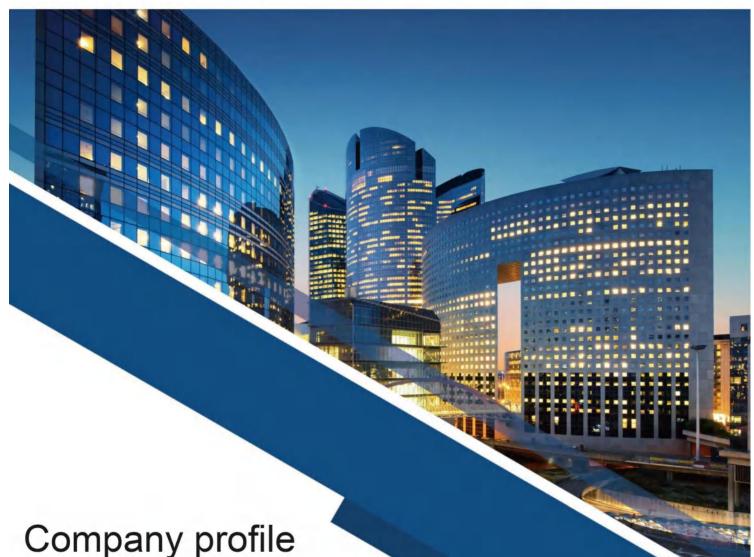


# ZHEHE FIREPROOF COATING 智和防火涂料



Hebei zhihe fire prevention material technology co., ltd



Hebei Zhihe fireproof Material Technology Co Ltd is headquartered in Baoding city, Heibei Province, since its establishment.

Focus on the research and development, production, sales and construction of fire retardant coatings. Our companyhas 12 people RandD team, including 4 graduate students and 8 undergraduate students, has strong RandD and production capacity.

Up to now, our company has achieved good reputation in different industries, such as China Construction and China Raitway. China building materials, State Grid and other enterprises strategic partners, and with excellent product quality and good after-sales service, has been well received by the majortiy of users. Our company has many branches and offices in Shanxi, Shandong, Henan, Shanxi, Yunnan, Jiangsuand other places in China. In addition to the field of fire-fighting coating, the headquarters of the company also involves many industry fields, among which the fire-fighting engineering construction section is in the forefront of the development of local industries, and the Shanxiaoju Senior Service Center under the company's pension section covers Baoding and surrounding countier and districts.

We always adhere to the business philosophy of professionalism, persistence, integrity and win-win and constantly innovate and develop. Expand, and strive to provide buyers with new and practical fireproof materials. Our company will use warm and thoughtful clothes. Service and excellent product quality serve the vast number of new and old customers, welcome to visit and consult.

## **CATALOGUE**

### 目录

Factoryintroduction and production system	01
Intellectual and honoraryqualifications	- 02
Zhihe fire retardant coating products	- 03
The reason forchoosing Zhihe	- 04
Indoor intumescent fire retardant coating for steelone by onestructure	- 05
Test report 1	06
Outdoorintumescent fire retardant coatingforsteel structure	07
Test report	08
Indoor non-expansive fire retardant coating for steel structure	- 09
Test report 1	- 10
Outdoor non-expansive fire retardant coating for steel structure	11
Test report 1	12
Gypsum-based structure/tunnel fire retardantcoating	13
Zhihe scope of application	14
Zhihe product features	15
Representative projects in the past year16	3-17
Zhihua and some cases	18
Zhihe business scope	19
Some partners	20

### Factoryintroduction and production system



Hebei Zhihe Fire-retardant Material Technology Co., Ltd. has been committed to theresearch and development, production, sales and construction of fire-retardant coatingssince its establishment, Our company has a research and development team of 12 peopleincluding4 graduate students and 8 undergraduate students.

The company is well-equipped, has advanced laboratories and equipment, and hasstrongtechnical force, which can providecomplete set of optimization solutions forcustomers'various customization requirements. The company has five fully automatic production lines, three product series and more than 10 products, which are widely used inactory buildings, electric power, metallurgy, steel, machinery manufacturing, ports and other fields. All products have passed the strict examination of fire protection products of emergency management department, and the fire resistance indexes of products have reached or exceeded the national standards.











# 荣誉资质



















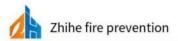












### Zhihe fire prevention coating material products



Indoor expansion type fireproof coating



Outdoor expansion type fireproof coating



Indoor non-expansive fire retardant coating for steelstructure



Outdoor non-expansive fire retardant coating forsteel structure



Gypsum-based non-expansive fire retardant coating for steel structure



Tunnel fire retardant coating



# Reasons for choosing Zhihe



Good water resistance, water does not spill off



High adhesion, hammer can't chisel it off



High viscosity, high efficiency and material saving

### Indoorintumescent fire retardant coating for steel structure

#### **Product introduct**

The fire resistance time of indoor intumescent fire retardant coating for steel structure is generally divided into 1H, 1.5H, 2H and 2.5H, which is suitable for purlins, steel beams and other parts of general steel structure workshops. This kind of coating expands and foams rapidly in case of fire, forming a dense fire-proof and heat-insulating laverto protect the substrate. The coating has excellent physical and chemical properties, fast drying, moisture resistance, acid and alkal resistance, long fire resistance time and thin coating.

#### Imain performance

Zhihe intumescent fire retardant coating is harmless to human body, and has the characteristics of non-corrosiveness, strongadhesion, high water resistance, no natural shedding, no iritating smell and no release of harmful gases. The components of Zhiheintumescent fire retardant coating for steel structure include film-former, intumescent flame retardant system, filler and additivesThere is no pollution to the environment, and after the coating is formed into a film, it is moisture-resistant, weather-resistant andaging-resistant.

#### Scope of application

It is suitable for all kinds of fire protection projects of indoor and outdoor load-bearing steel structures.such as factories, warehouses, stadiums, stations, terminal buildings, petrochemical industries, etc.

#### Construction technology

- 1. Mainly by spraying, but also by brushing.
- 2.Before coating the intumescent fire retardant coating, the rust removal and antirust primer coating on the steel structuresurface should meet the design requirements and the current national regulations, Friendly reminder to all constructionfriends: before construction, thoroughly remove the dust, oil pollution and other sundries on steel members.
- 3.The construction environment temperature should be above 5'c. ifthere are specialconstruction requirements in winter, antifreeze can be added.4. When painting for the first time, add a proper proportion ofwater, stir well and spray. The second timethe same proportion is evenly mixed and then sprayed. Until the spraying reaches the specified thickness.

#### Physical and chemical

Serialnumber	Inspection item	Standard requirements	Test result	Conclusion
1	bonding strehgth	≥0.15	0.62	qualified
2	resistivity againstwater	After 24h test, the coating shall be free ofdelamination, foaming and peeling, and theheat insulation efficiency shall be highAttenuation≤35%	After 24h test, the coating has nodelamination, foaming andpeeling, and the thermal insulationefficiency decreases by 15%	qualified
3	fire resistance	Fp≥2.00h, average temperature ≤538°C	2.5h, and the average temperature of theecimen is 526°C	qualified
4	Cold and hot cycleresistance	After 15 tests, the attenuation ofthermal insulation efficiency≤35%	The attenuation is 24%	qualified

# 检测报告









### 检验报告

No. (2021) SJCXF-XT0329

认 证 委 托 人:河北智和防火材料科技有限公司

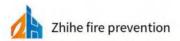
产品型号名称: GT-NSP-F<sub>p</sub>2.00-2.5ZH04

室内膨胀型钢结构防火涂料

检验类别:型式试验

江苏省产品质量监督检验研究院 国家消防产品质量检验检测中心(江苏)





### Outdoor intumescent fire retardant coating for steel structure

#### **Product introduct**

The fire resistance time of outdoor intumescent fire retardant coating for steel structure is generally divided into 1H, 1.5H, 2H and 2.5H, which is suitable for purlins, steel beams and steel columns of general steestructure workshops. This kind of coating expands and foams rapidly in case of fire, forming a dense fire-prooand heat-insulating laver to protect the substrate, The coating has excellent physical and chemical properties fast drying, moisture resistance, acid and alkali resistance, long fire resistance time and thin coating

#### Imain performance

Zhihe intumescent fire retardant coating is harmless to human body, and has the characteristics of non-corrosiveness, strongadhesion, high water resistance, no natural shedding, no iritating smell and no release of harmful gases. The components of Zhiheintumescent fire retardant coating for steel structure include film-former, intumescent flame retardant system, filler and additivesThere is no pollution to the environment, and after the coating is formed into a film, it is moisture-resistant, weather-resistant andaging-resistant.

#### Scope of application

It is suitable for all kinds of fire protection projects of indoor and outdoor load-bearing steel structures.such as factories, warehouses, stadiums, stations, terminal buildings, petrochemical industries, etc.

#### Construction technology

- 1. Mainly by spraying, but also by brushing.
- 2.Before coating the intumescent fire retardant coating, the rust removal and antirust primer coating on the steel structuresurface should meet the design requirements and the current national regulations, Friendly reminder to all constructionfriends: before construction, thoroughly remove the dust, oil pollution and other sundries on steel members.
- 3.The construction environment temperature should be above 5'c. if there are special construction requirements in winter, antifreeze can be added.4. When painting for the first time, add a proper proportion of water, stir well and spray. The second timethe same proportion is evenly mixed and then sprayed. Until the spraying reaches the specified thickness.

#### Physical and chemical

Serialnumber	Inspection item	Standard requirements	Test result	Conclusion
1	bonding strehgth	≥0.15	>0.15	qualified
2	Exposureresistance Humidity andheat	720h exposure test and 504h wet and after, the coating shall be free ofdelamination, foaming and peeling, and theheat insulation efficiency shall be highAttenuation≤35%	The coating has no delamination andpeeling, and the attenuation of heatinsulation efficiency is less than 35%	qualified
3	fire resistance	Fp≥2.00h, average temperature ≤538°C	>2.0h, and the specimen temperature<538°C	qualified
4	Freeze-thaw cycleresistance	After 15 tests, the coating should have no cracking, peeling, or cipao phenomenonand Insulation efficiency attenuation ≤ 35%	The coating has no delamination andpeeling and the attenuation of heatinsulation efficiency is less than 35%	qualified















# 检验报告

#### **TEST REPORT**

产品名称 室外膨胀型钢结构防火涂料

型号规格 GT-WSP-Ft2. 00-2. 50ZH08

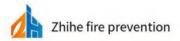
认证委托人 河北智和防火材料科技有限公司

检验类别 型式试验



国家消防产品质量监督检验中心(广东)

China National Quality Supervision and Testing Center for Fire Fighting Products(Guangdong)



### Indoor non-expansive fire retardant coating for steel structure

#### **Product introduct**

Zhihe non-expansive steel structure fire retardant coating is a thick steel structure fire retardant coating speciallydesigned and produced for the fire protection of load-bearing members of steel structures with first-class fire resistanceAfter the coating is sprayed on the surface of the steel structure, the incombustibility and low thermal conductivity of the coating itself, as well as ablation reactions such as evaporation and decomposition of some components at hightemperature, are used to generate heat absorption to isolate and consume the transfer of fire heat to the base material thus delaying the time for steel members to reach the critical temperature.

#### Imain performance

Zhihe non-expansive fire retardant coating is harmless to human body, and has the characteristics of non-corrosiveness, strongadhesion, no natural shedding, no irritating smell and no release of harmful gases, The components of Zhihe non-intumescent fireretardant coating for steel structure include film-former, intumescent flame retardant system, filler and additives. There is nopollution to the environment, and after the coating is formed into a film, it is moisture-resistant, weather-resistant andaging-resistant.

#### Scope of application

It is suitable for all kinds of fire protection projects of indoor and outdoor load-bearing steel structures.such as factories, warehouses, stadiums, stations, terminal buildings, petrochemical industries, etc.

#### Construction technology

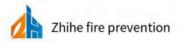
- 1. Mainly by spraying, but also by brushing.
- 2.The rust removal and antirust primer coating on the steelstructuresurface should meet the design requirements and the current national regulations, Friendly reminder to all constructionfriends: before construction, thoroughly remove the dust, oil pollution and other sundries on steel members.
- 3.The construction environment temperature should be above 5'c. ifthere are specialconstruction requirements in winter, antifreeze can be added.4. When painting for the first time, add a proper proportion ofwater, stir well and spray. The second timethe same proportion is evenly mixed and then sprayed. Until the spraying reaches the specified thickness.

#### Physical and chemical

Serialnumber	Inspection item	Standard requirements	Test result	Conclusion
1	bonding strehgth	≥0.04	0.21	qualified
2	resistivity againstwater	After 24h test, the coating shall be free ofdelamination, foaming and peeling, and theheat insulation efficiency shall be highAttenuation≤35%	After 24h test, the coating has nodelamination, foaming andpeeling, and the thermal insulationefficiency decreases by 12.3%	qualified
3	fire resistance	Fp≥2.50h, average temperature ≤538°C	> 2.5h, and the specimen temperature is 521°C	qualified
4	Cold and hot cycleresistance	After 15 tests, the attenuation ofthermal insulation efficiency≤35%	The attenuation is 7.4%	qualified

# 检测报告





### Outdoor non-expansive fire retardant coating for steel structure

#### Product introduct

Zhihe non-intumescent fire retardant coating for steel structure is a product successfully developed according to GB14907-2018 Fire retardant coating for steel structurend CCCF-CPRZ-17: 2019 Fire retardant material products, which is athick fire retardant coating for steel structure designedind produced for fire protection of load-bearing members withfirst-class fire resistance. After the coating is sprayed on the surface of the steel structure, the incombustibility and low thermal conductivity of the coating itself, as well as ablation reations such as evaporation and decomposition of some components athigh temperature, are used to generate heat absorption to isolate and consume the transfer of fire heat to the base material. thus delaying the time for steel components to reach thcritical temperature.

#### Imain performance

Zhihe non-expansive fire retardant coating is harmless to human body, and has the characteristics of non-corrosiveness, strongadhesion, no natural shedding, no irritating smell and no release of harmful gases, The components of Zhihe non-intumescent fireretardant coating for steel structure include film-former, intumescent flame retardant system, filler and additives. There is nopollution to the environment, and after the coating is formed into a film, it is moisture-resistant, weather-resistant andaging-resistant.

#### Scope of application

It is suitable for all kinds of fire protection projects of indoor and outdoor load-bearing steel structures.such as factories, warehouses, stadiums, stations, terminal buildings, petrochemical industries, etc.

#### Construction technology

- 1. Mainly by spraying, but also by brushing.
- 2.The rust removal and antirust primer coating on the steelstructuresurface should meet the design requirements and the current national regulations, Friendly reminder to all constructionfriends: before construction, thoroughly remove the dust, oil pollution and other sundries on steel members.
- 3. The construction environment temperature should be above 5'c. if there are special construction requirements in winter, antifreeze can be added.4. When painting for the first time, add a proper proportion of water, stir well and spray. The second timethe same proportion is evenly mixed and then sprayed. Until the spraying reaches the specified thickness.

#### Physical and chemical

Serialnumber	Inspection item	Standard requirements	Test result	Conclusion
1	bonding strehgth	≥0.15	0.62	qualified
2	resistivity againstwater	720h exposure test and 504h wet and after, the coating shall be free ofdelamination, foaming and peeling, and theheat insulation efficiency shall be highAttenuation≤35%	The coating has no delamination andpeeling, and the attenuation of heatinsulation efficiency is less than 35%	qualified
3	fire resistance	Ft≥3.00h, averagtemperature≤538°C	>3.0h, specimen temperature <538°C	qualified
4	Freeze-thaw cycleresistance	After 15 tests, the coating should have no cracking, peeling, or qipao phenomenonand Insulation efficiency attenuation ≤ 35%	The coating has no delamination andpeeling,and the attenuation of heatinsulation efficiency is less than 35%	qualified













No.XF2002120

# 检验报告

#### **TEST REPORT**

产品名称 室外非膨胀型钢结构防火涂料

型号规格 GT-WSF-Ft3.00-ZH09

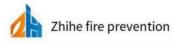
河北智和防火材料科技有限公司 认证委托人

检验类别 型式试验



国家消防产品质量监督检验中心(广东)

China National Quality Supervision and Testing Center for Fire Fighting Products(Guangdong)



### Gypsum-based structural fire retardant coating

#### **Product introduct**

Gypsum-based fireproof material takes gypsum as the main base material, and adopts powder composed of inorganiclightweight heat insulation and fiber materials. Compared with cement-based fire retardant coatings, gypsum-based coatings are green and environmentally friendly, with low-carbon and energy-saving raw materials, light materials and low density. At the sametime, it has strong adhesion, good deformability and excellent fire resistance, Thefinished product is not easy to crack and fall off.

#### Imain performance

Zhihe gypsum-based fire retardant coating is harmless to human body, and has the characteristics of non-corrosiveness, strongadhesion, no natural shedding, no iritating smell and no release of harmful gases. The components of Zhihe gypsum-based fireretardant coating for steel structure include film-former, intumescent flame retardant system, filler and additives. There is nopollution to the environment, and after the coating is formed into a film, it is moisture-resistant, weather-resistant and aging-resistant.

#### Scope of application

Suitable for indoor wear-resistant steel members such as steel columns, steel beams, joists, grid structures, steel stairs, profiled steel plates and precast concrete members.

### tunnel fire retardant coating

#### **Product introduct**

The tunnel fire-retardant coating developed by our company is mainly composed of inorganic fire-retardant insulatingmaterials. This coating has low density, porosity and low thermal conductivity, which effectively improves the fire resistancelimit of concrete structure and has obvious sound absorption effect, Under the RABT heating conditionit can effectively block the flame spread under the condition of low temperature and Hc temperature rise, and providereliable fire protection for the tunnel, it is mainly suitable for closed space places such as highway tunnels, railway tunnelspetrochemical projects, high-rise buildings and underground garages.

#### Scope of application

It is mainly suitable for the fire prevention of highway tunnels and railway tunnels, and also suitable for thefire prevention needs ot petrochemical engineering, high-rise buildings, steel structures and underground garages.



# area ofapplication



Steel factory buildings



Chemical Chemistry



Airport subway



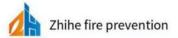
State Grid



Factory and mining



Pier Marina



# Product features

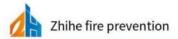
- Don't block the gun, and don't be idle when spraying intelligent and fireproof paint.
- Good water resistance, powder will not fall off after spraying and drying, and we promise that water will not fall off.
- Strong adhesion, the national standard is 0.15MP, the measured product can reach 0.66MP, and we
  promise that it will not be chipped by hammer.
- High viscosity, I ton of paint is equivalent to 1.I tons of use.
- Strong hiding power, a layer of Zhihe paint in Bo Tu can cover the background color ofsteel structure.
- The hardness is high, and the inspection coefficient after spray molding is higher than the national standard.
- Good leveling and thixotropy.





# Representative projects in the past year

serial number	Project name	Cooperative unit	covered area (m²)
1	Standard workshop and infrastructure supporting project of green silicon photovoltaic new high efficiency battery industrial park in Qujing Economic Development Zone	The fourth construction of Yunnan Jiantou	150000
2	Kunming ZhengnengAutomobile City Project	Yunnan dechun steel structure engineering co.,ltd	25000
3	Green and low-carbon aluminum finishing project of Hongjing New Materials (Yunnan) Co., Ltd	Kaiping hengyu construction engineering co.,ltd	20000
4	Rare earth oxide processing project in Longling, Minmetals	Yunnan dechun steel structure engineering co.,ltd	10000
5	Fire retardant coating for anticorrosion workshop of Shisiju Water Plant	Yunnan dechun steel structure engineering co.,ltd	5000
6	Construction project of standard workshop and ancillary facilities in GaopingStainless Steel industrial Park	Suining kehua construction engineering co.,ltd	300000
7	Shanxiyongxin coking plant	Yongxin group	300000
8	Yangquan Economic and TechnologicalDevelopment Zone	Guomai Construction	270000
9	Shanxi huachu photoelectricity co., ltd	The Fourth Building in Weixian County, HebeiProvince	200000
10	Nonggu industrial park	Jinnong steel structure	170000
11	Fire prevention project of auxiliary facilities construction project of Kaisai corn storage	Fourteen constructions of chemistry	80000
12	Datongenvironment equipmentengineering co., ltd	Desheng fire control	65000
13	Zhongkun machinery	Zhongkun machinery	43000
14	Relocation and transformation of Taivuan PeacockInk CoLtd	Shanxi hongji	40000
15	Lingqiu county Chinese medicine industry poverty alleviation zone	Lingqiu county constructional engineering co., ltd	30000
16	Standardized workshop project ofequipment manufacturing industrial park in Hancheng cityEconomic Development Zon	Zhongtian jiuzhou construction engineering group coltd	100000
17	Bawanghe Industrial Park, Meixian County, Baoji City	Shanxi zhongshengindustry group co., Itd	60000
18	Standardization Workshop Construction Project of Meixian Science and TechnologyIndustrial Park	Shanxi zhongshengindustry group co., Itd	60000
19	Peacockink relocation, transformation and upgrading project	Shanxi hongii construction engineering co Itd	50000
20	Dali science and technologyindustrial zone	Xi 'an construction engineering	50000
21	Baoji Zhengwei New Material Science and Technology City Project	Zhongteng northwest	50000
22	Daqin pioneer park	Shanxi daqin ningxiang modern agriculture co., Itd	40000
23	Intelligent cold chain complete equipment research and development and industrializationdemonstration base project	Shanxi honglu Tianlong steel structure co., Itd	35000
24	Auto parts production line project	Shanxi sanyuan yangyihao auto industry co., Itd	31000
25	Professional subcontracting of fire retardant coatings for civil air defense and warehouseconstruction projects under shift dormitory	Shanjian steel structure	20000
26	Ankang Longwangquan Fuxi MineralWater Co., Ltd.Workshop	Shanxi limu	19825
27	Finishing project of high strength aluminum alloy automobile parts	Shanxi Feixiang Blue Sky Construction Engineering Co.,Ltd. (Wugong County)	18000
28	Jinjitan circular economyindustrial park standardization workshop building	Shanxi Zhongyu Luqiao construction engineering co.ltd	13000
29	Production proiect of steel wire and wire rope with an annual output of 80.000 tons	Shanxi Ji Li da si sheng zhi Zao co., Itd	12750



# Representative projects in the past year

serial number	Project name	Cooperative unit	covered area (m²)
30	Relocation Project of Chuanshan Road Primary School in Weibin District Baoji City	Zhongteng northwest construction group co.,ltd	11166
31	Newly-built scrapped motor vehicle recycling and dismantling project	HanzhongXincheng scrap motor vehicle recoverydisassembly co.,ltd	11000
32	Construction project of special material loading and unloading transfer workshop	Shanxi Xinchuang Huihuang Construction Engineering co.,ltd (CNNC)	9500
33	Xinrenbang comprehensive vocational middle school	Taiyuan xinrenbang education management consulting service co.,ltd	8000
34	Yangling Zhenghua Preparation Workshop Proiect	Xi' an huachen depuration steel structure co.,ltd	8000
35	Shanxi Aipu Petroleum Equipment Project	shaanxi zhonghexin constructionengineering co.,ltd	8000
36	Yuyang district jinjitan cycle economyindustrial park	Jining Hongyuan and Yulin Weiye,etc.	50000
37	Fire retardant coatings for new construction of Luquan Hengshan 110KV substation	Hebei power transmission and transformation co.,ltd	
38	Gree China Railway Feibao Logistics Business Industrial Park Project	Tongzhou jianzong group co.,ltd	150000
39	Yizhou wine industry production workshop	Yizhou wine industry	108800
40	Constant factory building, constant engneering machinery fluid technology factory building	Handan henggong	80000
41	Steel structure engineering of stamping project with an annual output of 50 million pieces	Baoding mingrui automobile parts manufacturing co.,ltd	50000
42	Workshop Project of Xingtai Xinxing Jiade Technology co.,ltd	Tongzhou jianzong group co.,ltd	100000
43	Xingtai city Wei county Zhongke Yuneng Factory Building	Tongzhou jianzong group co.,ltd	41000
44	Landu welding material manufacturing workshop	Landu welding material	24000
45	Hebei Xintai hong automobile parts factory building	Hebei Xintai hong	20500
46	Hebeiwangdu construction and installation engineering co.,ltd	Wangdu Haokai	18000
47	Hebei Tongda Pump Valve Group co.,ltd.Dingxing Branch has an annual output of 5,000industrial water pumps.	Hebei hualu construction group co.,ltd	15000
48	Comprehensive workshop project of assembling2000 sets of power transmission and distibutionequipment every year	Dingzhou Xingya electric power equipmentinstallationengineering co.,ltd	11000
49	Environmental protection and fire prevention solid wood building production workshop	Hebei gusita building materials co.,ltd	10000
50	Baoding Fuqiao New Material Technology co.,ltd builds a bridge building steel structure project with an annual output of 15,000 tons	Baoding fuqiao new material technology co.,ltd	10000
51	Project of Jiangsu Jinhao Food Technology co.,ltd	Jiangsu jinhao food technology co.,ltd	30000
52	Steel structure workshop of casting film and food soft packaging bag production project	Jiangsu Yuanjian municipal engineering co.,ltd	20000
53	Jiangsu Jinruihai Corrugated Board Production Project	Jiangsu hongxuan construction engineering co.,ltd	20000
54	Shandongruibolong chemical technology co.,ltd	Dezhou ruitong construction engineering co.,ltd	30000
55	Heze Jufeng New Energy 100,000 Tons Propylene Oxide Project	Huaxia runda construction co.,ltd	26000



# Zhihe some cases















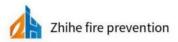












### Zhihe Business Scope





### Partial partners





Address: North Third Ring Industrial Park, Baoding, Hebei

Tel: 0312-5023622

Website:http://www.zhihe119.com/