CHINESE MEDICINE

1. Shanxi province genuine, bulk Chinese medicinal materials and the Chinese medicinal materials variety extraction standard, genuine Chinese medicinal materials ultra-fine powder craft, Chinese herbal medicine and its effective biological active ingredient technical development

2. Traditional Chinese medicine slice processing experience inheritance and processing technology and equipment

3. Traditional Chinese medicine fingerprint, standard material determination and other common key technologies.

4. Proprietary Chinese medicines with independent intellectual property rights for prevention and treatment of major and common diseases.

5. Intelligent manufacturing technology to improve the safety and stability of Chinese patent medicines

III. BIOLOGICAL BREEDING

1. Development and industrialization of high-yield, good-quality, multi-resistant and multi-ecological maize, wheat and miscellaneous grain new varieties breeding technology
2. High-quality fruit and vegetable intensive high-efficiency cultivation technology innovation and industrialization
3. Research and development and industrialization of comprehensive technology for the production and processing of characteristic coarse cereals
4. High-quality, high-yield, high-efficiency, multi-resistant agriculture, forestry, animal husbandry, grass new varieties
5. Development and application of green agricultural biological products such as bio-pesticides, bio-feedstuffs, bio-veterinary drugs

IV. BIO-MANUFACTURING

1. Biochemical products, special fermentation products
2. Biological process equipment, marine bioactive substances and Biological Products
3. Industrialization of non-grain bio-alcohols, organic acids, bio-olefins and other bio-based chemical raw materials
4. Application of bio-based products and their derivatives in chemical industry
5. Amino acids, vitamins and other new fermentation products technology research and Development
6. Large-scale development and application of bio-based materials such as bio-plastics, bio-fiber, etc.
7. Production of disposable medical supplies, research on artificial organs, industrialization of animal and plant capsules

▶▶RAIL TRANSPORTATION EQUIPMENT MANUFACTURING

1. High-Power AC drive electric locomotive
2. Large axle load series trucks and new fast container flat cars, boxcars and other products
3. Catenary inspection vehicle, track inspection vehicle and other railway construction machinery vehicles
4. Metro vehicles, trams, intercity trains.
5. High-end series of railway axle products
6. High-speed EMU axle hollow shaft and Wheelset, Gearbox Brake disc, bolster, side frame, Bogie and other key parts
7. Electric drive system, motor system, traction system, control system, brake system, running system, etc.
8. Locomotive, EMU special circuit breaker, earthing switch, high-voltage isolation switch, high-voltage transformer, high-voltage cable, roof insulator and other new products

9. Shield machine

10. Rail Transport testing, maintenance, testing, certification and other services

11. Full vehicle, key components design, maintenance, after-sales service series

12. Electro-hydraulic switch machine, external locking device, installation devices and other products

13. Turnout, rail pieces and other products

14. Long rail welding, flaw detection, maintenance and other services

▶▶ **MANUFACTURING OF OTHER EQUIPMENT**

I. HEAVY-DUTY MACHINERY MANUFACTURING

1. Large Electric Haulage Shearer series, thin seam shearer, continuous shearer and active blast suppression shearer suitable for special coal seam geological conditions
2. Full rock tunnel boring machine and explosion-suppression type Boring Machine
3. Intelligent, high reliability scraper conveyor and hydraulic support
4. Integrated Technology of complete sets of coal machinery equipment for tunneling, mining, lifting and transportation.
5. Manufacturing technology of mine life-saving cabin and new type intelligent caving coal hydraulic support.
6. Mining equipment, lifting equipment, complete equipment for Tube Rolling, high-speed wire rod mill, main equipment for cold strip rolling, complete equipment for forging and pressing, etc.

II. COLA CHEMICAL EQUIPMENT MANUFACTURING

1. Large fixed-bed gasifier, slag gasifier
2. High value-added series of coal-water Slurry Wall gasifier and complete set of equipment
3. Low-grade coal to olefins, coal to natural gas, coal to oil complete sets of equipment
4. Pressure vessels, air separation equipment, compressors, blowers, pumps, valves and other key components of modern coal and chemical industry

III. TEXTILE MACHINERY MANUFACTURING

1. 11,000-plus revolutions of Rotor Spinning machine
2. 350-plus revolutions of comber, double twister
3. 400-plus revolutions of rapier loom, air-jet loom and other cotton spinning machinery and equipment
4. Chemical Fiber Spinning Machine Equipment
5. Special Fiber Spinning machine equipment

IV. HYDRAULIC SYSTEMS AND COMPONENTS

High-end proportional valves, servo valves, hydraulic valves, hydraulic motors, high-performance Vane pumps, piston pumps, power steering pumps and other components as well as integrated control units, large sets of hydraulic systems and intelligent hydraulic systems

V. INTELLIGENT MANUFACTURING EQUIPMENT

1. New Sensors and systems
2. Intelligent Control System
3. Smart meters
4. Precision instruments
5. Industrial Robots and special purpose robots
6. Precision gearing
7. Intelligent measurement and control devices such as Servo control mechanism, liquid-gas tight

components and systems

8. Parts flow manufacturing equipment

9. Discrete manufacturing equipment

10. Power, chemical, metallurgy, building materials, textiles and other major intelligent manufacturing equipment

11. Complete sets of automatic logistics equipment

VI. AGRICULTURAL MACHINERY

1. Small and medium-sized agricultural machinery and supporting machinery manufacturing in dry and mountainous areas

2. Corn harvesting machinery, drainage and irrigation machinery, land preparation machinery, renewable energy utilization machinery, planting and fertilizing machinery and other special agricultural machinery products and supporting parts and components

3. Complete set of equipment for intensive processing of agricultural products.

4. Irrigation Equipment
5. Bio-gas discharging equipment
6. Rural safe drinking water purification equipment

VII. CASTING

1. Heavy machinery, coal mining machinery supporting castings
2. Valves and marine stainless steel castings for hydropower and petrochemical applications
3. Cast accessories for railway equipment
4. Auto Castings
5. Wind Power Equipment Casting
6. Generator Cylinder Block casting, hydraulic casting and accessories, spinning machine accessories casting and accessories, reducer, diesel engine block, machine tool accessories and other products
7. Automotive, motorcycle, aerospace, military and other fields with aluminum-magnesium alloy

casting products

8. City construction precision cast pipe, manhole cover, supporting wellbore, large diameter urban underground water supply and drainage spheroidal graphite cast pipe and pipe fittings, all kinds of falling water and drainage series spheroidal graphite cast pipe and pipe fittings

VIII. FORGING

1. Large stainless steel forgings, high-pressure forgings, roll and other high-quality forgings
2. Heavy vessel forgings for hydrogenation, chemical, nuclear, etc.
3. Heavy Duty Truck Front axle, high horsepower engine crankshaft
4. Oil Valve Body
5. Stainless Steel flanges, precision rings, stainless steel pipe fittings

▶▶ MODERN COAL CHEMISTRY

I. COAL-TO-OIL

Research and development of technologies such as production of coal-to-oil from fischer-tropsch, refined processing of oil products, production and application of high-efficiency catalysts, engineering design and carbon emission reduction etc.

II. COAL-TO-OLEFIN

Promotion and application of large-scale industrial upgrading demonstration units for coal-to-olefin production

III. COAL-TO-GAS

Research and development of projects such as coal-to-natural gas coal-to-liquefied natural gas and deep processing of chemical products

IV. COAL-TO-ETHYLENE GLYCOL

Research and development of key technologies and equipment for coal-to-ethylene glycol production

V. COAL-TO-AROMATICS

1. Industrial Development of coal-to-aromatics

2. Research and development of key technologies such as design and scale-up of methanol-to-aromatics reactor, reaction heat balance and engineering optimization, and industrial application

VI. UTILIZATION OF LOW-GRADE COAL

Research and development of clean and high-efficiency pyrolytic technique for utilization of low-grade coal