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Company Official Wechat Account

2024

Environmental, Social and Governance (ESG) Report

Hangzhou Hua Guang Advanced Welding Materials Corporation Limited



HUA GUANG

ADVANCING INDUSTRIAL CONNECTIVITY AND
BUILDING A SHARED VALUE
CREATION ACROSS INDUSTRIAL CHAIN

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About the Report

Since 2018, Hangzhou Hua Guang Advanced Welding Materials Corporation Limited (herein after referred to as “Hua Guang Welding”, “the Company”, or “we”) has consistently published annual Environmental, Social, and Governance (ESG) reports. These efforts reflect our commitment to embedding sustainable development into core governance practices and comprehensively communicating ESG-related progress and achievements to stakeholders.

Scope

Reporting Scope: Unless otherwise stated, data and facts involved herein covers Hangzhou Hua Guang Advanced Welding Materials Corporation Limited and its wholly-owned subsidiaries.
Reporting Period: From January 1st to December 31st, 2024. Some contents may be extended to ensure coherence.
Reporting Cycle: On an annual basis with the last report issued on March 30th, 2024.

Preparation Basis

As a publicly-listed company (688379.SH) on the STAR Market of Shanghai Stock Exchange (SSE), the report was prepared according to the Company’s actual conditions, with reference to the Self-Regulatory Guideline No.14 for Listed Companies of the Shanghai Stock Exchange: Sustainability Reporting (for Trial Implementation) (hereinafter “the Self-Regulatory Guideline No.14”). We also referred to the GRI Sustainability Reporting Standards (2021) promulgated by the Global Reporting Initiative (GRI). See Appendix: Content Index for related disclosure.

Data Description

Data and cases involved herein are from official documents and reports of the Company and its subsidiaries. Unless otherwise stated, the amounts in this report are denominated in CNY.

Access to the Report

The report is a solely independent ESG report provided in both English and Chinese for reference. The electronic version can be downloaded from the websites of Shanghai Stock Exchange (<http://www.sse.com.cn/>) and Hangzhou Hua Guang Advanced Welding Materials Corporation Limited (<https://www.cn-huaguang.com/Investor.html>)

Feedback

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Leader’s Message

Amidst the global wave of intelligent and green transition in manufacturing, brazing materials are ushering in more opportunities as the key point of industrial connection. As China's pre-eminent enterprise in medium-temperature Brazing filler metal (BFM), Hua Guang Welding has always adhered to our mission of "advancing industrial connectivity and building a shared value creation across industrial chain", riding the tide of times steadily in a complex and changing global environment.

2024 marks the milestone for Hua Guang Welding's development. As a national high-tech enterprise specializing in intelligent, efficient and green welding solutions, we have always integrated the ethos of sustainability into corporate governance and are committed to creating long-term value for our stakeholders. In line with the business philosophy of high-quality sustainable development, the Company takes technological innovation as the core driving force with excellent quality management as the foundation, and fulfillment of social responsibility as the mission. We have made remarkable achievements in the field of Environmental, Social and Governance (ESG).

Behind these achievements is our relentless pursuit of technological innovation. As the champion in domestic medium-temperature BFM industry, the Company has developed a diverse product portfolio of brazing alloys, including copper-based filler metal, silver filler metal, vacuum-grade filler metal, composite filler metal, silver conductive paste, Tin-based solder pastes, etc., expanding the application fields of our products. Apart from consolidating our advantages in the fields of HVAC/R, and power industry, we are also gradually expanding our business to emerging new sectors, including renewable energy vehicles, electronic interconnects, etc. In the field of microelectronic connection soldering materials, silver conductive paste, Tin-based solder pastes, we grab the bull by the horns during the domestic substitution wave, expanding our market share and creating new growth space for the Company.

In terms of technological innovation, we knocked our goal out of the park in 2024. Under the leadership of Hua Guang Welding, key provincial R&D program, "Key Localized Preparation Technology and Application Development of High-Performance Non-Ferrous Metals and Alloys: Green High-Performance Flux-Cored Silver Brazing Material", passed the acceptance review, marking a significant breakthrough in green and high-performance brazing. By the end of 2024, the Company has obtained a total of 123 valid patents including 48 invention patents, providing a solid base for future innovation.

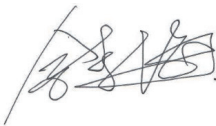
Moreover, the success of our Company is not only confined to technological innovation. The Company has always attached great importance to the foundation of corporate development, the health and safety of our employees, and we are committed to creating a safe, healthy and comfortable working environment for them. By strictly implementing quality control measures, we make every effort to protect the rights and interests of our customers. Meanwhile, we actively promote in-depth cooperation with our supply chain partners to realize synergistic development by complementing our strengths. In addition, the Company actively responds to the national strategies of shared prosperity and rural revitalization, contributing to social progress and community development.

In terms of sustainable development, we fully support China's decarbonization goal of carbon peaking and carbon neutrality, via integrating environmental protection into the whole corporate development cycle. Through systematic energy management, resource optimization and recycling, we have significantly reduced energy consumption and carbon emission per unit product. Besides, putting the health and safety of our employees in the first place, we are committed to creating a safe and healthy working environment. At the same time, we are actively fulfilling our social responsibilities, supporting the community and promoting rural revitalization.

Looking forward, we are driving transformative innovations in welding, by grabbing onto opportunities and technologies brought forth by the recent technological booming. With 30 years of expertise, we are deepening the application of AI technology in intelligent welding material selection, customer service, product design, welding process improvements, and other scenarios. We have keenly captured the broad application prospects of brazing and materials joining in the field of humanoid robotics. One such application is precision connection of key components, within the electrical systems, joints, sensors, etc., which will become an important sector in the future of our business development.

In 2025, we herald a pivotal moment for the 30th anniversary of our founding. Embarking on a pioneering chapter, we keep in mind the corporate spirit of "integrity, diligence, exploration, dedication", as well as the sustainability approach that is "low-carbon and eco-friendly; healthy and safe operations; mutually beneficial partnerships; giving back to society". We strive to continue technological innovation, deepen digital transformation, and accelerate the globalization of our business. The Company will continue to commit to the principles of "reliability, intelligence, greening, and flexibility", and provide high reliability solutions for materials applied in the fields of aerospace, renewable energy, semiconductor and other strategic emerging industries. In conclusion, we will contribute to the technological progress of the industry and the achievement of the "30·60" decarbonization goal.

Chairman of Hua Guang Welding:



About Hua Guang Welding

Company Profile

Founded in 1995, Hangzhou Hua Guang Advanced Welding Materials Corporation Limited is a national high-tech enterprise specializing in intelligent, efficient and green welding solutions. The Company endeavors to the R&D and high-quality manufacture of brazing alloys, and has become a leading enterprise in the field of welding and brazing through 29 years of continuous innovation and development.

Hua Guang Welding is the vice president of Brazing Materials, Equipment and Processes Branch, China Welding Association (CWA); member of Brazing and Soldering Branch, TC55/SC2; member of Standing Committee of Brazing and Specialty Connections Branch, Chinese Welding Society. The Company has established its own provincial key enterprise research institute, R&D Center, post-doctoral workstation, and undertaken several key national and provincial projects. It has also engaged in the revision of the national standard “Silver brazing filler metals” (GB/T 10046—2008), as well as the drafting of 11 national standards such as “Copper base brazing filler metals” (GB/T 6418-2008), 8 industrial standards, and 13 collective standards. Besides, the Company owns 48 invention patents, 74 utility model patents and 1 appearance design patent. Hua Guang Welding has been awarded the second prize of “National Science and Technology Progress”, one of the most prestigious scientific awards in China, and the grand prize of “China Machinery Industry Science and Technology Award”. Our Company and products have obtained a series of honors, including “the first (sets of) product in key areas of the equipment manufacturing industry of Zhejiang”; “Famous Zhejiang Brand”; “Famous Zhejiang Trademark”; “Green and Low-Carbon Factory of Zhejiang”; “Green Enterprise of Zhejiang”; “Demonstration Enterprise of Industrial Recycling in Zhejiang”; “Zhejiang-Made Defined-Quality (“品”) Product”; etc.

The Company’s main products are high-performance brazing alloys, including copper base, silver, tin base, silver paste, and aluminum base brazing alloys. We are capable of designing and producing brazing consumables in the forms of rods, strips, rings, wires, foils, powder and paste with thousands of specifications. We have formed a product scheme of multi varieties and specifications based on core technologies owned, such as green, silver-saving, vacuum, composite, preformed brazing, silver paste, solder pastes, etc. In the future, we aim to become a professional global leader in providing functional connection materials and solutions. In recent years, while sharpening the edge in the field of medium-temperature brazing alloys, we have been expanding new technologies and products as well, such as electronic pastes, soft brazing alloys, and high-temperature brazing materials. Thus, we have fully covered the business line of all types of brazing alloys, gradually accumulating successful cases of solutions meanwhile.

Hua Guang Welding always believes that technological innovation leads corporate development. We have been carrying out industry-university-research (IUR) collaborative innovations with renowned domestic universities, and constantly developing new connecting materials and technology. By contributing to the rapid growth of advanced equipment manufacturing industry, the Company succeeded in enhancing industrial connectivity and building a win-win industry chain. In a word, adhering to the Hua Guang Spirit of “Integrity, Diligence, Exploration, Dedication”, we will keep making market-oriented tech innovations as well as promoting HUAGUANG brazing alloys, hopefully the most promising world brand, to the market.

Industrial Universal Adhesives: The Bridge of Intellectual Craftsmanship to the Future

Corporate Culture

<div>Corporate Mission</div> <div>Enhance industrial connectivity and contribute to a win-win industry chain</div>	<div>Values</div> <div>Build products that customers appreciate with dedicated craftsmanship</div>	<div>Corporate Spirit</div> <div>Integrity, Diligence Exploration, Dedication</div>
<div>Vision</div> <div>Focusing on customer needs, we are committed to intelligent, green and efficient welding solutions, building a collaboration platform for the industry chain to help realize our customer’s value.</div>	<div>Quality Culture</div> <div>Concentration, Standardization, Full Participation, Precise Execution</div>	

Major Events

Starting Out and Growing Up

- 1995
- Hangzhou hua guang welding materials plant was established, the same year that copper base brazing alloy was developed and available for mass production.
- 1996
- Bcup-2 achieved mass production to supply midea and gree, which enabled the company to localize brazing and solder alloys.
- 1997
- Hangzhou hua guang materials of welding co., ltd. Was established.
- 1998
- The company became the first in the domestic brazing industry to pass the iso9002:1994 quality management system (now updated to iso9001:2015).

Developing and Strengthening

- 2001
- The company changed its name to hangzhou hua guang welding materials co., ltd., the same year silver solder was developed and available for mass production.
- 2002
- The high silver brazing alloy in the form of 0.5mm wire achieved stable mass production by improved technology.
- 2005
- The company became the first in the industry to pass the iso14001 (environmental management system).
- 2007
- The company ranked first in the share of segment market of the domestic air conditioning industry chain
- 2008
- Gouzhuang factory was put into operation with a designed capacity of 2,000 tons per year.
- 2010
- The company became a leader in china to introduce continuous casting into the industry of brazing manufacturing, and developed a mass production process.

Prospering and Leading

- 2011
- The company completed the reform of shareholding systems and changed its name to hua guang advanced welding materials co., ltd.
- 2012
- Vacuum brazing solders were invented, which enabled the company to enter the industries of vacuum electrical appliances, magnetrons for microwave oven, and rail transportation.
- 2015
- Renhe Factory was put into operation, the same year the flux-cored brazing ring was invented. Soon the flux-cored brazing alloys achieved mass production and localized supply for domestic customers.
- 2017
- Our research related to “the elimination of welding materials’ negative environmental impact and improvement of welding efficiency” won the second prize of national science and technology progress award. The solution tackles the negative environmental impact of traditional brazing alloys and methods, and breaks the international technical barriers to harmless treatment of brazing filler metal.
- 2018
- Our product was rewarded “the first (sets of) product in key areas of the equipment manufacturing industry of zhejiang
- 2020
- The company was awarded the grand prize of “china machinery industry science and technology award”.
- 2019
- Hua guang was elected “outstanding single champion”, a national business honor awarded by the ministry of industry and information technology (miit) and china federation of industrial economics (cfie).
-
- The company was publicly listed on the sse star market.
- 2021
- The company was awarded “green and low-carbon factory of zhejiang”, with an annual revenue of over 1 billion.
- 2022
- The company’s overseas business exceeded 100 million.
- 2023
- A joint research project led by hua guang welding, “efficient preparation of high-performance copper base filler metal and its applications in carbide tool manufacturing”, won the second prize of china mechanical industry science and technology award. The invention of solder paste products marks the company’s entry into the field of microelectronic soldering.
- 2024
- Renhe factory phase ii was put into operation, and the company’s total designed capacity reached 10,000 tons. The same year, the project “key technology and application of diamond brazing life extension for wear parts” won the third prize of zhejiang scientific and technological progress. The company’s digital workshop was also accredited by the hangzhou government.
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- ▷6◁

Promoting Sustainable Development

In order to promote efficient ESG work, Hua Guang Welding continued to integrate ESG governance into corporate strategy, business operation, and corporate culture, by improving its ESG governance structure, formulating and revising its management policy, strengthening its internal corporate governance capacity, etc. By focusing on stakeholder communication and collaboration, the Company took an active part in shouldering social responsibilities, strived for a balanced win-win situation for the economy, environment and society, which formed a solid foundation for the long-term corporate development.

ESG Development Approach

Hua Guang Welding boosted the high-quality development of three dimensions, namely environment, society and governance. Our sustainability approach has the following features: low-carbon and eco-friendly; healthy and safe; cooperative and win-win; giving back to society; and operating prudently. Such development approach has helped the Company to progress together with the society in a harmonious way.

Environment	Low-carbon and eco-friendly	<ul style="list-style-type: none">Following a green and low-carbon principle of reducing emissions from the source, the Company integrated environmental protection into the full cycle of enterprise development. We advocate low-carbon operation modes and constantly upgrade environmental protection technologies, thriving for a harmonious co-existence of economic development and ecological protection.
Society	Healthy and safe	<ul style="list-style-type: none">Committed to ensuring the safety and health of its employees in the workplace, the Company established an occupational health management system and offered necessary training and equipment to the employees, in order to enhance their awareness of health and ability to handle health issues.
	Cooperative and win-win	<ul style="list-style-type: none">The Company strictly controlled product quality and strived to ensure that the safety and quality of our products meet the highest standards, so as to protect customer rights and interests.The Company actively promoted in-depth collaboration with supply chain partners by complementing each other’s strengths to achieve synergy. While consolidating its advantages in median-temperature hard brazing filler metal industry, Hua Guang Welding worked hand in hand with industry experts and companies in pursuit of an open and sharing cooperation system, which improved the industrial connectivity and a win-win industry chain.
	Giving back to society	<ul style="list-style-type: none">The Company practiced its social responsibility and considered the well-being of society as an important mission. We worked to contribute to social progress and community development.
Governance	Operating Prudently	<ul style="list-style-type: none">The Company kept promoting its corporate governance in pursuit of sustainable steady development by improving the governance system, enhancing corporate compliance and refining management mechanisms.Focusing on improving its risk management, the Company strived to perfect its internal control and risk management policies. Besides, we also promoted a probity culture and risk education so as to ensure steady operations.

ESG Governance Structure

Hua Guang Welding has set up a sustainable development governance structure centered on the Board of Directors, which is fully responsible for the formulation and disclosure of the corporate sustainable development strategy. The Board of Directors assumes key responsibilities for strategic planning, management enhancement and target setting. Besides, it is also responsible for monitoring, guiding and promoting sustainable development-related work. EMT is responsible for breaking down strategic objectives and dividing relative tasks. Under the authorization of the Board of Directors, EMT decides on the focuses and key disclosures of the 2024 ESG management after reasonable discussions on the priority issues based on market trends, corporate strategies and stakeholders' feedback. The ESG project team is responsible for the execution of sustainability work and ensuring the effectiveness of ESG strategies and objectives.

The Company attaches great importance to ESG risk management and regards it as an important part of sustainable development. The Company has established a comprehensive ESG risk management framework, covering the whole process of clarifying related information, identifying risk, analyzing and evaluating risk, responding to actual risk, and monitoring, checking and improving afterwards. We regularly conduct ESG risk assessment to identify potential environmental, social and governance risks, and rank them according to their impact and likelihood.

Level	Function	Responsibilities
Decision-making level	Board of Directors	Board of Directors assumes the highest responsibility for sustainable strategy and disclosure. It is also responsible for the overall supervision, coordination, planning and guidance of the Company’s sustainability work.
Managerial level	EMT	Focusing on the breakdown and execution of ESG objectives, EMT regularly assesses the progress of key issues and practices, and at the same time, strengthens the inspection and risk management of the objectives to ensure the effectiveness of our ESG strategy.
Execution level	ESG Project team	ESG Project team specifically carries out sustainable development tasks, closely centering on ESG strategic goals to ensure ESG work and results.





HONOR

In 2024, Hua Guang Welding was awarded the “2024 Best ESG Listed Company of the SSE STAR Market” by STAR Daily.

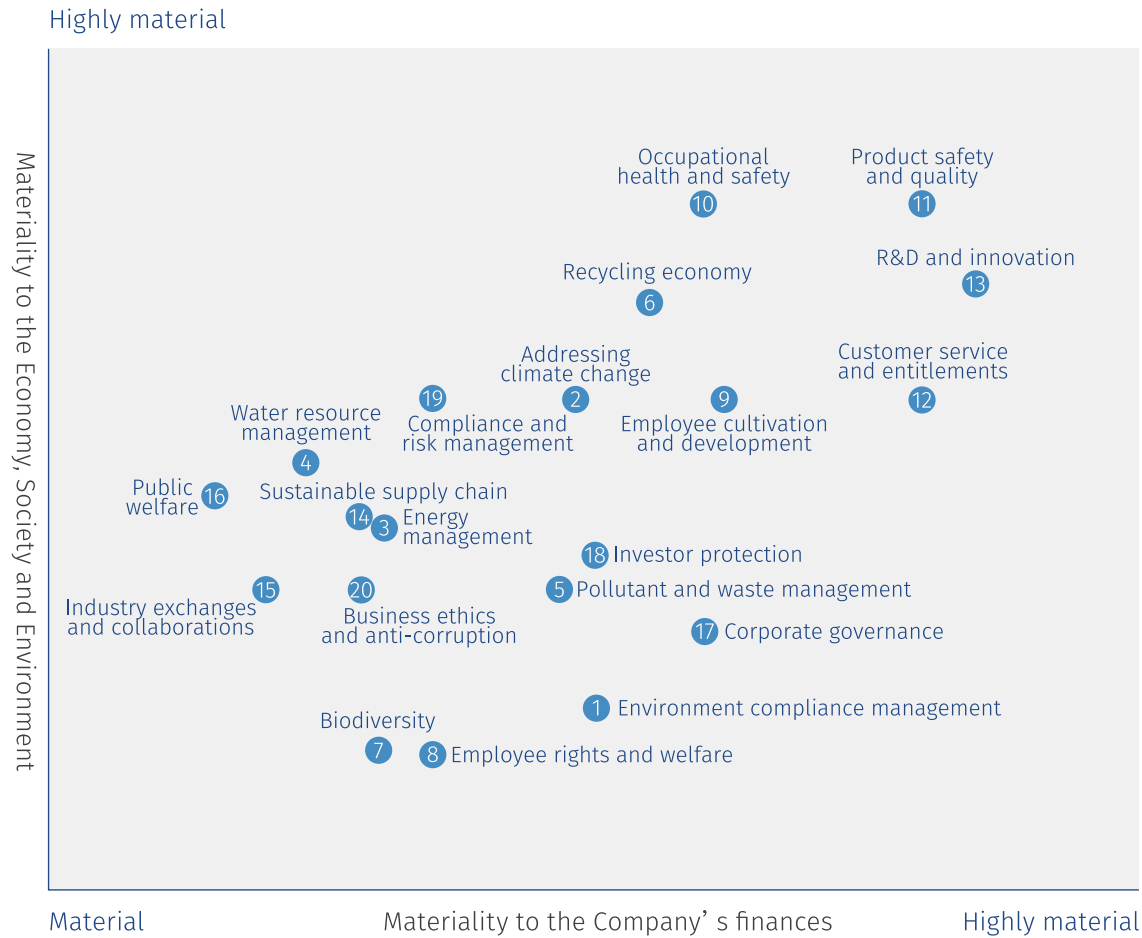
Double Materiality Analysis

In order to effectively identify, understand and respond to the concerns about the Company’s ESG practices from stakeholders, Hua Guang Welding regularly conducts a well-rounded materiality assessment of ESG issues. In 2024, we continued to improve the process of identifying and assessing materiality issues. With reference to the Self-Regulatory Guideline No.14 and other rules, we carried out a double materiality assessment to identify issues of concern in terms of “financial materiality” and “impact materiality”. A matrix of materiality issues was formed afterwards. The process of the assessment is as follows:

Step 1 Contextual analysis and the listing of issues		Based on the Company’s ESG management level, 20 materiality issues were identified and an issue pool was formed based on mainstream ESG standards and rules at home and abroad, such as the Guideline, the GRI Standard, etc., with reference to mainstream ESG rating requirements and the benchmark results of outstanding peers.
Step 2	2-1 Impact materiality assessment	Issues were judged by the type of impact according to two dimensions, i.e. positive/negative, actual/potential, in order to determine the dimensions of assessment for different issues. Experts rated the degree of impact on relevant issues and the likelihood of impact.
	2-2 Financial materiality assessment	The Company’s internal finance experts and ESG experts assessed the risks and opportunities around the likelihood of their occurrence, as well as the level of financial impact.
Step 3 Double materiality assessment		Hua Guang Welding carried out quantitative analyses on the assessments of impact and financial materiality, and presented the overall priority of each topic through a matrix. We identified a total of 20 materiality issues, of which 7 topics have a high degree of double materiality.

Materiality Issues Pool		
Environment (7 topics)	Society (9 topics)	Governance (4 topics)
<div>① Environment compliance management</div> <div>② Addressing climate change</div> <div>③ Energy management</div> <div>④ Water resource management</div> <div>⑤ Pollutant and waste management</div> <div>⑥ Recycling economy</div> <div>⑦ Biodiversity</div>	<div>⑧ Employee rights and welfare</div> <div>⑨ Employee cultivation and development</div> <div>⑩ Occupational health and safety</div> <div>⑪ Product safety and quality</div> <div>⑫ Customer service and entitlements</div> <div>⑬ R&D and innovation</div> <div>⑭ Sustainable supply chain</div> <div>⑮ Industry exchanges and collaborations</div> <div>⑯ Public welfare</div>	<div>⑰ Corporate governance</div> <div>⑱ Investor protection</div> <div>⑲ Compliance and risk management</div> <div>⑳ Business ethics and anti-corruption</div>

Issues Matrix of Double Materiality of Hua Guang Welding



Communication with Stakeholders

Hua Guang Welding understands keenly that communicating with stakeholders is of great importance to identifying ESG risks and opportunities, improving corporate management, and most essentially, escorting the Company’s sustainable development. Through an open and transparent communication mechanism, we gained a deeper understanding of the opinions and expectations of our stakeholders, with whom we engage in regular exchanges and responses. Taking into account the industry background and the influence of sustainable development, the Company focused on identifying core stakeholders, including government and regulatory agencies, shareholders, clients, employees, suppliers and partners, industry associations and communities, etc. Meanwhile, the Company integrated the reasonable demands and suggestions of stakeholders into its daily operation and decision-making, so as to enhance its managerial practices and promote the efficiency of sustainable development goals.

Stakeholders	Issues of Concern	Ways of Response and Communication
Stockholders and investors	Corporate Governance Compliance Management Risk Management Anti-Corruption and Business Ethics Investor Protection R&D and Innovation Business Results and Development Planning	General meetings Financial report Earnings report Roadshows, etc
Clients	R&D and Innovation Product Quality and Safety Customer Service and Entitlements Green Product	Meetings with clients Satisfaction surveys Global service network Events such as exhibitions, forums, conferences
Suppliers	Compliance Management R&D and Innovation Sustainable Supply Chain Industry exchanges and collaborations	Purchase promotions Websites, social media Forums, conferences, training and evaluation Visits, site surveys Satisfaction surveys
Employees	Occupational Health & Safety Employee Development and Training Employee Rights Protection Compliance Management	Labor Union, Staff and Worker Representative Congress Discussion meetings with employees Employee trainings Employee activities Employee assessment and promotion Employee satisfaction surveys WeChat culture group

Stakeholders	Issues of Concern	Ways of Response and Communication
Government and regulatory institutions	Compliance Management Anti-Corruption and Business Ethics Green Product Environmental Management System Reaction to Climate Change	Regulatory visits Official correspondence Focus research and site meetings Policy implementation Disclosure Website, social media
Public and community	Resource and Energy Management Pollutant Waste Management Compliance Management Anti-Corruption and Business Ethics Public Welfare Product Quality and Safety	Activities for public welfare Community volunteer activities Environmental management system
Industry Experts and Scholars	Cutting-Edge Technology Industry Challenges R&D and Innovation New Product and Technology Promotion Basic Research	Industry forums IUR cooperations



Special Topic

Focus on the New Quality and Build up New Industrial Advantages with the Help of New Quality Productive Forces

Hua Guang Welding always insists on innovation-driven development, and is committed to transforming scientific and technological innovation into new quality productive forces (NQPF). To continuously boost its core competitiveness, the Company built a comprehensive R&D innovation system, and actively promoted industry-university-research (IUR) collaborative innovations while attaching importance to patent protection. Meanwhile, quality management is the strategic foundation of our industrial upgrading. We built a whole-flow quality control mechanism to provide a solid foundation for the Company’s development.

Driven by Innovation: Heading to the New

Hua Guang Welding continued to improve its innovation ability. To achieve sustainable corporate development, the Company took many measures, including improving the innovation mechanism, building an innovation platform, establishing a well-rounded intellectual property management system, encouraging new inventions, and promoting the formation and protection of company-owned patents.

R&D Innovation System

Hua Guang Welding has formulated its core STI strategic objectives, namely “to lead this generation of products while reserving the next generation and ready for the following generation of research iteration”. Technological innovation, essentially, is an important engine for the Company to develop NQPF. We set up a R&D innovation system centering on our research institute, as well as a multi-level R&D innovative system consisting of provincial key enterprise research institutes, provincial enterprise technology centers, provincial R&D centers and provincial post-doctoral scientific research stations. These institutes supported the selection, approval, implementation and acceptance inspection of R&D projects in all aspects. Specifically, we took the commercialization and promotion of technological achievements as a key development direction. We executed the technological innovation strategy effectively by continuously improving the team capacity and enhancing operational efficiency.

R&D Innovation Management

Based on the overall development plan and downstream market demand, the Company mapped out an annual R&D project scheme to ensure the high consistency between the R&D direction and the strategic objectives. Aiming to further expand new products such as electronic paste, soft brazing material and high-temperature brazing material, the Company actively blazed new trails in emerging application. Meanwhile, we continued to enhance the capacity of overall welding solutions, striving to become the world’s leading provider of functional connecting materials and solutions.

The Company has set up a clear budget mechanism for R&D investment to ensure that the corresponding funds are allocated annually according to the R&D plan. Besides, how well the budget was used took an essential part in the annual performance assessment of not only the research institute, but also relevant project leaders. In addition, the Company required that the R&D investment always take up above 3% of its revenue to guarantee the effective allocation of R&D resources. In 2024, the R&D investment amounted to CNY74,271,932.07, taking up 3.87% of the annual revenue; while the R&D team amounted to 81 people, accounting for 12.42% of the total employees.

R&D Innovation Incentive System

The Company continued to improve its R&D innovation incentive system by actively promoting technical breakthroughs as well as the efficient commercialization of innovative achievements. We initiated the Incentive System for Projects, Patents, Theses and Technical Secrets, which stimulates employees’ enthusiasm and motivation to innovate by rewarding them for completed R&D projects, granted patents and publication of high-quality working theses.

Case

Hua Guang Welding Held the Fifth Science and Technology Festival

In order to promote the in-depth integration of technology and industry, and accelerate the Company’s digital and intelligent evolution, Hua Guang Welding held the Fifth Science and Technology Festival in August 2024 with the theme of “Technological Innovation Opens Door to an Intelligent Future”. It aimed to encourage employees’ passion for innovation, and improve R&D efficiency and quality, thus boosting continuous NQPF breakthroughs.

The Science and Technology Festival covered multiple modules across the Company, with a total of seven teams participating. Entries included research projects and new equipment/process improvement ones. The participants carried out in-depth exploration on topics such as brazing process improvement, material performance enhancement and equipment development. They summarized technical projects, prepared relevant documents and delivered oral presentation, while the judges assessed the projects from the dimensions of innovation, economy and practicality, and finally selected the winning teams. During the Festival, the Company not only showcased its innovative achievements, but also further enhanced the internal collaboration and technical exchanges, laying a solid foundation for boosting the Company’s digital and intelligent evolution.



Review Meeting of the Fifth Science and Technology Festival of Hua Guang Welding



The Fifth Science and Technology Festival of Hua Guang Welding

Industry-University-Research (IUR) Integration

In order to enhance its ability to research and innovate, Hua Guang Welding carried out in-depth collaborations with renowned universities and research institutions from home and abroad. Universities that have founded long-term steady IUR cooperation with the Company are: Harbin Institute of Technology, Central Iron and Steel Research Institute, Zhejiang University of Technology, North China University of Technology, Xi’an Aeronautical Institute, Hunan University, Zhejiang University of Science and Technology, China Jiliang University, etc. Hua Guang Welding has also established its own innovation platforms consisting of its key enterprise research institute, provincial technology center, provincial R&D center, and provincial post-doctoral workstation.

The Company also undertook several key national and provincial technological projects, which provided R&D support for the Company and opportunities of talent exchange and cultivation. It also helped with the technological accumulation and breakthroughs in the fields of new materials, advanced welding technology, etc. In 2024, the Company led a top-notch provincial project, “R&D of Key Technologies for Eco-Friendly High Performance Welding Composites- R&D of Key Technologies for Eco-Friendly High Performance Composite Brazing Materials”. The project was under the background that the brazing technology of core functional semiconductor devices and aluminum radiators was not reliable enough, which occurred in many advanced manufacturing areas, such as renewable energy vehicles, rail transportation, smart grids, wind power generation, etc. The research succeeded in applying, demonstrating and promoting eco-friendly high performance composite brazing materials in semiconductor devices and core parts of renewable energy vehicles, thus boosting the high-quality development of Zhejiang’s economy and leading the industry upgrading. Meanwhile, the Company also undertook four IUR projects manifesting its achievements in terms of in-depth IUR integration and technology-driven industry upgrading. Projects include the R&D of high-performance aluminum base brazing alloys, and the clean production technology of high-performance composite strips, etc.

In the future, the Company will continue to make the most out of its IUR cooperation strengths to promote new industry and models, which we believe must provide strong support for industrial technological innovation and sustainable corporate development.



Hua Guang Welding won the second prize of “2024 Science and Technology Innovation Award” awarded by CIUR

Intellectual Property Protection

Well aware of the importance of intellectual property rights for technological innovation and core competitiveness, Hua Guang Welding has established a comprehensive intellectual property rights management system. Strictly following the Patent Law of the People’s Republic of China, the Trademark Law of the People’s Republic of China, the Copyright Law of the People’s Republic of China etc., the Company formulated the Provisions on Intellectual Property Rights Management and the Patent Avoidance Strategy for Promotion, Sales and Exhibitions. Such rules are designed for the purpose of patent regulation and protection, as well as encouraging new inventions and the development of company-owned patents, successfully maintaining the Company’s technological advantages and market competitiveness.

In 2024, the Company obtained the Intellectual Property Management System Certificate, which further enhanced its operation level of patent management and application. Not only did Hua Guang Welding set up a specialized Intellectual Property Management Center responsible for planning the matrix of future projects, patents and standards, but also, the Company actively took measures to protect relevant intellectual property rights, such as patent declaration and trade-



mark registration. Apart from patent protection per se, the Company attached great importance to related education and training. By improving employees’ awareness and level of expertise, Hua Guang Welding gained strong support for maintaining its technological leadership in the fierce market competition.

As a certified national high-tech enterprise, Hua Guang Welding made many important achievements in technology innovation in 2024. For example, the project we participated, “Key Technology R&D and Application of Active Brazing Filler Metal”, were recognized by experts as a qualified study reaching advanced international level. Besides, a key provincial R&D program led by the Company, “Key Localized Preparation Technology and Application Development of High-Performance Non-Ferrous Metals and Alloys: Green High-Performance Flux-Cored Silver Brazing Material”, was accepted as expected. The same year, the project “Key Technology and Application of Diamond Brazing Life Extension for Wear Parts” achieved its breakthrough, and won the third prize of Zhejiang Scientific and Technological Progress.

In 2024, the Company was awarded “Demonstration Enterprise (Pilot) of IUR Collaboration Innovation” by the China Industry-University-Research Institute Collaboration Association (CIUR), and “SRDI Demonstration Enterprise of Renhe Street, Yuhang District”. In addition, Hua Guang Welding won the second prize of “2024 Science and Technology Innovation Award”, also awarded by CIUR.

Case Hua Guang Welding took part in “Key Technology R&D and Application of Active Brazing Filler Metal”, which was recognized as reaching advanced international level

On December 8th, 2024, an expert group from CIUR conducted a hybrid assessment meeting of the project, “Key Technology R&D and Application of Active Brazing Filler Metal”. As a core participant, Hua Guang Welding played an essential role in successfully overcoming a series of technical difficulties, such as synchronous wetting of ceramics and metals, tackling the difficulty in adding brazing alloys, and the easy loss of brazing materials. The expert group agreed that the project was of high technical complexity, innovative and obtained its own patents, leading to an indisputable conclusion of it reaching advanced international level with distinctive technical standards and specifications, among which the PcBN tool brazing technology even obtained leadership worldwide. By contributing to technological breakthroughs, the Company demonstrated its outstanding R&D capability, and provided strong support for the high-quality development of the active brazing material industry.



At the assessment meeting of “Key Technology R&D and Application of Active Brazing Filler Metal”

Case The “Intelligent Production Line of New Green Brazing Filler Metal” designed and put into operation by Hua Guang Welding was accredited as Hangzhou Digital Workshop

By applying self-designed and imported international first-class auto-production equipment to develop advanced manufacturing process, Hua Guang Welding built an intelligent production line of new green brazing filler metal, which was accredited as “Hangzhou Digital Workshop” in December 2024. The digital workshop fundamentally changed the labor-intensive situation of low efficiency in traditional manufacturing: Data showed that the automation ratio rose 75%, employees reduced by 69%, and the yield rate increased to 90% after it was put into operation. The workshop not only shortened the production cycle significantly and ensured quality consistency, but also, it was able to collect data accurately, connect platform networks, and carry out intelligent production through system integration of SAP, MES, WMS, etc. It improved the production environment and processes of all aspects, which is competitive internationally.



Intelligent Production Line of New Green Brazing Filler Metal

Hua Guang Welding won the third prize of Zhejiang Scientific and Technological Progress

The key provincial R&D program led by Hua Guang Welding, “Key Localized Preparation Technology and Application Development of High-Performance Non-Ferrous Metals and Alloys: Green High-Performance Flux-Cored Silver Brazing Material”, was accepted

Item	Unit	2024
Total patents in force	item	123
Total invention patents in force	item	48
Total utility model patents in force	item	74 (2 of which owned by FirmKim)
Total appearance design patent in force	item	1 (owned by FirmKim)
Patents in force per CNY1,000,000 of revenue	item	0.05
Number of software copyrights per CNY1,000,000 of revenue	item	0.003
Trademarks	item	18 (6 domestic, 12 international)

Ensured by Craftsmanship:
Quality Leading to the Future

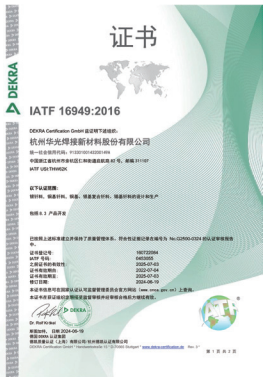
For the Company, quality management is the core strategic support for strengthening competitive advantages in the market and achieving high-quality development. The Company continuously improved its quality management system, actively introduced advanced international standards, and used quality indicators in all aspects of R&D, procurement and production. Meanwhile, through educating the employees on quality culture and technological innovation to empower the talent team, the Company continuously improved the reliability and stability of its products, and ensured that they always meet the high standard of quality requirements.

Product Quality Management System

As quality management is the key to sustainable development, Hua Guang Welding understands keenly that an excellent quality management system is the fundamental of corporate survival and development. In order to keep product quality in a leading position in the industry, the Company established and continuously improved its quality management system. Hua Guang Welding has formulated a series of quality control provisions to standardize product quality management, including the Provisions on Inspection Management of Hangzhou Hua Guang Advanced Welding Materials Corporation Limited, the Process Inspection Guide-lines, and the Provisions on Product Audit Management. The Company has passed ISO9001 and IATF16949 (quality management system), as well as Watermark certification of Australia. Such certifications provided the Company with a strict quality control framework to follow, so that the management efforts are in compliance with regulatory requirements. Thus, the total quality control in all aspects of raw material sourcing, manufacturing and product delivery was guaranteed. The chemical laboratory set up on our own has also passed the CNAS certification.



ISO9001 (quality management system)
certification of Hua Guang Welding



IATF16949 (quality management system)
certification of Hua Guang Welding

Product Quality Improvement

To execute quality management in an efficient manner, Hua Guang Welding set up a special quality management department responsible for the whole-cycle quality control, from raw materials, suppliers to production processes and after-sales service. The duties of the department covers supplier quality review, internal and external testing of products, handling of quality issues and the follow-up and rectification of customer complaints. To further enhance product quality, the Company set up a working group focusing on solving key quality issues. Meanwhile, Hua Guang Welding introduced the MES system to manage quality data digitally. The system helped collect and analyze the real-time data generated during production, and ensured the product quality stability while improving productivity. Besides, by establishing the product quality and safety traceability system, as well as a number system of melting furnaces, the Company achieved full process traceability, covering from raw material procurement to final delivery and after-sales.

Moreover, the Company won the Best Quality Award by Ningbo Deye Technology Co., Ltd. and the Best Collaborative Partner Award by Mitsubishi Electric (Guangzhou) Compressor Co., Ltd., demonstrating high recognition of our quality management capabilities from the market. In 2024, the Company maintained a 99.50% pass rate of outgoing products, a 99% pass rate of product sampling inspection, 100% coverage of batch inspection, and there were no major accidents related to product safety and quality throughout the year.

● Case

Hua Guang Welding carried out the “Hua Guang Quality Month” activity

From September to October, 2024, the Company held the fourth “Hua Guang Quality Month” with the intention of enhancing employee attention to product quality, promoting quality management basics standardization and improving the quality control process by means of banners, quality knowledge contests and the 8D training. At the same time, the quality month activity focused on the landing of basics standardization. By modifying the control plans (CP), quality inspection forms and process documents, the activity set better standards and ensured more feasibility during quality management.

During the Quality Month, the Company updated the production line CP, making the revised one more complete, and the classification of control items clearer. In addition, the Company also revised the quality inspection forms by adding new records of batch and the melting furnace information to enhance quality traceability and management efficiency. These measures further enhanced the quality management capability, and provided an effective tracing mechanism for quality issues. In conclusion, “Hua Guang Quality Month” helped the Company strengthen the advantages in quality management, and demonstrated our commitment to continuous upgrading. Meanwhile, the event boosted the overall quality levels, enhanced employee engagement, and promoted corporate competitiveness in the industry.



Employees attending quality management training



Banners were hung to set the mood for the Quality Month



Strengthening the Foundation of Governance

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Successful corporate governance is the foundation for a company to achieve sustainable development. Holding such a belief, Hua Guang Welding continued to take measures in order to boost effective corporate governance, such as setting a governance structure with clear responsibilities; keeping active interaction with investors; protecting disclosure transparency; consolidating the ability to tackle with risks; strengthening compliance governance capacity; adhering to business ethics; building probity culture; etc.

GOVERNANCE

Improving Corporate Governance

To protect stakeholders’ interests, and at the same time make both decision-making and operation more transparent and efficient, Hua Guang Welding kept on building a scientifically rigorous governance structure, worked on the independence and diversity of Board of Directors, and modified the remuneration management system. By strengthening the systematic risk prevention and control, as well as shaping the corporate compliance culture, the Company continuously enhanced risk resistance ability to ensure the synergy of strategic objectives and business practices. Such measures empowered the steady corporate development and the leadership in the industry with sustainability.

Independence of the Board of Directors

With strict accordance to regulatory documents, including laws and regulations such as the Company Law of the People’ s Republic of China (hereinafter “Company Law”), the Securities Law of the People’ s Republic of China (hereinafter “Securities Law”), the Code of Corporate Governance for Listed Companies, and the Articles of Association of Hangzhou Hua Guang Advanced Welding Materials Corporation Limited (hereinafter “Articles of Association”), Hua Guang Welding clarified the power and responsibility of each governance body to keep improving its level of corporate governance. The Company established a governance structure consisting of Shareholders’ General Meeting, Board of Directors, Supervisory Committee, and senior management. Characterized by clear definition of duties and responsibilities, its authoritative body, decision-making body, oversight body and management team altogether have coordinated in a proper, efficient and balanced manner, which laid a solid foundation for the robust development of the Company.

Governance Body	Responsibilities
Shareholders’ General Meeting (GM)	As the highest authority of the Company, the shareholders’ general meeting (GM) is the main pillar of its corporate governance system. It exercises its rights in accordance with the laws to decide on business policies, to consider and approve the report of the Board of Directors, investment plan, etc.
Board of Directors	The Board of Directors is responsible to the GM, and its main duties include convening the GM, executing the resolutions of the GM, and deciding on the Company’ s business and investment plans. Under the Board of Directors there are Strategy Committee, Audit Committee, Remuneration and Evaluation Committee, and Nomination Committee. Each specialized committee operates independently and efficiently following relevant Rules of Procedure.
Supervisory Committee	The Supervisory Committee, comprising the Chairman and members, is responsible for supervising the performance of the Board of Directors and senior management. Its responsibilities also include reviewing the Company’ s financial and periodic reports, serving as an important pillar of corporate governance system.
Senior Management	The senior management includes general manager, vice general manager, chief financial officer, and secretary of the Board of Directors. Its responsibilities include executing the resolutions of the Board of Directors, promoting business and internal management, ensuring sustainable and stable development of the Company, etc.

Diversity of the Board of Directors

With strict accordance to the provisions concerning the composition and duties of the Board of Directors stated in the Articles of Association, Hua Guang Welding formulated the Working System of Independent Directors and the Rules of Procedure of the Board of Directors to ensure the board independency and the rationality of decision-making. Directors are elected by the shareholders’ meeting, serve a term of three years, eligible for re-election without term limits. Based on a standardized nomination mechanism for independent directors, the Company strictly enforced the procedures for background verification of nominees prior to the election. The nominator was required to fully review the career history, professional qualifications and part-time societal work of the nominee. The candidate would first sign the declaration of independence, whose compliance qualification would be confirmed and announced by the Board after, so as to ensure the board independency and the rationality of decision-making. During the nomination process of independent directors, the Company made efforts to ensure the objectivity and professionalism of independent directors in the performance of their duties, by communicating and confirming in advance; reviewing qualifications in all aspects; making announcements for the record; etc. The Board of Directors adopts a strict recusal system when dealing with motions concerning conflicts of interest, which ensures that affiliated directors do not participate in relevant voting. The Board also discloses relevant information to shareholders in a transparent manner. Some of the directors of the Board also hold managerial positions and are directly involved in daily operations and decision-making, thereby deepening their understanding of business and providing strong support for strategic planning, supervision and rational decision-making. In 2024, the Board of Directors held altogether 12 meetings with an attendance rate of 100%. The Audit Committee under the Board held 5 meetings, the Remuneration Committee 3 meetings, and the Nomination Committee 2 meetings. Meanwhile, the Supervisory Committee held 10 meetings in 2024. These bodies exerted their efforts and fully guaranteed the efficiency in all aspects of corporate governance throughout the year.

Performance and Remuneration Management

A reasonable composition of the Board of Directors not only makes decision-making more scientific and comprehensive, but also provides guarantee for innovative changes. Thus, Hua Guang Welding has always regarded diversity as an important feature to promote high-quality development and long-term competitiveness. The Company continued to optimize the staff structure by combining the old and the new, and attached importance to cultural fit and professional integration, which laid the groundwork for strategic goals. During the election of the Board, the Company would take into account the diversity of candidates, covering gender, age, level and background of education, professional experience and qualities, to enable a broad vision and diversified perspectives to the Company’ s decision-making, i.e. to make the decisions more rational, rigorous and comprehensive. The current members of the Board have expertise in a wide range of fields, for example, public relations, quality audit, mechanical engineering, legal compliance, investment management, etc. All members have extensive experience in the industry, navigating the way of corporate strategy development and execution. By the end of 2024, the Company had had a total of 6 directors, including 4 females and 3 independent directors; and a total of 3 supervisors, including 2 females and 1 supervisor appointed from representatives of staff and workers.

Hua Guang Welding has established the Remuneration and Evaluation Committee, which is responsible for revising the remuneration standards and policies for directors and senior management; integrating individual performance and the overall strategy of the Company; etc. Meanwhile, with relevant revision taking place on a regular basis, the system is an institutional guarantee for preventing and/or mitigating conflicts of interest. At the same time, the Company attached great importance to ESG performance management as an essential tool for sustainable development. One example is the mechanism associating the remuneration of senior management with ESG performance. The Company has refined ESG-related performance indicators and incorporated them into the annual Personal Performance Commitment (PBC) of the Board of Directors, and accordingly assessed and decided on their year-end bonuses, directly linking the remuneration and ESG performance. In addition, the Company has constructed a sustainable development performance evaluation system covering EHS management, compliance management, quality management and other areas. The Company continuously revised the design of indicators and assessment mechanism in the system to ensure that the performance assessment is highly in line with the sustainable development strategy. The system clarifies the division of responsibilities of the senior management in promoting the SDG, strengthens the management and supervision of achieving ESG goals, and enhances the professionalism as well as execution capability throughout the sustainable development management.

Adhering to Probity and Compliance

Hua Guang Welding enhanced corporate governance by strengthening internal control and risk management. Considering business ethics as the root of business, the Company improved the culture building to create a positive corporate image. With proper disclosure and investor communication, the Company kept protecting investors’ rights, guarding information security, and mitigating operational risks.

Internal Control

Hua Guang Welding continued to improve its internal mechanisms of supervision and risk control, especially for the building and mending of its internal control system. The Company has formulated the Rules Governing Internal Auditing of Hangzhou Hua Guang Advanced Welding Materials Corporation Limited to strengthen compliance management, in accordance with relevant laws and regulations such as the Securities Law, the Audit Law of the People’s Republic of China, the Rules Governing the Listing of Stocks on the STAR Market of the Shanghai Stock Exchange, the Provisions on Internal Auditing of National Audit Office, as well as the Company’s Articles of Association.

The Company has set up an Internal Audit Department under the Audit Committee, which formulates annual audit plans and carries out spot checks on a monthly basis. The Internal Audit Department verifies the work of internal control by function module or department. As the Company supervises the rectification and adopts audit recommendations, its operational risk control capability is comprehensively enhanced.

Meanwhile, the Company has paid due attention to the internal control officer management of each department. To build a professional and efficient internal control team, the Company has set up a systematic talent selection and training plan. During the selection, employees with rich business knowledge, good professional ethics and strong communication skills are picked from each department as candidate. They are not only familiar with business processes but also able to scrutinize the key aspects of internal control from a global perspective.

In terms of training, the Company would regularly organize internal control officers to attend professional training courses covering the latest internal control regulations and policies, advanced risk assessment methods and efficient internal audit techniques. Through inviting industry experts to give lectures, internal experience sharing and case studies, their knowledge and practical ability are continuously enhanced.

Also, the Company has set up a communication and collaboration platform for the internal control team, encouraging them to communicate with each other, share experiences, and work together to solve the internal control problems they encounter in daily work. In this way, a favorable atmosphere of knowledge sharing was formed, which strengthened the cohesion and resilience of the entire team.

The Company has formulated the Rules Governing Internal Control Evaluation Management to strengthen its compliance audit capability, with the internal audit department responsible for the self-evaluation of the internal control system. The self-evaluation working group of internal control is formed by the backbones of business, in which the departmental internal control officers play an important role. They work together with the internal audit department, and jointly issue the internal control evaluation report. A third-party accounting firm is also hired to deliver an internal control audit report and put forward compliance audit advice. As a result, these measures have enhanced the Company’s internal control with sufficient compliance and resilience.

Business Ethics Management

A clean and efficient working environment helps to establish a healthy and positive image of the Company. Holding that belief, Hua Guang Welding has imbued each employee with the probity culture, and asked them to sign a Statement of Commitment on Integrity. All employees are required to comply with laws, regulations and corporate rules. Corruption is strictly prohibited as well. The Company conducts monthly self-inspection of probity, quarterly departmental internal inspections, and punishes the employees who violate the management regulations of integrity.

The Company accepts supervision and whistleblowing from all employees. If reported and verified, the person involved would be held liable. In 2024, the Company received feedback on three issues related to business ethics matters, all of which have been appropriately resolved. The Company did not incur any penalties related to commercial bribery, corruption, or acts of unfair competition.

Channels for whistleblowing

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In order to raise the awareness of probity and compliance, the Company regularly conducts the identification of anti-fraud risk lists. In 2024, a total of 16 fraud risks were identified, and corresponding measures were proposed and carried out, which strengthened the awareness of anti-fraud among all employees. During the past year, the Company organized 2 anti-corruption and anti-bribery sessions of training so as to enhance an atmosphere of integrity.

● Case

Hua Guang Welding carried out an integrity education training

On September 26th, 2024, Hua Guang Welding carried out a case-based integrity education training for key employees of higher titles. Cases and corresponding penalties were announced, as well as the Company’s relevant laws and regulations. After the training, the internal control officer of each department conveyed the contents to all employees to make sure that the requirements were well received.



Hua Guang Welding carried out an integrity education training

In terms of anti-trust and fair competition, the Company has formulated the Management System of Anti-Monopoly and Fair Competition, which requires the Company and the employees not to enter into monopoly agreements with corporates or traders they have a competitive relationship with. The abuse of a dominant market position is also prohibited to preserve fair competition in the market.

Disclosure and Communication with Investors

Hua Guang Welding worked on its investor relations (IR) management in strict accordance with relevant laws and regulations, such as the Company Law, the Securities Law, the Rules Governing the Listing of Stocks on Shanghai Stock Exchange, and the Provisions on Information Disclosure Management. The Company accordingly protected the rights of the investors to know and to participate in the Company’ s major matters. Besides, the Company protected the interests of small and medium-sized investors, and continued to generate fair return on assets.

The Company fulfilled its obligations of information disclosure in a truthful, accurate, complete, and timely manner with accordance to the law. By actively utilizing the official website, WeChat official account, SSE E-interactive Platform, investor hotline etc., the Company disclosed all information that might cause a material effect on the decision-making of shareholders and other stakeholders, in order to protect the shareholders’ right to know.

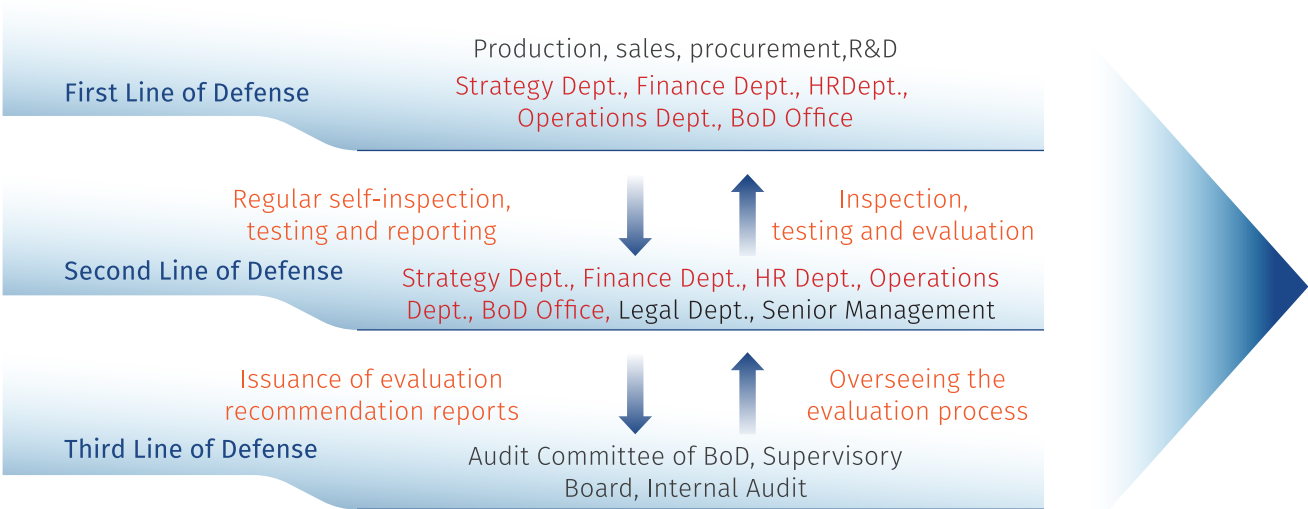
In 2024, the Company issued a total of 81 interim results announcements, 4 periodic reports, and replied to 42 questions on the SSE E-interactive Platform.

Information Security Protection

Hua Guang Welding has established a sound information security management system, involving the Provisions on the File Confidentiality Management, the Provisions on the Data Security Management, the Control Procedures for Information System Operation and Maintenance, etc. The Company also carried out information security training for employees in the relevant positions to remind them of certain requirements. Meanwhile, the Company conducted information security checks on former employees to eliminate the risk of information leakage. There was no information or privacy leakage incidents incurred in 2024.

Enhancing Risk Management

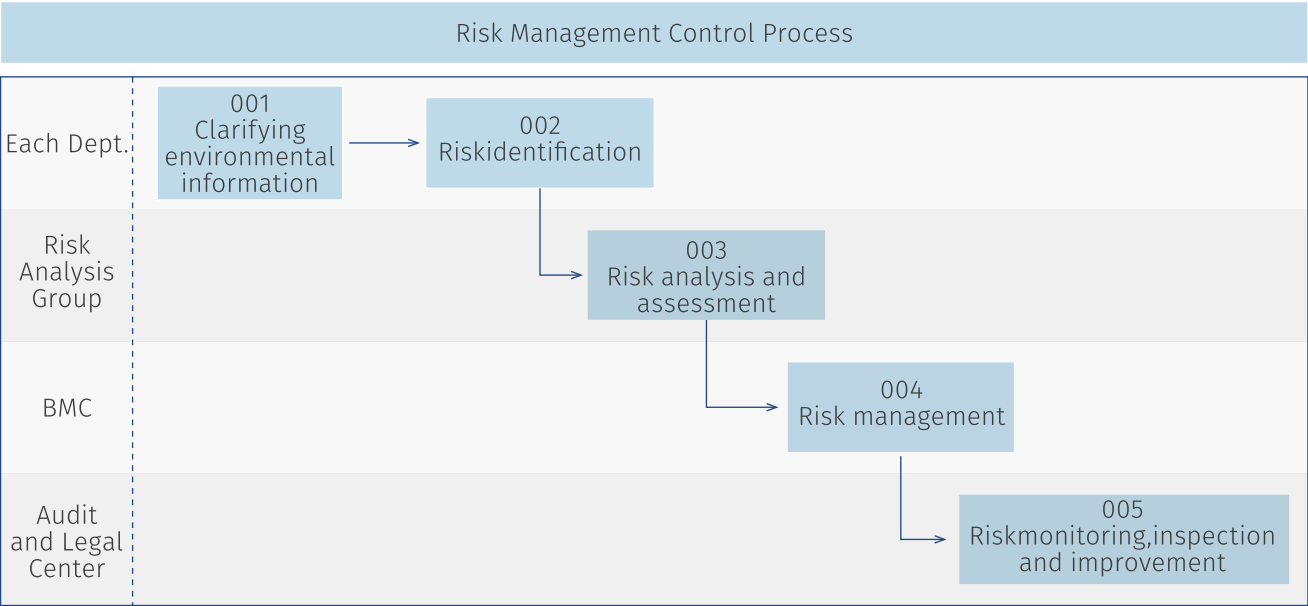
Hua Guang Welding has set up three lines of defense for risk management. The first line of defense performs daily duties for risk management, while the second line carries out supplementary work if needed, and the third line oversees and audits relevant activities. Each line of defense and the department behind coordinated with each other in tandem to form synergy.



Three-Line Model of Hua Guang Welding

Risk Management of Hua Guang Welding: Three Lines of Defenses

The Company formulated the Control Procedures for Risk Management and the Provisions on the Departmental Probity Management, which stipulate the management process of identifying, evaluating and responding to various types of risks. The regulations clarify the responsibilities of respective departments, and formulate a perfect risk management system and how it works. Besides, the Company adopted a series of measures to tackle with tax risks, including formulating the Provisions on Tax Management; conducting regular tax risk assessment to identify potential tax risks; and coming up with preventive measures and emergency treatment for identified risks.



- Each department shall identify potential risks one by one using the SWOT method, and carry out annual risk identification in line with the corporate strategy. Irregular identification of risks is carried out depending on the circumstances of operational changes and production.
- Risk analysis group shall conduct a qualitative analysis of identified risks, and determine the risk level after analyzing the severity and likelihood of consequences. The Company categorizes all risks into five levels, i.e. extremely high risk, high risk, moderate risk, low risk, and very low risk. The risk analysis group shall then evaluate the level of risk acceptance based on the risk level.
- Business Management Conference shall formulate strategies and managerial measures given the identified risks. Besides, BMC shall also set up corresponding risk management targets, and integrate them into departmental KPIs and monthly work plans. The business performance shall be reviewed monthly by BMC. Corresponding emergency response mechanisms shall also be set up to ensure that risks can be properly dealt with in a timely manner when they occur. Regular stress testing and assessment is also needed.
- Audit and Legal shall review the effectiveness of risk control measures, and call for improvement or correction when problems are identified. When significant changes take place in the external environment, ALC shall reevaluate corresponding risk control plans.

In 2024, the Company identified 37 high risks including customer trust risk and fraud risk arising from issues including sales product quality and after-sales service. In response, the Company carried out a series of risk control measures, such as updating customer complaint ledgers; formulating the Provisions on Probity Management for departments; conducting trainings and integrity education activities on a regular basis. Besides, the Company carried out 2 internal control and risk management trainings in 2024 with the purpose of enhancing the overall risk management level. Department heads and internal control officers attended the trainings, and learned about the importance and methods of risk identification.

Protecting Clear Waters and Green Mountains

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Lucid waters and lush mountains are invaluable assets. With accordance to the green and low-carbon principle of reducing emissions from the source, Hua Guang Welding fully supported China's "30-60" decarbonization goal of carbon peaking and carbon neutrality. To contribute solid strength to guard the "lucid waters and lush mountains", the Company integrated the ethos of green design, green manufacturing and low-carbon environmental protection into business operations and the entire life cycle of the products.

ENVIRONMENT

Practicing Low Carbon Development

Advocating the idea of green manufacturing, the Company continuously promoted energy conservation, emission reduction and sustainable development by many measures, such as monitoring energy use on a regular basis, assessing energy utilization, setting energy-related targets scientifically, and optimizing the energy structure. With the excellent performance in the field of green and low carbon, the Company has been awarded “Green and Low-Carbon Factory of Zhejiang”.

Addressing Climate Change

With reference to the guidance of the IFRS S2 Climate-related Disclosures, Hua Guang Welding has taken active actions to address climate change. The Company also improved the risk management mechanism concerning climate change; set up and implemented carbon emission reduction plans; and consistently carried out carbon footprint verification.

Climate Change Governance and Strategy

As the global climate grew increasingly severe, the Company has fully recognized the materiality of climate-related risks and opportunities to its long-term development. To practice the ethos of ESG and achieve the SDG goals, the Company has developed a systematic mechanism managed by the ESG Project Team and the EHS Management Department. Relevant provisions include the Control Procedures for Guidelines, Objectives, Indicators and Projects, the Control Procedures for Risk Management, etc. The ESG Project Team is responsible for coordinating the strategic assessment of climate risks and opportunities. By integrating ESG factors smoothly into the strategic planning, operation and industrial investment decision of the Company, the Team strives to improve the business management system, so as to accomplish the SDG goals. Advocating green business philosophy, the EHS Department promotes the green management of the whole process of product design, manufacturing and application. The idea of sustainability is rooted in the corporate strategy, daily operation and employee behaviors, which lays a solid foundation for the high-quality sustainable long-term development.

Identifying and Addressing Climate Risk

The Company carefully examined the risks and opportunities brought by climate change, from specifically three dimensions, namely entity risks, transition risks and opportunities. Based on the risk management approach, i.e. “Clarifying environmental information – risk identification – risk analysis and assessment – risk management – risk monitoring, inspection and improvement”, the Company was able to plan and guide a series of grounded climate-related strategies and actions. In 2024, the Company identified a total of four entity risks and three opportunities.



Type of risk/opportunity		Description	Countermeasures
Entity risk	Extreme temperatures	<ul style="list-style-type: none">Occupational health and safety (OHS) risk: Changes in climate may lead to extreme heat, which can have a negative impact on workers undertaking prolonged duties in high-temperature workplaces.	<ul style="list-style-type: none">Improving working environment: By the innovation and change of production process, the Company created good working environment to reduce the negative impact of extreme temperatures on production.
	Flood-driven disaster	<ul style="list-style-type: none">Waterlogging in the factory area: Climate change leading to frequent flooding, which may cause waterlogging in most of the factory area. Normal company operations may be affected, posing a direct threat to the safety of production facilities and supplies.	<ul style="list-style-type: none">Establishing a flood emergency response headquarter: The headquarter is responsible for emergency relief work coordination, such as flood risk management, flood incident management and typhoon, to ensure that effective measures can be taken immediately in the case of emergency.Carrying out flood and typhoon risk management drills: The drills enhanced the coordination capability among various groups. Employees can be more capable of responding to emergencies brought about by inclement weather.
	Global warming	<ul style="list-style-type: none">Energy shortage: Climate change may induce resource shortages, leading to disruptions in the supply of water, electricity and other energy sources, thereby affecting the Company’s normal production and operations.	<ul style="list-style-type: none">Carrying out energy management: The Company promoted all kinds of measures to save electricity during production, office work, etc. Besides, the Company advocated all kinds of production process innovations concerning energy saving and emission reduction, as well as energy recycling measures, to reduce operating costs.
Transition risk	Reputation risk	<ul style="list-style-type: none">Stakeholders may pay attention to the Company’s response to climate change issues. Failure to take positive action to meet their expectations may have negative implications for the Company.	<ul style="list-style-type: none">While the Company kept taking active action, we also disclosed openly and transparently to stakeholders our current actions and future plans in addressing climate change.

Opportunities	Description	Countermeasures
Green product and service	<ul style="list-style-type: none">Given the R&D advantages of the Company, we would continue to provide downstream clients with energy-saving and emission-reducing green welding products, as well as technical services, to gain more market opportunities.	<ul style="list-style-type: none">In line with the downstream clients’ demand for green, flexible, efficient and material-saving filler metals, the Company continued to develop new products and technologies so as to further enhance customer stickiness and our leading position in the industry.
Energy efficiency	<ul style="list-style-type: none">In order to achieve global carbon reduction targets, renewable energy and related technologies are becoming more and more popular in many application scenarios. Renewable energy sources will become more and more accessible and less expensive in the future.	<ul style="list-style-type: none">The Company can make greater use of all types of renewable energy in its production operations to save energy costs.
Adaptability of the Company	<ul style="list-style-type: none">The topic of low carbon has become the consensus of society, which requires the Company to enhance the ability to respond quickly and appropriately in order to better manage climate risks and capitalize on related opportunities.	<ul style="list-style-type: none">The Company actively formulated carbon neutrality plans, which promoted renewable energy to replace traditional energy sources. By adopting measures that improved energy efficiency, the Company built a sustainable value chain, and kept optimizing top solutions and services.

The Company made a quantitative analysis of the identified risks and opportunities. The results showed that risks of extreme temperatures, flooding, climate warming, and the Company’s reputation were all significant to the operation in the short, medium, and long term. Meanwhile, green product and service, energy efficiency, and the adaptability of the Company are significant opportunities.

○ Emission Reduction Indicators and Targets

In order to actively respond to and fully support China’s “30·60” decarbonization goal of carbon peaking and carbon neutrality, the Company conducted a scientific analysis of the internal and external environment, and clarified our own emission reduction goals and plans. Given that, the Company carried out annual emission reduction actions in an orderly manner according to the established goals, and conducted strict assessment of the effectiveness of annual emission reduction. These actions aimed at promoting the Company’s low-carbon approach, and working together to create a green and sustainable future. The Company has set the 2025 GHG emission reduction target per unit of output (Scope1 Scope 2) to 1% reduction year on year.

In 2024, the Company hired a third-party professional organization to conduct a carbon footprint verification. The results showed that processes including production, office work, purchased electricity caused gross (Scope 1 and 2) GHG emissions amounting to 12,508.71 tonnes of CO₂ equivalent. Energy-saving and emission-reduction measures taken has reduced GHG emissions by a total of 133.60 tons of CO₂ equivalent.

Disclosure	Unit	2024	2023	2022
Direct (Scope 1) GHG emissions	tons of CO ₂ equivalent	212.53	158.79	171.04
Energy indirect (Scope 2) GHG emissions	tons of CO ₂ equivalent	12,296.18	13,115.00	11,308.27
Gross (Scope 1 and 2) GHG emissions	tons of CO ₂ equivalentt	12,508.71	13,273.79	11,479.31
Other indirect (Scope 3) GHG emissions	tons of CO ₂ equivalent	30,509.11	23,929.74	25,664.40
Reduction of GHG emissions	tons of CO ₂ equivalent	133.60	117.00	814.00

►● Energy Management

Hua Guang Welding carried out a series of well-rounded and detailed energy management measures to enhance energy use efficiency and reduce unnecessary consumption. The Company constructed a set of strict energy auditing and monitoring system by introducing advanced energy-saving technologies and equipment, building and applying renewable energy facilities, to ensure the rationality and high efficiency of energy use. The Company steadily changed towards a low-carbon, high-efficiency and sustainable energy utilization model.

○ Energy Management System

With accordance to relevant laws, regulations and industry standards, the Company has formulated a series of documents in order to guarantee an oriented and rule-based energy management system. Policies include the Handbook for Energy Management System, the Control Procedures for Energy Assessment, the Control Procedures for Energy Surveillance, Measurement and Analysis, the Control Procedures for Energy Benchmarking and Performance Parameters, the Control Plan of Risk and Opportunity Identification and Measures: Energy Management System, etc. These provisions ensured a continuous increase in energy efficiency and a steady improvement in energy performance. The Company passed GB/T23331 and RB/T119 (energy management system) in 2021, and had them re-certified in 2024.



Hua Guang Welding has passed
GB/T23331 and RB/T119
(energy management system)

The Company set up a professional energy management team, and clearly communicated the responsibilities and authority of the team to employees at all levels. This is to ensure the focus of the Company to stay on energy performance, and to enhance the awareness of energy saving among all employees. Besides, the team set up necessary guidelines and provisions to guarantee the effective operation, control and continuous improvement of the energy management system. The team also carried out specific measures to boost energy performance. In addition, the team reported directly to the general manager regularly on the performance and improvement of the energy management system.

○ Energy Management Goals

Based on the Control Procedures for Energy Benchmarking and Performance Parameters, the Company formulated the annual energy benchmark targets and plans given the 2024 equipment operations and techno-economic indicators. The energy performance parameters and benchmarks were determined, so as to plan the energy saving and consumption reduction work scientifically, and achieve energy management goals. When the main energy use switched, the company would update or adjust the energy benchmarks in time, re-examine and approve them, in order to guarantee the dynamic adaptability and continuous optimization of the energy management system, thus achieving the energy goals and operation efficiency. The Company has set an energy management target of a 2-5% reduction year on year in total energy consumption. By the end of 2024, the total energy consumption per annum, energy consumption per unit of production, and energy consumption per unit of output have all reached the target.

○ Energy Monitoring and Assessment

The Company monitored departments with high energy consumption or potential for improvement, as well as energy-consuming equipment (over 50kW). Energy monitoring was conducted by the Energy Management Working Group, responsible for presiding over the monitoring and evaluation of energy performance by means of visual inspection, measurement, examination, scanning and recording of key parameters, etc. If necessary, professional qualified organizations would be hired. Energy goals and indicators were monitored monthly, and Level 1 meters were examined by the power company every six months. In the event of abnormal fluctuations in energy consumption or deviations in performance from expectations, the factory or department would increase the frequency of monitoring, ensure problems to be resolved in a timely manner, and thus guarantee the effectiveness of energy management. The Company revised the Control Procedures for Energy Assessment to standardize the whole process management of energy assessment. To ensure the objectivity of results, energy benchmarks were set to provide support for energy targets and energy-saving plans. The Company’s energy assessment covered the basic information gathering of energy management, data collection and analysis of energy consumption, and energy utilization efficiency analysis, so as to explore energy saving opportunities.

Energy consumption factors that Hua Guang Welding considered:

- The control status of process parameters, such as the process temperature, holding time, holding effect of melting furnaces.
- The jet leakage, gaseous dispersion, dripping, permeation of energy-consuming working medium.
- Aspects of energy utilization, including the level of consumption of electricity, compressed air, snatural gas, etc.
- Electricity loss.
- Energy waste caused by unqualified products.
- Energy waste caused by inefficient production.

○ Energy Saving and Emission Reduction

Since 2020, the Company has been making all-out efforts to renew old equipment, improve production processes and refine management. The Company carried out 87 energy-saving and consumption-reduction projects, all of which have finished on time and reached the expected goals of energy saving with remarkable results. In 2024, the Company focused on key procedures and completed 10 equipment energy-saving projects, such as renovating extrusion IF equipment, renovating strip cleaning line, six-high mill upgrading. In 2024, 1,509,535 kWh of electricity was saved, resulting in CNY1,105,000 of cost saving.

● Case

Hua Guang Welding replaced six-high mills with four-high ones to save energy

Six-high thin-strip rolling mills consume high power and take high maintenance costs. To solve these problems, Hua Guang Welding replaced them with 25kW four-high mills to efficiently reduce energy consumption and save the cost. After the renovation, the overall power consumption was greatly reduced by 64%, saving 96,385 kWh of electricity and CNY150,000 annually.

In 2024, the Company formulated a list of energy-saving opportunities and a plan of energy-saving measures. 35 energy-saving opportunities were identified concerning various aspects, such as factory areas, facilities and equipment, and work processes. Ten of them were technological renovation projects, and control measures were developed respectively. In addition, the Company also installed photovoltaic power generation facilities, and set clear implementation plan with timeline for projects such as the photovoltaic power project, energy storage project, waste heat recovery system, etc. In 2024, the Company generated 311,783.56 kWh of photovoltaic power, which contributed to a more efficient energy structure and accelerated the green development.

Hua Guang Welding photovoltaic power plants installed

Disclosure	Unit	2024	2023	2022
Total energy consumption	tons of standard coal	2,939.21	2,296.89	1,980.64
Electricity consumption	10,000 kWh	2,386.21	1,864.25	1,607.43
Natural gas consumption	m ³	12,130	13,363	15,271
Petrol consumption	L	36,059	44,253	57,672
Residual heat energy consumption	tons of standard coal	35.12	32.69	30.09
Renewable energy consumption	tons of standard coal	38.32	37.47	40.24

Environment Management System

Committed to strengthening green management, Hua Guang Welding strictly followed environmental protection laws and regulations, and imbued every aspect of production and operation with compliance. The Company promoted green office taking a series of environmental protection measures, and encouraged employees to participate in environmental protection activities, in order to reduce the impact on the environment and jointly create a low-carbon, eco-friendly and sustainable environment.

Environmental Compliance Management (ECM)

Hua Guang Welding adheres to the environmental policy of “complying with regulations, meeting emission standards, saving resources, advocating green ethos, protecting the environment, and making continuous improvements”. Regarding compliance as the guideline, the Company strengthens the response to environmental emergencies, so as to reduce the negative impacts of production and operation on the environment, and boosting the sustainable corporate development.

Environmental Management System

With accordance to relevant laws and regulations, the Company formulated and revised a series of environmental management provisions, such as the Control Procedures for the Identification and Assessment of Environmental Factors, the Control and Assessment Procedures for Hazard Identification, and the Handbook for Quality, Environment, Occupational Health and Safety (QEHS) Management System. The Company carried out environmental impact assessment and environmental monitoring in accordance with relevant laws, and set up the EHS Management Department responsible for newly-established projects, renovation projects and extension projects. Besides, the EHS Management Department is also responsible for identifying and rectifying environmental issues, leading hazard investigation and standardization, and continuously improving the environmental management system so as to ensure the safety and compliance of operations. The Company has passed ISO14001 (environmental management system).

In 2024, the Company’s total investment in environmental protection amounted to CNY1,470,900. We also paid for all the carbon emission rights, such as energy use rights, water use rights, sewage disposal rights, as well as the procurement of green electricity. Throughout the year, the Company did not experience any major environmental emergencies or receive any administrative penalties due to environmental incidents.

Environmental Emergency Management

The Company attaches great importance to managing environmental emergencies. We formulated and improved the Control Procedures for Emergency and Response, the Response Plan for Environmental Emergencies, the Response Plan for Environmental Emergencies at Qihang Road Factory, and the Response Plan for Environmental Emergencies at Renhe Fengyun Road Factory. The plans cover key aspects such as the emergency response process, emergency disposal measures, emergency supply reserves, so as to ensure prompt and efficient actions in emergencies. In 2024, the Company developed an annual emergency drill plan and regularly organized a variety of drills for employees, including drills to tackle fire escape, typhoon and flood prevention, and hazardous waste leakage. These activities improved their ability to deal with emergencies, strengthened their safety and environmental awareness, so that they would be able to respond effectively to potential environmental emergencies.

Hua Guang Welding passed ISO14001 (environmental management system).

33

34

● Case

Hua Guang Welding conducted a hazardous waste oil leakage drillt

In April 2024, Hua Guang Welding conducted a chemical leakage drill in the workshop of Renhe factory in order to strengthen the management of hazardous waste treatment. In strict accordance with corresponding procedures, the leaked oil was collected and removed with the whole process recorded, observed and photographed in detail. After the drill, the Company assessed the effectiveness and made improvements concerning shortfalls. The activity improved the ability of the emergency response team to properly use protective equipment, carry out accident rescue and evacuation, and at the same time enhanced the employees’ awareness of safety and environmental protection.



Removal of spilled chemicals during the drill

Water Resource Management (WRM)

In face of the challenge of water resource shortage, Hua Guang Welding built a well-rounded water resource management system to properly manage water use. The Company also promoted water recycling and strict water quality monitoring in line with relevant provisions.

WRM System

With strict accordance to the Water Law of the People’s Republic of China, the Company formulated the Water Resource Management Requirements and other regulations, as well as establishing a WRM leading team, to ensure proper WRM work. The Company carried out detailed statistics on water resources consumption every month, and analyzed the water consumption of each production line in depth. Each production line should be capable of water balance testing, and make sure that all original records and ledgers to be complete and clearly stated, so that the Company could be well aware of the condition of water consumption. The team also carried out regular overhaul and maintenance of water-using pipelines and equipment to avoid leakage in the pipeline network. Thus, the Company effectively guaranteed the rational water utilization and management, and achieved the 2024 WRM goals.

WRM Leading Team Structure:

- Team leader: Responsible for the overall WRM work.
- Equipment Division: Responsible for the daily management of tap water; water-saving modification of production equipment; and WRM improvement for production processes.
- EHS Management Department: Responsible for checking the water system every morning; transcription and report of the water meters in a spreadsheet; adding up the water consumption on a weekly and monthly basis, as well as analyzing and reporting on last-month water consumption at the beginning of the following month.

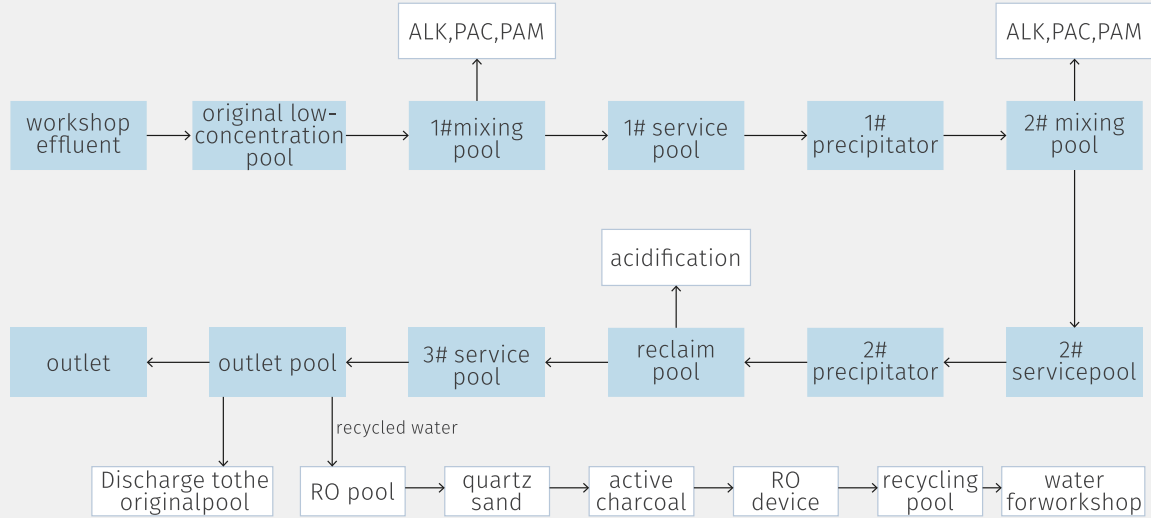
Water Recycling

In order to alleviate the contradiction between supply and demand of water resources, and improve the utilization efficiency, the Company sought new ways of water recycling and established water saving goals, including tap water use replaced by recycled water when cleaning products; water recycling with the help of cooling towers and other facilities; etc. At the same time, the Company encouraged the employees to participate in water conservation. In 2024, the Company increased the application of cooling towers and other facilities, and set up a water reclamation and reuse treatment system for the wastewater stations, which greatly increased the water recycling rate to 20%. The Company is actively promoting the further improvement of water use efficiency by setting a water recycling rate of 50% and more, and is taking a variety of measures to meet this goal.

Case

Water recycling system

Hua Guang Welding earnestly promoted water recycling to reduce the dependence on fresh water, and further optimize the recycling of water resources. The company has added a water recycling treatment system in the existing wastewater stations, namely the pool in the station – pre-treatment system – water recycling system, which re-conveys the filtered high-quality water back to the workshop production line. The water recycling system is now working well in the trial operation.



Pretreatment and recycled water treatment process of
Hua Guang Welding wastewater stations

Disclosure	Unit	2024	2023	2022
Total water consumption	tons	180,670.80	155,481.00	128,618.00
Fresh water consumption	tons	150,559	149,836	123,902
Total consumption of water recycled	tons	30,111.80	5,645.00	4,716.00
Water recycling rate (cleaning line)	%	20.00	3.77	3.80

Water Source Protection

The water used by the Company comes from the local water company, and is mainly used for the production water of each production line and the living water of the office area. To avoid the pollution of neighboring water bodies and therefore protect the water quality of the water source, the Company adopts rainwater and sewage diversion systems. Production wastewater used is treated thoroughly by our own wastewater stations. After the recycled water meets the third level of standards of the Comprehensive Emission Standards for Wastewater, it is transported to the Liangzhu wastewater treatment factory for subsequent treatment. Domestic sewage is discharged through the pipeline. In order to strengthen water quality supervision, the Company has set up a professional testing room at the discharge port of wastewater stations in cooperation with the Municipal Environmental Protection Bureau. The Company conducts real-time monitoring of key water quality indicators to ensure compliance with discharge standards. We also detect and deal with potential pollution risks in a timely manner, reducing the negative impact on the water source.

Advocacy of Green Development Principles

Hua Guang Welding is committed to promoting the ethos of green environmental protection. Through regular training and corporate cascading, the Company kept advocating green office practices, and imbued each employee with the environmental protection paradigm, so that it became a conscious code of conduct for work and life.

Environmental Protection Training

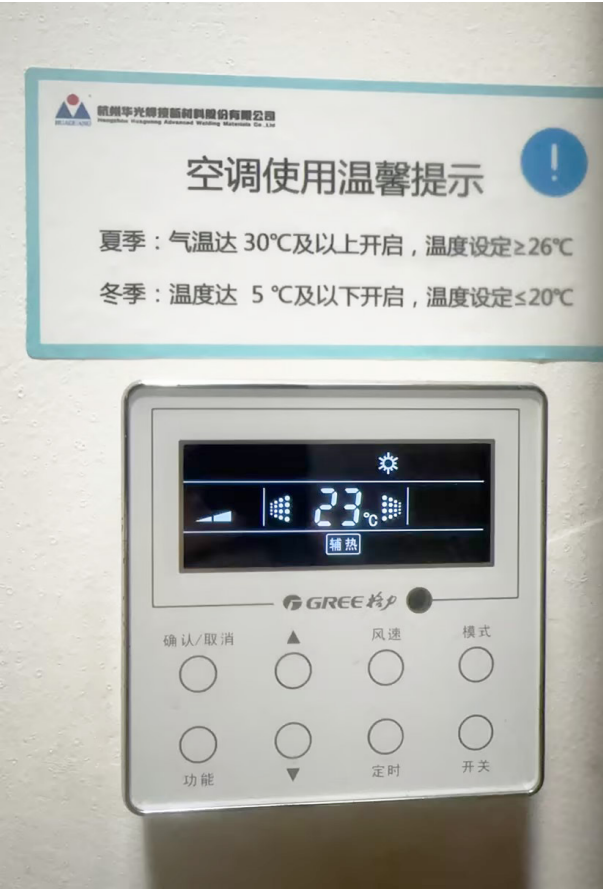
The Company actively practices green and low-carbon development, and integrates the ethos into corporate culture. We organized monthly training on environmental protection essentials, respectively for all employees, the EHS Management Department, and other related departments. These trainings continuously raised the environmental awareness of all employees, and enhanced their ability to carry out environmental protection measures, so as to build a solid foundation for the green development of the Company. In 2024, the Company conducted altogether 18 trainings on environmental protection, with 1,140 employees participating.

Green Office

In line with the ethos of environmental protection, the Company promoted energy saving and boosted low-carbon development starting from the details of daily office work. The company posted warm tips such as “save electricity”, “properly use air-conditioning” in public places to create a strong energy-saving atmosphere and guide employees to develop good habits of electricity consumption.

Green office practices:

- The temperature of air-conditioning is controlled in summer and winter to avoid waste;
- Turn off lights, fans, gas, water and electricity when the employees leave;
- Turn off lights in the lounge, package warehouse and toilet at once when the employees leave;
- Report any toilet faucet leaks for repair promptly.



Warm tips for using air conditioners



Advocating for a paper-free office

Case

Training on environmental protection essentials

In November 2024, Hua Guang Welding carried out a training of environmental protection essentials, aiming at enhancing industrial connectivity and contributing to a win-win industry chain. The training focused on the prevention, control and standardized treatment of effluent, gaseous waste, noise and hazardous waste, with special emphasis on rainwater and sewage diversion, noise muffling and insulation, on-site management of hazardous and solid waste, and archive management, etc. The training encouraged the staff to apply the knowledge in their daily work and jointly promote green production.

Hua Guang Welding carried out training of environmental protection essentials

Safe and Cleaner Production

Upholding the ethos of green development, Hua Guang Welding thoroughly analyzed the production and service processes, and identified high energy consumption, high material consumption and heavy pollution, which ensuring the safety of using chemicals. The Company also formulated relevant plans to reduce the use of toxic and hazardous materials, minimize and recycle the waste at most. The related processes were continuously renewed in order to reduce resource consumption. The Company has completed the third round of cleaner production review, and passed the Hangzhou Cleaner Production Audit. It marks the significant progress of the Company in resource efficiency and environmental management. It set up a model of green development in the industry, as the overall cost and pollutant emissions were reduced, reaching a win-win situation in terms of economic and environmental benefits.

Raw Material Management

As the industrial production progressed and the business expanded, Hua Guang Welding paid more attention to raw material management and explored a new way of recycling economy. The Company is committed to ensuring the safety and efficiency of production through strict compliance management. Through raw material management, the impact on environment and natural resources is minimized, which provides strong support for the steady operation and sustainable development of the enterprise.

Management System of Raw Materials and Packaging Materials

In order to ensure the effective management and control of raw materials and packaging materials in procurement, storage, use and waste disposal, the Company has formulated a series of internal provisions in strict accordance with relevant requirements of the Regulations on the Safety Management of Hazardous Chemicals. Documents include the Provisions on Raw Material Warehouse Management, the Provisions on Auxiliary Material Warehouse Management, the Control Procedures for Chemicals, the Control Procedures for Hazardous Substance, and so on. The company strictly controls the whole process of the procurement and/or production of raw materials (toxic and hazardous substances, dangerous chemicals, flammable and explosive products and oils), outsourced products, purchased products and packaging materials. During this process, Quality Management Department, Procurement Management Department, Manufacturing Department and others work together, while EHS Management Department is responsible for supervision, so as to jointly guarantee standardized chemical management, and to effectively prevent the harmful effects of hazardous substances on human health and the environment.

Materials Recycling

The Company attaches great importance to the recycling economy and green design. We are committed to continuously optimizing production processes, strictly carrying out waste separation and disposal, and strengthening waste recycling. This is to reduce the dependence on raw materials for production, so as to promote the efficient use of resources and sustainable development in an all-round manner. In 2024, the Company took a number of strong measures to significantly improve material utilization and reduce the negative impact of operational activities on the environment, such as using raw materials that can be recycled and remanufactured. The Company successfully recycled and reused 112.87 tonnes of waste, procured and recycled 107 tonnes of tin ingots, and reduced oil consumption by 26,350 liters.

Material recycling measures of Hua Guang Welding:

- Welding wire spool recycling: Recycling welding wire spools from clients, which effectively reduces waste and lowers resource consumption and costs.
- Automated packaging of welding rods and rings: Introducing automated packaging machines to improve the packaging efficiency and accuracy of welding rods and rings, and realizing full traceability of materials with the help of QR code technology.
- Electronic components recycling: Using vacuum material frame and vacuum equipment to dismantle, repair or undertake secondary technology reforms of recyclable electronic components.
- Installation and independent R&D of vacuum rolling oil circulation and filtration system: The equipment keeps the rolling oil clear, reducing oil consumption by 26,350 liters per year and saving about CNY500,000.



Vacuum rolling oil
circulation and filtration system

● Case

Hua Guang Welding carried out tin ingot recycling

Hua Guang Welding actively carried out green design, and reduced, reused and recycled raw materials from the source, the production process to waste recycling. Thus, the product would consume less resources and cause less negative impact on the environment throughout its life cycle. Some products used recycled tin ingots in the procurement of raw materials, and the dust-free cloth for wiping solder paste was collected, soaked and recycled in the production process. As for waste treatment, tin slag was melted twice, and useful components were extracted and put back into the production as residual materials. In 2024, the Company’s tin ingot automated transfer line was completed. The procurement of recycled tin ingots effectively reduced the mineral resources consumption by 107 tonnes, saving more than CNY30,000 in costs.

Chemical Safety Management

The Company attaches great importance to the chemical protection and control process to ensure the accuracy, safety, and legality of waste disposal in and out of storage. At the stage of process research, the Company requires the submission of a list of toxic and hazardous chemicals. The Procurement Management Department and the Cost and Material Management Division are responsible for the declaration, storage and management of the chemicals, as well as the timely reporting of the amount of waste. The EHS Management Department assumes the responsibility for daily inspection, and make sure that the waste is handed over to the qualified third party for disposal, guaranteeing the full compliance of the whole process.

In the storage and management of hazardous chemicals, the Company strictly enforces the requirement of chemical labeling and the principles of “four NOs and one guarantee” and “five TWOs”. The “four NOs and one guarantee” principle means to ensure that there are no chemicals stolen, no accidents, no loss, no violation of regulations, and to guarantee safety. The “five TWOs” principle is for toxic chemicals with reference to the management standards of highly toxic chemicals, i.e. “two persons for safekeeping, two persons for picking up, two persons when using, two locks, two accounts”, to ensure that the safety responsibility is implemented at all levels, and the safety and standardization of chemical management is guaranteed in all aspects.



Chemical labeling
postings

● Case

Hua Guang Welding carried out chemical safety training

Hua Guang Welding carried out trainings concerning hazardous substances to enhance employees’ awareness of chemical safety, guarantee raw materials management, production safety and environmental protection. The EHS Management Department provided basic training for new employees based on the environmental education and training program to ensure that employees master the necessary knowledge. In addition, the Company also organized special training courses to ensure that relevant employees have an in-depth understanding and proficiency in the management standards and classification requirements of hazardous substances, as well as the corresponding inspection methods and technical points, so as to ensure that all operations are standardized and safe.

○ Reducing the Use of Toxic and Hazardous Substances

Based on the ethos of green design, the Company carried out process innovation by adopting anti-oxidation and no-acid-washing technologies, which improved product quality and processing precision. In addition, the environmental pollution in the production process was significantly controlled, as the use of toxic and hazardous substances was reduced. Given the increasingly strict environmental regulations and public awareness of environmental protection, the Company will continue to apply and promote these technologies to contribute to a greener and more sustainable future.

Anti-Oxidation Technologies	No-Acid-Washing Technologies
<ul style="list-style-type: none">● Control at source to reduce the generation of hazardous substances.● Prevent materials from reacting with oxygen during processing, thus avoiding the generation of hazardous substances.	<ul style="list-style-type: none">● Innovate the working processes and reduce the use of chemical cleaning agents.● Provide an eco-friendlier solution that avoids the use of large amounts of hazardous acids and cleaning agents.

► Pollutant and Waste Management

Hua Guang Welding is committed to building a highly efficient and eco-friendly pollutant and waste management system, while strictly complying with relevant national laws and regulations to ensure minimum impact of all production and operation activities on the environment. The Company continues to improve the treatment technology as well as the management strategy, and collects, stores and disposes of all types of pollutants and waste in a separate, safe and compliant manner. In addition, the Company also strengthens the special control of hazardous waste, from its generation to its final disposal, to realize the fine whole-chain management.

○ Pollutant Emissions

The Company rigorously abided by the Environmental Protection Law of the People’s Republic of China, the Law of the People’s Republic of China on the Prevention and Control of Atmospheric Pollution, and the requirements for effluent licenses. In compliance with relevant laws, the Company formulated respective regulations including the Control Procedures for Pollution and the Provisions on Effluents and Gaseous Waste Treatment, to make sure that the emissions comply with national and local environmental standards. Meanwhile, the Company attached great importance to the standardized operation of environmental protection facilities. Through technological adaptation and process upgrade, pollutant emissions were effectively reduced in the production process. The Company regularly carried out maintenance and overhaul of environmental protection equipment, so that the facilities could operate steadily and be maintained. By the end of 2024, the Company has not once been subject to significant administrative penalties or criminal liability for pollutant discharge.

Hua Guang Welding Renhe Factory acquired the effluent license

Effluent emissions

With strict accordance to national standards such as the Integrated Wastewater Discharge Standard (GB 8978-1996), the Wastewater Quality Standards for Discharge to Municipal Sewers (GB/T 31962-2015) and the Emission Limitation of Nitrogen and Phosphorus for Indirect Discharge of Industrial Wastewater (DB33/887-2013), the Company set emission concentration goals for key pollutants such as chemical oxygen demand (COD), pH value, suspended particulate and total Cu. The Company carried out fine management for product cleaning wastewater, analyzing and testing wastewater, domestic sewage, etc., and the effluent that met the emission standards would be discharged to Liangzhu Sewage Treatment Factory. Besides, the Company actively took measures including rainwater and sewage diversion, wastewater discharge in compliance with standards, etc. Every two hours, the Company carried out laboratory tests on discharged effluent, and regularly sent water samples to a third party for testing. In 2024, thanks to the improved process of Wastewater Treatment Station II, the wastewater production year-on-year reduced by 17,455 tons (23%), achieving the emission reduction goal.

Disclosure	Unit	2024
Total emissions of effluents	m³	63,234.11
COD of effluents discharged	tons	9.54
Ammonia and nitrogen in effluents discharged	tons	0.31

Gaseous waste emissions

In compliance with the Emission Standard of Air Pollutants for Foundry Industry (T/CFA030802.2-2020), the Comprehensive Emission Standards for Air Pollutants (GB16297-1996), and given the calculation results of the EIA documents, the Company formulated the targets of the concentration of pollutant emissions concerning particulate matter (PM), sulfuric acid mist, non-methane total hydrocarbons, zinc, tin, etc. In 2024, thanks to many measures the Company has taken, the total amount of gaseous waste emissions reached 3.76 tons, 100% complying with the standards.

Gaseous waste management methods:

- Gas-collecting hood and airtight process: A gas-collecting hood is set above each IF furnace, with a long soft curtain enclosing the surrounding area. Avoid open operation as much as possible to ensure the airtightness of the production process and facilities, so as to reduce disordered emission.
- The height of emissions stacks meeting the standard:The Company strictly abides by the requirements of the industry, and makes sure that the height of all the emissions stacks meets the standard to ensure the effective diffusion and dilution of the gaseous waste emission in an ordered manner.

Disclosure	Unit	2024
Total annual emissions of gaseous waste	tons	3.76
Particulate emissions	tons	2.55

41

42

Waste Management

In full compliance with environmental laws and regulations concerning waste management, the Company has always followed the Law of the People’ s Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Wastes. Hua Guang Welding has also formulated relevant provisions, such as the Provisions on Waste Management, the Provisions on Hazardous Waste Management. The EHS Management Department ensures that all aspects of office work, production, transportation and inventory management are fully covered. According to the nature and type of waste, the Company accurately categorizes them into hazardous waste, recyclable waste and general waste, and adopts corresponding disposal measures for different categories.

Non-hazardous waste management and disposal.

To ensure standardized waste collection, the Company has set up special collection points with professional management team on site responsible for supervising and guiding waste discharge, preventing the mixing of various types of waste and cross-contamination. In terms of waste treatment, the Company strictly follows the environmental protection requirements and hires third-party organizations with qualifications to carry out scientific and compliant treatment, so as to minimize the impact on the environment. By the end of 2024, the total amount of non-hazardous waste generated by the Company reached 112.87 tons, achieving the goal of 100% compliant disposal.

Disclosure	Unit	2024
Total annual waste generated	tons	392.45
Total amount of hazardous waste generated	tons	279.58
Total non-hazardous waste generated	tons	112.87

Hazardous waste management and disposal

The Company has implemented special management of hazardous waste, and formulated management specifications covering the whole process including waste generation, collection, storage, transfer and disposal to ensure compliance with environmental protection and safety standards. The Company has a specific hazardous waste storage warehouse, and keeps detailed records of hazardous waste ledgers. Regular inspections are carried out to ensure consistency among the waste, ledgers and register cards. When the storage capacity is close to saturation, the EHS Management Department will notify the relevant departments 5 working days in advance, and contact qualified disposal institutions for safe and effective disposal in a timely manner. In 2024, the Company’ s disposal of hazardous solid waste decreased by 241.4 tons (-46.3%) year-on-year, achieving the goal of 100% legal and compliant disposal.



The hazardous waste storage warehouse of Hua Guang Welding

Hazardous waste management plan:

- Delegate disposal to external qualified institutions and sign contracts.
- Keep a hazardous waste ledger; formulate provisions on transfer manifest; incentivize the entry and transfer of all types of hazardous waste.
- Online declaration for each order.
- The department that generates hazardous waste shall use, transport, and store the waste in the warehouse according to relevant requirements.



Co-Establishing A Better Society

△〇△

Hua Guang Welding actively work together with stakeholders to build a better society. The Company builds a stable relationship with our partners in the supply chain and the industry, so as to protect customer rights in a well-rounded manner. The Company creates a harmonious and inclusive workplace for employees, grows together with them, and actively participates in public welfare undertakings to fulfill its social responsibility. In a word, the Company takes practical actions to fulfill its corporate responsibilities and promote social progress and development.

BETTER SOCIETY

Sustainable Value Chains

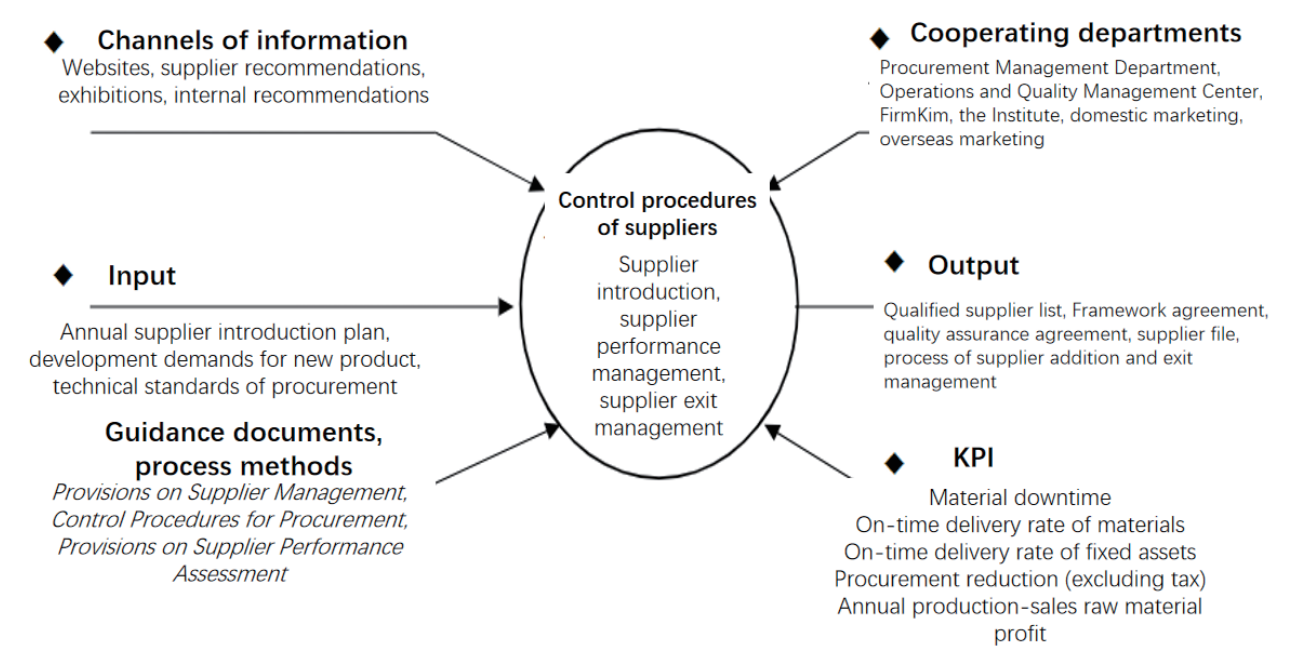
Hua Guang Welding is always committed to building a sustainable supply chain and long-term partnerships through active participation in industry exchanges and cooperation. The Company focuses on improving supply chain management, promoting sustainable development, and enhancing the overall industry level by participating in the formulation of industry standards and technological innovation. Meanwhile, the Company attaches great importance to the protection of customers rights and interests. With a comprehensive quality management system, the Company strives to provide high-quality products and services to customers.

Supply Chain Management

Supply chain management is an important pillar for the high-quality corporate development, and a key link to promote industry chain synergy and innovation. The Company has always regarded supply chain management as a core component of business, and strengthened the prevention and control capabilities of supply chain risks by building a supplier life-cycle management system. The Company has actively practiced the idea of responsible supply chain to ensure the transparency, resilience and sustainability of the supply chain. Committed to growing with suppliers, the Company promotes green procurement and compliant operation, contributing to building a safe, efficient and sustainable supply chain and achieving long-term value creation and industry leadership.

Supplier Lifecycle Management

Well aware of the importance of supply chain in the sound corporate development, the Company has established a scientific and rigorous supplier management system. A standardized supply chain management process covers the core aspects of supplier screening and introduction, performance assessment, and exit management. In compliance with relevant national regulations and guidelines, such as the Law of the People’s Republic of China on Bid Invitation and Bidding, the Guiding Opinions of the General Office of the State Council on Actively Promoting Supply Chain Innovation and Application, etc., the Company has formulated and strictly complied with the Provisions on Supplier Management, which reduces the supply chain risk, improves the overall operational resilience and quality level through systematic management and efficient implementation.



Hua Guang Welding Supplier Management Process

Supplier Screening and Introduction

The Company has always adhered to a rigorous and standardized supplier access management philosophy to ensure that the introduction of new suppliers is in line with the corporate development strategy and business needs. The Company has formulated a comprehensive supplier access assessment system, covering key dimensions such as delivery capability, financial position, ESG impact. Relying on a cross-departmental collaboration mechanism, the Company involves the Procurement Management Department, Operation and Quality Management Center and other departments to implement differentiated audit strategies for different categories of suppliers based on the Supplier Questionnaire, in which suppliers of Category A/B are subject to on-site audits that include technical capability, environmental impact, and OHS management.

Supplier Performance and Quality Management

The Company strictly follows the Provisions on Supplier Management and the Provisions on Supplier Performance Assessment to systematically evaluate the supplier performance to ensure the continuous improvement of supply chain quality and operational efficiency. The Procurement Management Department is responsible for evaluating their delivery capability and collaboration efficiency, while the Quality Management Department focuses on the audit of quality. The Company continuously optimizes the list of qualified suppliers to enhance the effectiveness of supply chain management. At the same time, the Company requires all suppliers to sign a quality assurance agreement, which specifies the supply specifications and ensures that the products comply with RoHS, REACH and other relevant regulations and industry standards. Suppliers are required to submit third-party test reports on an annual basis, and re-send samples and complete the verification when adjustments are made to the production conditions or processes, so as to safeguard the product quality and compliance. The Company also included anti-bribery clauses in the contracts signed with suppliers, requiring that both parties to the contract must not engage in bribery. If any party violates the agreement, the counterparty has the right to terminate or rescind the contract in advance. In 2024, the Company conducted ESG impact assessments of 49 suppliers, and none of them were identified as having significant actual and potential negative environmental impacts.

Supplier Exit Management

The Company has set up a strict supplier exit mechanism to ensure that the quality and efficiency of the supply chain is continuously improved. In accordance with the Provisions on Supplier Performance Evaluation and Review, the Company regularly conducts comprehensive performance evaluations of suppliers, covering key dimensions such as quality, delivery capability and degree of cooperation. The Company requires unqualified suppliers to submit a rectification plan within a limited period. Suppliers that are evaluated as “unqualified” for three consecutive months will be eliminated directly to further optimize the supply chain, and to promote the effective and steady long-term corporate development.

Supply Chain Risk Management

Supply chain risk prevention and control is an important factor to guarantee sustainable development, to which the Company attaches great importance. The Company has formulated the Provisions on Supplier Risk Assessment and Contingency Plans to effectively identify and prevent supply chain risks through scientific and institutionalized means. The Company has set up a supply chain emergency team led by the supply chain management group, and takes the Procurement Management Department as the core department of risk management. The Procurement Management Department undertakes the formulation and supervision of the annual risk assessment and response plan of the suppliers to ensure supply chain resilience. Centering on risk prevention, risk analysis, risk identification and risk rectification, the Company’s supply chain risk management system builds a comprehensive risk control framework, with consideration of the procurement early warning mechanism, risk emergency response and summary of improvement measures. During risk analysis, the Company identifies potential supplier risks and carries out quantitative analysis, including probability and impact severity, which provides a basis for risk classification. The Company then fills in the analysis results after risk identification in the Procurement Risk Management Countermeasure Sheet and comes up with solutions respectively. In the following risk rectification, the Company focuses on the implementation of measures, clarifies the responsibilities and completion timeline. Besides, the Supplier Risk Management Tracking Sheet is used to monitor the progress of rectification. The Company has also established a procurement early warning mechanism covering the areas of policy, market, natural disasters, quality and integrity, etc. to monitor potential risks in real time. After each risk emergency, the Company summarizes lessons learned and improves the management process by preparing a summary report, which continuously improves the resilience of the supply chain and guarantees the sustainable development.

Measures	Descriptions
Contract and agreement management	The Company signs the Procurement Framework Contract, the Confidentiality Agreement and the Quality Assurance Agreement with new suppliers. Suppliers are required to complete contract renewals by February each year to clarify cooperation requirements and avoid possible quality and legal risks.
Diversification of supply sources	The Company develops alternate suppliers to enhance supply chain diversity. Each year, the Company works out an annual supplier development plan and prioritize the standby selection of high-risk suppliers to avoid disruptions due to issues caused by a single supplier. Geographic dispersion is also considered to avoid the impact of natural disasters or policy changes.
Supplier management inventory plan	The Company formulates stocking plans for holidays, signs special stocking agreements with suppliers, and increases stocks of key bottleneck materials. As for special periods, (e.g. policy changes), the Company will request suppliers to stock up in advance through market intelligence monitoring to ensure stock security and continuous supply.
Supplier weakness training	According to the annual quality training plan, the Company conducts training on the weaknesses identified in the audit, which covers quality control, production optimization, etc., to help suppliers improve and enhance the overall supply capacity and quality.
Data monitoring and improvement measures	By monitoring supplier incoming material quality, production process and customer complaint, the Company develops corresponding improvement measures including supplier counseling, auditing and order allocation to enhance the overall quality and efficiency of supply chain operations.

○ Responsible Supply Chain

Building a responsible supply chain is not only the key to the long-term value and risk management of the Company, but also the starting point of promoting the healthy industry development and achieving global sustainability goals. Adhering to the ethos of sustainable development, the Company actively promotes responsible supply chain management, and fulfills corporate social responsibility in all aspects, such as human rights protection, environmental protection, occupational health and safety, etc.

Human rights protection of suppliers

The Company attaches importance to the protection of labor rights and human rights in the supply chain, and requires suppliers to comply with internationally recognized labor and human rights standards in all business activities, so as to safeguard the dignity and rights of employees. The Company has formulated the Supplier CSR Guidelines, which prohibits suppliers from discriminating in any form against employees regarding race, gender, age, religious beliefs and other factors during the recruitment and employment process. The suppliers should also ensure that the workplace is free of harassment, and dehumanizing treatment, including sexual harassment, corporal punishment and mental coercion, is strictly forbidden. Suppliers are prohibited from the use of any form of forced or child labor, and should provide clear and understandable terms and conditions of employment for all labor.

The Company requires suppliers to comply with laws and regulations related to working hours and wages, provide employees with fair remuneration and welfares, and protect their legitimate rights and interests. At the same time, the Company requires suppliers to respect employees’ right to freedom of association, support employees to participate in collective bargaining legitimately, so as to create a respectful and inclusive working environment.

Responsible procurement

Sustainability of the supply chain is the key to global environmental governance and ecological civilization. Therefore, the Company attaches great importance to the important role of responsible procurement in promoting sustainability, and insists on working closely with suppliers to address challenges such as environmental protection, OHS, etc., contributing to a low-carbon economy and sustainable development.

The Company requires suppliers to sign an Environmental, Occupational Health and Safety Commitment, articles including to use eco-friendly raw materials and low-energy processes in production and transportation. Besides, suppliers are also required to reduce the use of packaging materials, so as to reduce environmental loads at the source. Suppliers are required to ensure that effluent, gaseous waste and solid waste emissions comply with standards, properly manage hazardous materials, and prevent risks such as fire and leakage. Meanwhile, suppliers shall improve safety protection facilities, ensure the occupational health and safety of employees, and carry out professional training to prevent safety accidents. To realize the commitments, we regularly monitor and inspect our suppliers, focusing on assessing the implementation of environmental management systems, the compliance with pollutant discharge standards and the effectiveness of safety hazard management. The Company takes countermeasures such as termination of contracts against suppliers who violate the agreement, guarding the improvement of environmental and safety performance in the supply chain.

Conflict minerals governance

Conflict minerals governance is an important issue in the responsible management of the global supply chain. The Company emphasizes raw materials compliance and transparency, and is committed to avoiding the use of conflict minerals from high-risk areas in order to promote sustainable development and social responsibility. The Company requires suppliers to sign the Conflict Minerals Control Commitment to ensure that the materials in products and packaging do not come from conflict minerals regions, and comply with the regulatory requirements for key metals such as tin, tantalum, tungsten and gold. If a supplier violates the commitment, the Company will take measures such as returning the product, claiming liquidated damages or terminating the contract, and even demand compensation for economic and reputational losses if necessary. The Company continues to optimize its conflict minerals control system through auditing the sources of raw metals from suppliers, guaranteeing the responsible conflict minerals governance.

● Customer Rights Protection

Committed to providing high-quality products and services, Hua Guang Welding continues to optimize the customer experience and protects the rights and interests of customers through various measures. stands in the position of customers to think and tackle problems as possible. In addition, the Company has formulated the Control Procedures for Customer-related Processes to regularize and improve the pre-sale, in-sale and after-sale service system. The Company has specially set up an after-sales service team composed of employees from sales, technical support and quality management. Customer complaints are received through the sales and passed to the relevant departments through the OA system, and rectification plans are formulated after analysis. After that, the results are fed back to customers in a timely manner. Through the after-sales system of multi-departmental collaboration, Hua Guang Welding ensures that all kinds of issues occurring in product use and maintenance solved effectively in a timely response.

The Company conducts customer satisfaction surveys on a regular basis, and makes respective improvements according to the advice on products and service, so as to perfect product quality and service experience. Through continuous improvement, the number of customer complaints has been decreasing year by year. In 2024, the Company received 39 customer complaints, 96% of which have been solved, meeting the targeted goals. The Company not only enhanced customer satisfaction, but also promoted customers’ trust and reliance on the Hua Guang brand.

Industry Development

Keenly aware of the importance of industry exchanges and cooperation for the high-quality development of the brazing industry, Hua Guang Welding always participates in industry activities with an open and sharing attitude to promote the commercialization and industrial application of technological achievements. The Company cooperates with famous welding experts, top universities and important strategic customers from home and abroad to set up a welding technology R&D team as well as a welding research laboratory, forming a win-win innovation ecosystem. The Company has established good cooperative relationships with many of the world’s top 500 companies, actively exploring new models of win-win situations with partners. Through deepening industry exchanges and cooperation, the Company has successfully promoted the commercialization of technical achievements, significantly enhanced our innovation capability and industry influence, and consolidated our leadership in the industry.

Case Hua Guang Welding held the 4th “Hua Guang Welding Cup” Promotion of high-quality papers

On September 21st, 2024, the 4th “Hua Guang Welding Cup” Promotion of high-quality papers was held in Guangzhou. The activity showcased the technological innovations in the industry, and promoted the industrialization of green manufacturing and intelligent welding. As the organizer, the Company coordinated well and worked closely with well-known enterprises and expert review teams to ensure the quality of the paper selection and the smooth progress of the event. A total of 77 papers were collected, and 27 papers were recommended after screening and approval, which focused on topics of green welding, efficient processes and intelligent welding technology. The activity not only demonstrated the latest achievements of China’s welding industry in technological innovation and green manufacturing, but also effectively promoted the industrialization and application of intelligent welding technology. Besides, the innovation ability of technicians was also enhanced. By building this high-level industry exchange platform, the Company has deepened its strategic cooperation with outstanding enterprises and research institutions in the industry, consolidated our technological leadership in the industry, and given a strong impetus for the high-quality development of the welding industry.



High-quality papers issued at the 4th “Hua Guang Welding Cup” Promotion

Case Hua Guang Welding co-hosted the 2024 International Conference on Brazing Diffusion Bonding and Micro-Nano Joining (BDB-MNJ2024) along with the 7th Forum on Green Connection & Intelligent Manufacturing (Hangzhou, China)

In October 2024, Hua Guang Welding successfully co-hosted the 2024 International Conference on Brazing, Diffusion Bonding and Micro-Nano Joining (BDB-MNJ2024) along with the 7th Forum on Green Connection & Intelligent Manufacturing (Hangzhou, China). The conference discussed the opportunities and challenges faced by brazing, diffusion welding and micro-nano joints in the context of carbon peaking and carbon neutrality. The Conference delivered 7 invited presentations and more than 60 academic reports to promote the academic development, talent cultivation, technological progress and industrial upgrading. Meanwhile, the Summit Forum invited 8 senior experts from home and abroad to carry out round-table exchanges on the topics of AI design of filler metals and robot application of welding, focusing on artificial intelligence and integrated innovation. By hosting the conference, the Company has strengthened its communication with the international academia and industrial communities, and further enhanced our international influence.



At the Summit

Case Hua Guang Welding hosted the National Standards Review Conference of Brazing Materials (Fifth Session of the Eighth TC 55/SC2)

On October 24th, 2024, the Fifth Session of the Eighth National Technical Committee 55 on Welding of Standardization Administration of China (TC55/SC2) was held in Hangzhou, hosted by TC55 and undertaken by Hua Guang Welding. The session focused on the revision of national standards for brazing materials, so as to promote the industry’s technical standardization and product quality. The meeting considered and revised three national standards, i.e. the Copper Base Brazing Filler Metals Part 1: Solid Filler Metals, the Nickel Base Filler Metals Part 1: Solid Filler Metals, and the Aluminum Base Filler Metals Part 1: Solid Filler Metals. The revision upgraded the thresholds of chemical composition and technology, and added new filler metal specifications adapted to the needs of high-end manufacturing. During in-depth discussions with experts, the Company demonstrated its technical strength and innovation ability as the drafting institution of several national standards including that of the silver brazing filler metals and copper base brazing filler metals. By hosting the conference, the Company further deepened its cooperation with industry experts and enterprises, highlighting its key role in promoting industrial upgrading and technological innovation, and bolstering the technological progress and high-quality development of the brazing industry.



At the conference



Group photo of the Fifth Session of the Eighth TC 55/SC2

Creating A Harmonious Workplace

With accordance to the Labor Law of the People’s Republic of China and the Labor Contract Law of the People’s Republic of China, Hua Guang Welding employs workers in compliance with the laws and protects their rights and interests. The Company has built a competitive remuneration and welfare system, and provided a harmonious workplace as well as enough training and promotion opportunities for employees, bolstering up the talent development.

Employee Rights Protection

The Company adheres to the principle of equal employment, and actively promotes the diversity of its workforce. Besides, the company does not discriminate against its employees or treat them unfairly. The Company pays attention to women’s career development and provides equal promotion opportunities. In all, the Company commits to labor compliance, and protects the basic rights and interests of employees.

Diversity, Equality, Anti-Discrimination and Anti-Harassment

The Company respects and protects the equal rights and interests of employees and adheres to the principle of equal pay for equal work. The company has formulated the Special Provisions on Female Employees Protection, which requires the Company not to reduce the salary of female employees or dismiss them due to pregnancy or childbirth, so as to strictly follow the principle of equality of the sexes and help women’s career development and personal growth.

The Company keeps providing employees with fair and reasonable work opportunities and humane treatment. The Control Provisions on Anti-Discrimination states that employees shall not be discriminated against because of race, nationality, religion, disability, physical health status, gender orientation, etc., and that discriminatory bias shall not influence decisions in the process of recruiting, salary, training, and dismissal.

The Company opposes the use of harassment, discriminatory language, physical contact and other behaviors, and encourages employees to report to the management in case of such incidents. The identity of the whistleblower is kept confidential, so as to protect aggrieved persons from retaliation. The Company deals with the responsible persons by advising, warning, suspending and dismissing them according to the seriousness of the situation, and informs the complainant of the decision. In 2024, no discriminatory incidents occurred in the Company.

Disclosure		unit	2024年
Total number of employees		number	652
By type of contract	Direct hire	number	645
	Agency employee	number	7
	Part-time worker	number	0
By gender	Percentage of female employees	%	35.43
	Percentage of male employees	%	64.57
By age	Under 30 years old	%	27.00
	31-50 years old	%	55.83
	Over 51 years old	%	17.17
Employees of ethnic minority		%	6.75
Employees with disabilities		%	1.07

Compliance of Employment

The Company provides clear specifications on labor compliance requirements such as avoiding child labor, and provides a code of conduct on human rights due diligence to protect the basic rights of employees.

According to the Operational Regulations on Employee Recruitment and Dismissal and the Control Provisions on the Prohibition of Child Labor and Remedial, the Company promises not to employ child labor, and prohibits the use of child labor by the agents and contractors through daily monitoring and review. During new employee registration and ID verification, the Company keeps an eye on child labor information and refuses to carry out the on-boarding process for employees who do not meet the conditions. For employees with doubts about their working age, the company conducts regular internal reviews. When child labor is detected, the Company promptly conducts health examinations, pays wages in accordance with the law, and escorts them back to their residence safely. In the Policy and Management Procedures for the Prevention of Forced Labor and the Control Procedures for the Prohibition of Trafficking in Persons, the Company promises to conduct recruitment and employment based on the principles of justice, fairness, openness, and voluntariness. Recruitment by any means of coercion or deception is strictly prohibited as well as participation in the trafficking of human beings.

Occupational Health and Safety (OHS) Management

With strict accordance to the legal requirements, such as the Work Safety Law of the People’s Republic of China, the Interim Measures for the Investigation and Management of Hidden Dangers in Work Safety Accidents, and the Guidelines for Safety Risk Investigation and Management of Hazardous Chemical Enterprises, the Company has established a comprehensive safety production and OHS management system. Through scientific regulations and strict management, the Company ensures the safety and health of employees during the work process.

The Company has formulated the Management Provisions on Work Safety Responsibility System, the Work Safety Responsibility System, the Provisions on On-site Safety Management, the Provisions on Safety Hazard Inspection/7S and Governance Management, and the Provisions on Work Safety Inspection. These regulations state corresponding requirements in order to strengthen the safety management, clarify the responsibilities of each department in the production safety, and at the same time, to provide employees with a safe and healthy working environment based on the improved labor conditions and production safety. The Company has also formulated other rules concerning occupational diseases, such as the Provisions on OHS Education, the Provisions on Responsibility System for Prevention and Control of Occupational Disease Hazards, the Provisions on Occupational Disease Hazard Warning and Notification, the Provisions on Education and Training of Occupational Disease Prevention and Control, the Provisions on Occupational Disease Protective Facility Maintenance and Overhauling, and the Provisions on Occupational Disease Protective Supplies Management. The Company is committed to strengthening the management of the prevention and control of occupational diseases and improving the prevention and control continuously.

The Company has set up a production safety committee covering every department to ensure the effectiveness of employees’ participation in the OHS management system. In 2024, the Company set up an EHS management department under the committee, aiming to implement the production safety policy of “safety first, prevention first, governing with comprehensive management”. It strengthened the Company’s production safety management and improved the working environment as well as the operating environment of facilities. The EHS Management Department organized monthly meetings to report on the completion status of the OHS management goals, forming a closed loop of institutionalized and normalized management. The company has opened the “Chairman’s Mailbox” on WeCom as a channel for reporting OHS risks, while strictly enforcing the information confidentiality principle and establishing an protection mechanism of anti-retaliation.

In 2024, the Company formulated the QEHS Management Manual, which clarifies a management policy of “keeping a people-oriented attitude focusing on the physical and mental health of employees; continuously reducing safety risks in compliance with rules and regulations; managing scientifically and improving continuously in a prevention-oriented manner”.

Safety management goals and plan

Setting clear OHS safety management goals is the key to the effective implementation of production safety, which helps to systematically carry out various safety management measures. In order to ensure the safety and health of employees, the Company has constructed a structured and quantifiable OHS safety management goals system. In 2024, the Company formulated the Goals and Management Plan of OHS Management System. It clarifies the coordinated responsibilities of the EHS Management Department and other departments by setting safety management indicators such as fire incidence rate, total number of safety incidents, occupational disease rate. Besides, it requires relevant departments to carry out preventive measures and rectifications to provide institutional guarantee for realizing safety management goals.

- 0% fire incident rate
- < 5 security incidents per annum
- 0% incidence of food-related accidents
- 0% incidence of occupational diseases
- 100% compliance concerning special equipment monitoring and certificate-holding rate
- 0 safety accidents in the Company by related parties

With accordance to the Provisions on Safety Investment Management, the Company has established a whole-process control system of budgeting, approval, execution and audit supervision of safety production expenses. The EHS Management Department coordinates the planning of the annual safety resource allocation, focusing on the key areas of equipment safety renovation, upgrading of protective equipment, safety hazard investigation and treatment, and emergency response capacity building, etc. In 2024, the Company invested CNY4,028,600 in safety production, and CNY14,000 in safety production liability insurance. The OHS management system covers 634 employees. Through structured fund allocation and risk transfer mechanisms as mentioned, the effectiveness of safety protection has been systematically improved.

The Company has formulated the Emergency Response Plan for Production Safety Accidents, aiming to ensure timely and effective response to minimize losses and injuries in case of emergency. The response of the emergency plan is divided into three levels, and the conditions for activation are determined according to the type of accident, the degree of harm, and the circumstances at the scene. The Company has also set up a production safety emergency response headquarter to coordinate related work, including emergency response, post-event treatment and emergency supplies. The headquarter is also responsible for sending a rescue squad to the accident site after the activation of the emergency plan. In addition, the Company has formulated special emergency plans for fire, explosion, major leakage and other accidents, as well as detailed and targeted on-site disposal plans, to ensure that all types of accidents can be quickly responded to and disposed of.

By formulating and implementing the Provisions on Production Safety Education and Training, the Provisions on OHS Education Management, the Provisions on the Education and Training of Occupational Disease Prevention and Control, the Company strengthens the internal education of OHS awareness, enhances employees' ability to prevent occupational hazards, and ensures that employees are able to effectively prevent and respond to various types of occupational health and safety risks in their daily work. The content of training covers the national production safety policy, laws and regulations related to the prevention and control of occupational diseases, basic knowledge of production safety management, identification of job hazards and protective measures, the maintenance of protective facilities, requirements for the use of protective equipment, etc.

[illegible]

Hua Guang Welding continuously improves the remuneration and welfares system. Through a fair and just remuneration management mechanism, the Company sets up scientific performance KPIs and provides all-round welfares for employees. Besides, the Company understands and responds to the demands of employees in a timely manner, respects their value and contribution, and guarantees the benign balance between work and life of the employees.

The Company has formulated the Provisions on Remuneration Management and the Provisions on Performance Assessment Management to set up a competitive remuneration system for the employees. The Company has set up different remuneration structure systems for different positions linked to the incentive mechanism such as performance appraisal of employees. For example, the salary for the next year is determined annually based on the performance assessment of last year. In 2024, the Company paid salaries on time and there were no incidents of labor disputes.

The Company requires employees to sign the PBC every year, records the final assessment results in the Year-End Assessment Summary Form, which becomes the basis for deciding on the promotion and bonus. Employees can appeal against the results, and the Human Resources Center shall make a reply on whether to accept the appeal within three working days, and make a clear reply for the complainant within five working days. If any, the Center shall give timely feedback on the results after the processing is completed.

The Company provides various welfares for the employees in line with the Provisions on Company Allowance and Welfares. According to the regulations, the Company gives various types of work allowances such as overtime allowance, transportation allowance, and other welfares such as social insurance, provident fund, travel, holiday expenses and gifts for managers at all levels as well as ordinary operating staff. At the same time, the Company provides various care and help for employees in difficulty. In 2024, the Company brought care and warmth to 3 employees in difficulty.



Employee health clinic activities



Employee Food Festival



Daily sports activities for employees



Tug-of-War Competition for employees



Employee Singing Competition



● Case

Hua Guang Welding held the “Children’s Day Family Day” Activity

On June 1, 2024, Hua Guang Welding held the “Children’s Day Family Day” Activity that invited employees and their children to visit the Company, especially the sports factory and children’s playground. The children learned about the Company’s development history in the exhibition hall, and had a pleasant parent-child time with their parents in rock climbing, billiards, and role-playing activities. The activity brought joy and warmth, and also helped them understand their parents’ work, enhancing the parent-child relationship during the festival.



Employees participating in parent-child activities

● Case

Hua Guang Welding held the 2024 Chung Yeung Mountain-Climbing Activity

In order to inherit the corporate culture and enhance the employee cohesion, Hua Guang Welding carried out the 21st Chung Yeung Mountain-Climbing Activity in 2024. The Company set up the mountaineering fun club group race as well, inviting the staff to participate in the corporate culture contest in team, which enhanced their understanding and recognition in a fun way. The Company also invited the retired employees to participate together, and expressed sincere thanks and blessings to them, which demonstrated the people-oriented corporate culture and provided a platform to communicate emotionally.



Employees participating in the mountain climbing activity



Sending blessings for retired employees

Democratic Communications

The Company respects and supports employees’ rights to democratic management and collective bargaining. The Company has established a labor union, ensuring their rights of the staff congresses according to the requirements. Besides, we listen to their demands and protect their rights and interests. In 2024, the Company conducted a satisfaction survey for all employees, focusing on their job responsibilities and goals, incentives, team atmosphere, career development planning, communication and feedback, training and capacity development, etc. The results showed that the employees had a good sense of belonging and access to resources at work, and that there was room for improvement in the areas of individual emotional concern, personal growth and development. In the future, the Company will take measures to improve in relevant areas.

Talent Cultivation and Development

Talent cultivation and development is a key factor for the Company to enhance our core competitiveness. Committed to comprehensively improving the general capacity of employees, Hua Guang Welding strives to create a high-quality, enlightened, integrated talent team of high performance, and to cultivate key position talents to meet the needs of corporate development.

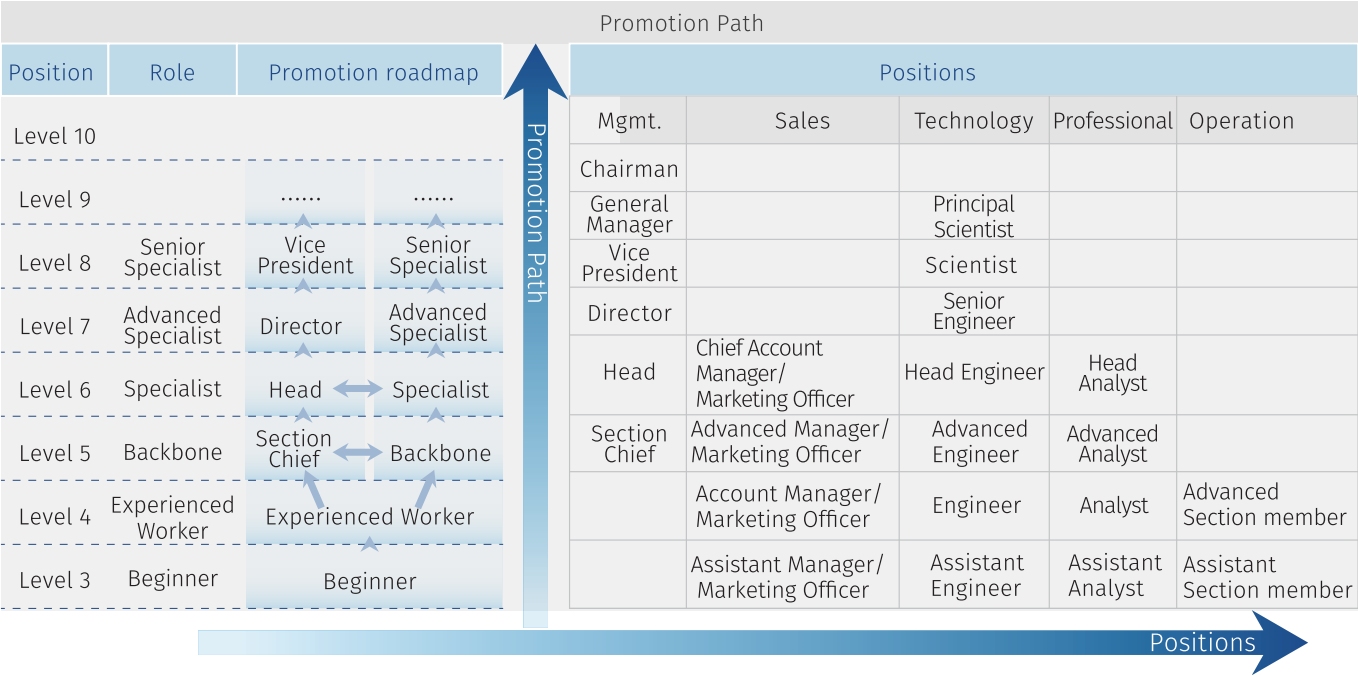
Career Development

In 2024, the Company developed more ways of talent introduction, and recruited 144 new employees through social recruitment, campus recruitment and other ways. The new staff were mainly in the positions of intelligent manufacturing, information service, technical skills and operation, revitalizing the corporate development with fresh blood. The Company hired employees mostly in the same location, 157 people in total, accounting for 24% of the total number of employees.

Disclosure		Unit	2024
Total number of new recruits		number	144
By gender	New female employees	%	30.56
	New male employees	%	69.44
By age	New employees under 30 years old	%	49.30
	New employees between 31-50 years old	%	45.14
	New employees over 50 years old	%	5.56

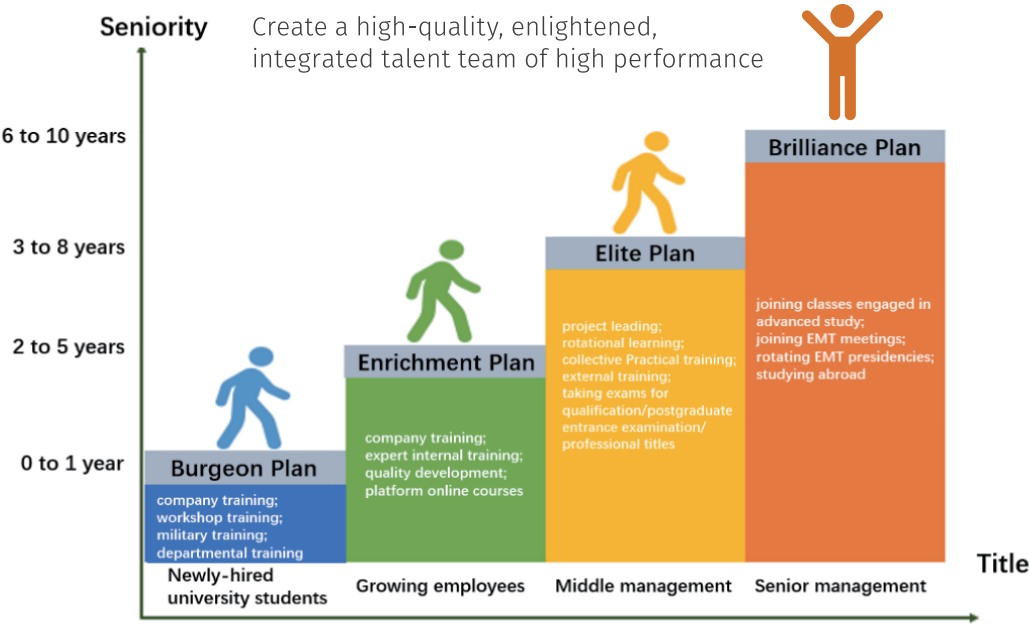
The Company has set up a “dual-path” promotion system based on actual needs. There are two career paths, namely the managerial path and the professional path, containing 5 types of positions, so as to meet the needs of different employees. The Company has formulated the Management Measures for Employee Promotion. Promotion assessment is carried out in the middle of each year, and the annual promotion quotas are set up according to the strategic planning. In the decision making of employee promotion, the Company takes into account their performance in many aspects, including key event response, work achievements, team contribution, character, innovation, title/skill and education. Employees who meet the requirements can be promoted step by step. Candidates shall submit application forms for promotion first, go through the qualification examination and interview by the Human Resources Department, and then be assessed by a panel of judges to attain a promotion.

The “dual-path” promotion system of Hua Guang Welding



Employee Training

The Company worked on strengthening the top-level design of employee training, with the intention of building a high-quality employee education and training system to escort the career development of employees in all aspects. The Company has established the Control Procedures for Human Resources, the Provisions on Training Management, and Provisions on the Management of Newly Recruited Undergraduates, which clearly define the ways of talent cultivation and provide employees with a systematic and comprehensive talent cultivation model. The Company formulated the four-tier training system roadmap, i.e. four cultivation programs of the burgeon plan, the enrichment plan, the elite plan and the brilliance plan targeting employees of different titles. With different training types, such as company training, workshop training, project leading, rotational learning, the Company established and improved its own talent cultivation mechanism. Through the selection plans of key position successors and reserve talents, the Company excavated and cultivated the talent reserve and echelon, providing human resources support for the sustainable development.



Hua Guang Welding Talent Development Plan

Every year, the Company conducts a survey for the employees on training needs, and formulates a training plan for the following year based on the results and the actual circumstances. The Company’s existing training activities cover professional knowledge, management skills, professional skills and qualification certificates, providing opportunities for the development of all types of talents.

In 2024, the Company provided employees with training activities of different topics, such as new staff training, job expertise, professional skills, and management capacity improvement. A total of 135 trainings were conducted, with a 100% attendance rate. At the same time, multiple types of specialized training programs were carried out to help every employee grow in all aspects.

Major trainings conducted in 2024:

- 1. New staff training: We carried out training for newly recruited undergraduates with a total of 14 courses, covering the company profile, industry and prospects, product knowledge, company visits, team communication, etc. It helped new employees quickly adapt to the work environment, provided career guidance, and promoted the development of talent echelon.
- 2. Workflow change training: The Company introduced workflow changes and carried out relevant training, which included workflow architecture design, pain point sampling, process management mechanism, the drafting of the delegation of authority handbook, etc. It helped the Company to fully upgrade the workflow efficiency, organizational capacity, product quality and service.
- 3. Technical and manufacturing process training: The Company carried out training for product performance, production technology, manufacturing process and customer needs. It helped employees to systematically master product knowledge and skillfully apply it in their work, with 756 participants attending the activity.
- 4. Management enhancement training: The training was carried out for the managerial staff. Focusing on various themes such as managerial role recognition and shift, leadership style, employing based on ability and integrity, effective communication, employee incentives, etc., the trainings had altogether 125 persons participating.



Hua Guang training for newly recruited undergraduates in 2024



Internal trainers of Hua Guang Welding

The Company carried out employee skill level recognition, and improved the promotion channel of skill employees through skill assessment and technical evaluation. In 2024, the Company hosted the first skill level evaluation for frontline staff, with a total of 111 employees passing the assessment. Meanwhile, the Company also encouraged employees to upgrade their academic qualifications. 9 frontline technicians have completed academic upgrade training and obtained academic certificates in 2024.

The Company also kept on building the internal lecturer team. The Company revised and improved the Provisions on Internal Lecturer Management and the Incentive Program for Internal Lecturers of Hua Guang Welding, and carried out the appointment ceremony for newly registered lecturers. In 2024, there were 39 internal lecturers registered. We continuously improved the training course library, adding 139 new courses covering topics such as management capacity improvement, product knowledge, manufacturing process, product quality, etc. The training course system is established through knowledge iteration.

Case Hua Guang Welding hosted the Yuhang Welding Skills Competition

In order to further improve the capacity and skills of welding workers, the Company hosted the Yuhang Welding Skills Competition on June 20, 2024, in which a number of employees of the Company participated and obtained excellent results. The activity not only provided a platform for them to show their technical expertise, but also created opportunities for communicating with the fraternity as well as a strong atmosphere of professional and technical learning, which bolstered the talent cultivation and innovative development of the Company.



Prize giving ceremony of the Yuhang Welding Skills Competition

Disclosure		Unit	2024
Total participation in staff training		times	4,465
Avg. training hours per employee		hours	12.03
By gender	Avg. training hours per female	hours	8.50
	Avg. training hours per male	hours	15.56
By employee category	Avg. training hours per non-managerial staff	hours	10.1
	Avg. training hours per managerial staff	hours	56

▶Party Building Leads

Adhering to the leadership of party building, Hua Guang Welding always follows and strengthens the overall leadership of the CPC. The Company also arranges the deployment of party building work with due attention. Hua Guang Welding has endeavored to build its brand of CPC-leading culture, “Holding the CPC red banner and upholding green connection” to build a “Zhengxin Hua Guang”. As the slogan goes, “Party building empowers the business, as the red banner casts our dream; We embrace a bright future, as the green intelligence pioneers and innovates”, we strive for a Zhengxin Hua Guang (of integrity) and our mission of “enhancing industrial connectivity and building a win-win industry chain”. Guided by the ideals and beliefs of the Party,the Company boosts the high-quality development and makes an earnest endeavor to gather the strength of the Party members and employees, such as giving full play to the exemplary and vanguard role of Party members, and making good use of the primary Party organizations as militant bastions of the Party. Meanwhile, the Company believes in green development and pays due attention to intelligent innovation. With the help of digital technology to upgrade production equipment and processes, the Company improves the production efficiency, product quality and management level, and demonstrates the strength and its social responsibility to step forward to a better future.

In the process of Party building, the Company focuses on five themes, i.e. Hua Guang of “vitality, endeavor, digital intelligence, integrity and benevolence”. To be more specific, vitality stimulates the creativity of the staff, and the spirit of endeavoring promotes business expansion. The means of digital intelligence improves the operational efficiency, while the values of integrity and benevolence helps fulfills the social responsibility. By deeply integrating the Party building with the corporate development, the Company navigate to new horizons, trimming sails for growth in the new era.

Five themes in the process of Party building

Hua Guang of Vitality setting up a platform for young talents with the Party leading

- Bringing young employees to participate in Party building learning and activities. Encouraging employees to strive for excellence in their daily work, helping young people grow, and stimulating the vitality of the organization.
- Providing opportunities for young Party members and backbones to grow and experience, and stimulating the their innovative thinking and vitality for the Company’s sustained and healthy development.

Hua Guang of Endeavor giving full play to the exemplary and vanguard role of excellent members

- Finding and awarding the strivers who have made outstanding contributions in their own positions on a regular basis.
- Listing employees with outstanding contributions for key cultivation as backbones and Party members development targets.
- Regularly carry out well-rounded evaluation and conversation with Party members to navigate their growth.

Hua Guang of Digital Intelligence: the Party building empowering the digital intelligence transition

- Party members taking lead in the Company’s intelligent manufacturing project to promote the digitalization, automation, greening and flexible manufacturing, and production technology to reach the international advanced level.
- Focusing on cultivating a team of digital industrial workers. Taking digital workshop construction as an opportunity to improve employees knowledge and skills, and building a matrix of digital and intellectual talents around the corporate strategic development goals.

Hua Guang of Integrity building Hua Guang brand of probity

- The Party branch setting up the discipline inspection committee, and building a probity supervision network in cooperation with the departments of audit, legal affairs, and human resources.
- Carrying out probity education for every new employee, and requiring all employees to sign a commitment, and learn about probity culture according to regular arrangement.

Hua Guang of Benevolence donating to give back to the society

- Providing condolences and volunteer activities to the pairing villages of Fengkou and Gangnan.
- Regularly visiting the poor households in the villages around the Company and send care to them on a regular basis.



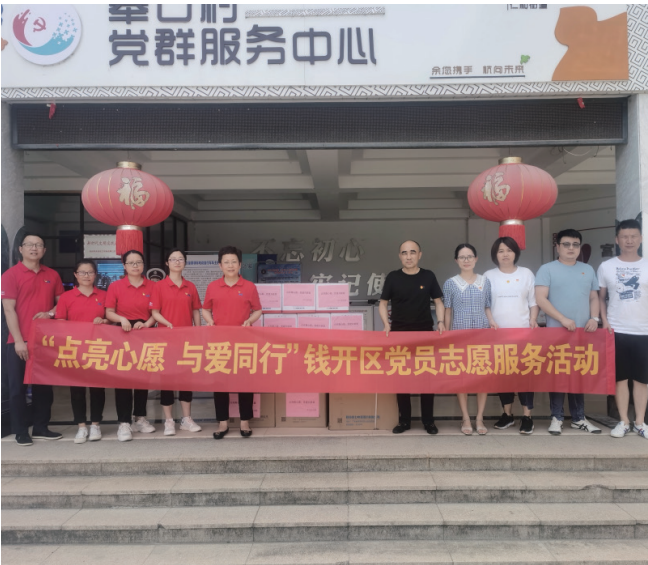
Hua Guang Welding actively provided training activities for young employees



Hua Guang Welding provided focused training for distinguished employees



Hua Guang Welding awarded outstanding party members publicly



Hua Guang Welding provided Condolences and volunteering activities for the elderly in Fengkou Village

Fulfilling Social Responsibilities

Adhering to the idea of “self-achieving and giving back to the community”, Hua Guang Welding continued to increase the investment in public welfare and charitable activities, putting corporate social responsibility into practice. In 2024, the Company donated CNY1,243,100 to specifically support local education.

● Case

Hua Guang Welding signed a strategic cooperation agreement with Tianyuan College

On February 1st, 2024, the Company signed a strategic cooperation agreement with Tianyuan College, and established two funds, i.e. the “Tianyuan College – Hua Guang Welding Science Education Fund” and the “Tianyuan College – Hua Guang Welding Aesthetic Education Fund”, with the purpose of cultivating outstanding and innovative talents in science, technology and art. This is the second time since 2021 that the Company has signed a strategic cooperation agreement with Tianyuan. Since the first collaboration, the Company has kept on boosting the development of Tianyuan’s art and aesthetic education. In the future, the Company will cooperate deeply with Tianyuan in science education, and jointly contribute to the development of China’s education reform in the new era, as well as the building of high-quality education resources in Hangzhou.



Hua Guang Welding signed a strategic cooperation agreement with Tianyuan College

● Case

Hua Guang Welding signed a donation agreement with Hunan University

In April 2024, Hua Guang Welding signed a donation agreement with Hunan University to set up “Hua Guang Welding - Student Development Project of Mechanical and Transportation Engineering School of Hunan University”, supporting the university to recognize outstanding students, carry out thematic activities such as cultural and sports events, innovation and entrepreneurship projects, comprehensive quality ability enhancement, social practice, etc. Through the donation, the Company contributed to the talent cultivation of Hunan University, further promoting the IUS cooperation between the two parties.



Hua Guang Welding signed a donation agreement with Hunan University



○ HONOR

Hua Guang Welding was awarded the "2024 Outstanding Enterprise in Social Responsibility Performance"



Key Achievements

Environmental Performance Results

GHG Emissions and Management				
Item	Unit	2024	2023	2022
Direct (Scope 1) GHG emissions	tons of CO ₂ equivalent	212.53	158.79	171.04
Indirect (Scope 2) GHG emissions	tons of CO ₂ equivalent	12,296.18	13,115.00	11,308.27
Gross (Scope 1 and 2) GHG emissions	tons of CO ₂ equivalent	12,508.71	13,273.79	11,479.31
Other indirect (Scope 3) GHG emissions	tons of CO ₂ equivalent	30,509.11	23,929.74	25,664.40
Reduction of GHG emissions	tons of CO ₂ equivalent	133.60	117.00	814.00

Environmental Protection Management				
Item	Unit	2024	2023	2022
Fines imposed for violating environmental protection laws and regulations (if any)	in CNY 10,000	0	0	0
Incidents in which penalties were imposed for violating environmental protection laws and regulations (if any)	times	0	0	0
Total investment in environmental protection	in CNY 10,000	147.09	205.82	497.97

Energy Consumption				
Item	Unit	2024	2023	2022
Total energy consumption	tons of standard coal	2,939.21	2,296.89	1,980.64
Electricity consumption	10,000 kWh	2,386.21	1,864.25	1,607.43
Natural gas consumption	m ³	12,130	13,363	15,271
Residual heat energy consumption	tons of standard coal	35.12	32.69	30.09
Petrol consumption	L	36,059	44,253	57,672
Renewable energy consumption	tons of standard coal	38.32	37.47	40.24

Water Consumption				
Item	Unit	2024	2023	2022
Fresh water consumption	tons	150,559	149,836	123,902
Total consumption of water recycled	tons	30,111.80	5,645.00	4,716.00
Water recycling rate	%	20.00	3.77	3.80

Gaseous Waste, Effluents and Solid Waste				
Item	Unit	2024	2023	2022
Total annual emissions of gaseous waste	tons	3.76	-	-
Particulate emissions	tons	2.55	0.86	1.57
Total emissions of effluents	m ³	63,234.11	75,924.00	77,708.00
Emissions of effluents discharged per CNY1,000,000	tons	32.97	53.65	63.68
COD of effluents discharged	tons	9.54	20.59	17.10
COD of effluents discharged per CNY1,000,000	tons	0.005	0.01	0.01
Ammonia and nitrogen in effluents discharged	tons	0.31	0.19	1.70
Ammonia and nitrogen in effluents discharged per CNY1,000,000	tons	0.0002	0.0001	0.0014
Total annual waste generated	tons	392.45	641.62	628.80
Total amount of hazardous waste generated	tons	279.58	521.53	515.95
Total non-hazardous waste generated	tons	112.87	120.09	112.85
Total amount of hazardous waste generated per CNY1,000,000	tons	0.15	0.37	0.42
Total non-hazardous waste generated per CNY1,000,000	tons	0.06	0.08	0.09
Total waste recycled	tons	112.87	-	-
Percentage of total waste recycled	%	29	-	-
Total waste recycled per CNY1,000,000	tons	0.02	-	-
Total disposal of general industrial solid waste	tons	112.87	-	-
Total disposal of hazardous waste	tons	279.58	-	-

Social Performance Results

Employment and Training					
Disclosure		Unit	2024	2023	2022
Total number of employees		tons	652	662	590
By type of contract	Direct hire	case(s)	645	-	-
	Agency employee	case(s)	7	-	-
	Part-time worker	case(s)	0	-	-
By gender	Number of female employees	case(s)	231	245	217
	Number of male employees	case(s)	421	417	373
	Percentage of female employees	%	35.43	37.01	36.78
	Percentage of male employees	%	64.57	62.99	63.22
By age	30 years old and below	%	27.00	25.08	22.03
	31-50 years old	%	55.83	58.16	61.19
	Over 51 years old	%	17.17	16.77	16.78
Employees of ethnic minority		case(s)	44	-	-
Employees of ethnic minority		%	6.75	-	-
Employees with disabilities		case(s)	7	-	-
Employees with disabilities		%	1.07	-	-
Total number of managerial staff		case(s)	60	59	62
By gender	Female managerial staff	%	35.00	55.93	46.77
	Male managerial staff	%	65.00	44.07	53.23
By age	Managerial staff under 30 years old	%	8.33	40.68	33.87
	Managerial staff between 31-50 years old	%	83.34	50.84	53.23
	Managerial staff over 50 years old	%	8.33	8.47	12.90
Total number of new recruits		case(s)	144	-	-
By gender		%	30.56	-	-

Disclosure		Unit	2024	2023	2022
By gender	New male employees	%	69.44	-	-
By age	New employees under 30 years old	%	49.30	-	-
	New employees between 30-50 years old	%	45.14	-	-
	New employees over 50 years old	%	5.56	-	-
Total number of staff training		session(s)	135	-	-
Total participation in staff training		times	4,465	-	-
Amount of expenditure on employee training		in CNY 10,000	4.20	-	-
Percentage of employees attending trainings		%	100	-	
Avg. training hours per employee		hours	12.03	389.64 (total training hours)	360.12 (total training hours)
By gender	Avg. training hours per female	hour(s)	8.50	-	-
	Avg. training hours per male	hour(s)	15.56	-	-
By employee category:	Avg. training hours per non-managerial staff	hour(s)	10.10	-	-
	Avg. training hours per managerial staff	hour(s)	56	-	-
Percentage of total employees who received a regular performance and career development review during the reporting period		%	53.07	53.98	50.34
By gender	Percentage of female employees who received a regular performance and career development review during the reporting period	%	21.78	22.26	20.34
	Percentage of male employees who received a regular performance and career development review during the reporting period	%	31.29	31.73	30.00
By employee category	Percentage of non-managerial staff who received a regular performance and career development review during the reporting period	%	43.71	-	-
	Percentage of managerial staff who received a regular performance and career development review during the reporting period	%	9.36	-	-

Occupational Health and Safety (OHS)

Disclosure		Unit	2024	2023	2022
Occupational diseases		%	0	-	-
Deaths on duty		case(s)	0	0	0
Number of recordable work-related injuries		number	7	3	9

Disclosure	Unit	2024	2023	2022
Workdays lost due to work-related injuries	days	215	-	-
Recordable work-related injuries	%	1.07	-	-
Number of work injuries with serious consequences (excluding fatalities)	case(s)	0	0	0
Injury rate per 100mn working hours	%	426.04	-	-
Amount invested in work injury insurance	CNY	571,111.26	-	-
Coverage of work injury insurance	%	100		
Amount invested in workplace safety liability insurance	CNY	14,304.36	-	-
Coverage of workplace safety liability insurance	%	9.66		
Total hours of security training	hour(s)	194.5	-	-
Hours of security training per capita	hour(s)	0.31	-	-
Investment in production safety	in CNY 10,000	402.86	-	-

Supply Chain

Disclosure	Unit	2024年	2023年	2022年
Number of suppliers	entity	49	48	47
Number of suppliers assessed for environmental and social impacts	entity	49	48	47
Percentage of new suppliers screened using environmental and social criteria	%	100	100	100
Number of suppliers identified as having significant actual and potential negative environmental impacts	entity	0	0	0
Number of suppliers participating in training	entity	49	48	47

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