



# ZHEHE FIREPROOF COATING

智和防火涂料



Hebei zhihe fire prevention material technology co., ltd



## Company profile

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

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

Up to now, our company has achieved good reputation in different industries, such as China Construction and China Railway, 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 majority of users.

Our company has many branches and offices in Shanxi, Shandong, Henan, Shanxi, Yunnan, Jiangsu and 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 Shanxiaojun Senior Service Center under the company's pension section covers Baoding and surrounding counties 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

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## Factory introduction and production system



Hebei Zhihe Fire-retardant Material Technology Co., Ltd. has been committed to the research and development, production, sales and construction of fire-retardant coatings since its establishment. Our company has a research and development team of 12 people including 4 graduate students and 8 undergraduate students.

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



# 荣誉资质

HONOR QUALIFICATION







# Zhihe fire prevention coating material products



Indoor expansion type fireproof coating



Outdoor expansion type fireproof coating



Indoor non-expansive fire retardant coating for steel structure



Outdoor non-expansive fire retardant coating for steel 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



# Indoor intumescent fire retardant coating for steel structure

## Product introduction

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 layer 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.

## Main performance

Zhihe intumescent fire retardant coating is harmless to human body, and has the characteristics of non-corrosiveness, strong adhesion, high water resistance, no natural shedding, no irritating smell and no release of harmful gases. The components of Zhihe intumescent fire retardant coating for steel structure include film-former, intumescent flame retardant system, filler and additives. There is no pollution to the environment, and after the coating is formed into a film, it is moisture-resistant, weather-resistant and aging-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 anti-rust primer coating on the steel structure surface should meet the design requirements and the current national regulations. Friendly reminder to all construction friends: 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 time the same proportion is evenly mixed and then sprayed. Until the spraying reaches the specified thickness.

## Physical and chemical

Serial number	Inspection item	Standard requirements	Test result	Conclusion
1	bonding strength	≥0.15	0.62	qualified
2	resistivity against water	After 24h test, the coating shall be free of delamination, foaming and peeling, and the heat insulation efficiency shall be high. Attenuation ≤35%	After 24h test, the coating has no delamination, foaming and peeling, and the thermal insulation efficiency decreases by 15%	qualified
3	fire resistance	F <sub>p</sub> ≥2.00h, average temperature ≤538°C	2.5h, and the average temperature of the specimen is 526°C	qualified
4	Cold and hot cycle resistance	After 15 tests, the attenuation of thermal insulation efficiency ≤35%	The attenuation is 24%	qualified



# 检测报告

TEST REPORT



181000110294



中国合格  
评定国家  
认可  
实验室  
CNAS L109

## 检验报告

No. (2021)SJCF-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 introduction

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 steel structure workshops. This kind of coating expands and foams rapidly in case of fire, forming a dense fire-proof and heat-insulating layer 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.

## Main performance

Zhihe intumescent fire retardant coating is harmless to human body, and has the characteristics of non-corrosiveness, strong adhesion, high water resistance, no natural shedding, no irritating smell and no release of harmful gases. The components of Zhihe intumescent fire retardant coating for steel structure include film-former, intumescent flame retardant system, filler and additives. There is no pollution to the environment, and after the coating is formed into a film, it is moisture-resistant, weather-resistant and aging-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 anti-rust primer coating on the steel structure surface should meet the design requirements and the current national regulations. Friendly reminder to all construction friends: 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 time the same proportion is evenly mixed and then sprayed. Until the spraying reaches the specified thickness.

## Physical and chemical

Serial number	Inspection item	Standard requirements	Test result	Conclusion
1	bonding strength	≥0.15	>0.15	qualified
2	Exposure resistance Humidity and heat	720h exposure test and 504h wet and after, the coating shall be free of delamination, foaming and peeling, and the heat insulation efficiency shall be high. Attenuation ≤35%	The coating has no delamination and peeling, and the attenuation of heat insulation 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 cycle resistance	After 15 tests, the coating should have no cracking, peeling, or qipao phenomenon and insulation efficiency attenuation ≤35%	The coating has no delamination and peeling, and the attenuation of heat insulation efficiency is less than 35%	qualified

# 检测报告

TEST REPORT

No.XF2002010



中国认可  
国际互认  
检测  
TESTING  
CNAS L0153



# 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 specially designed and produced for the fire protection of load-bearing members of steel structures with first-class fire resistance. After the coating is sprayed on the surface of the steel structure, the incombus-tibility and low thermal conductivity of the coating itself, as well as ablation reactions such as evaporation and decomposition of some components at high temperature, are used to generate heat absorption to is-olate and consume the transfer of fire heat to the base material. thus delaying the time for steel members to reach the critical temperature.

## lmain performance

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

## Scope of application

It is suitable for all kinds of fire protection projects of indoor and outdoor load-bearing steel structures. such as fa-ctories, 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 steel structure surface should meet the design requirements and the current national regulations, Friendly reminder to all construction friends: 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 time the same proportion is evenly mixed and then sprayed. Until the spraying reaches the sp-ecified thickness.

## Physical and chemical

Serial number	Inspection item	Standard requirements	Test result	Conclusion
1	bonding strength	≥0.04	0.21	qualified
2	resistivity against water	After 24h test, the coating shall be free of delamination, foaming and peeling, and the heat insulation efficiency shall be high. Attenuation ≤35%	After 24h test, the coating has no delamination, foaming and peeling, and the thermal insulation efficiency 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 cycle resistance	After 15 tests, the attenuation of thermal insulation efficiency ≤35%	The attenuation is 7.4%	qualified

# 检测报告

TEST REPORT

No.XF2001909



中国认可  
国际互认  
检测  
TESTING  
CNAS L0153



# 检验报告

## TEST REPORT

产品名称	室内非膨胀型钢结构防火涂料
型号规格	GT-NSF-F <sub>p</sub> 2.50-ZH02
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)







# Outdoor non-expansive fire retardant coating for steel structure

## Product introduction

Zhihe non-intumescent fire retardant coating for steel structure is a product successfully developed according to GB14907-2018 Fire retardant coating for steel structure and CCCF-CPRZ-17: 2019 Fire retardant material products, which is a thick fire retardant coating for steel structure designed and produced for fire protection of load-bearing members with first-class fire resistance. After the coating is sprayed on the surface of the steel structure, the combustibility and low thermal conductivity of the coating itself, as well as ablation reactions such as evaporation and decomposition of some components at high 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 their critical temperature.

## Main performance

Zhihe non-expansive fire retardant coating is harmless to human body, and has the characteristics of non-corrosiveness, strong adhesion, no natural shedding, no irritating smell and no release of harmful gases. The components of Zhihe non-intumescent fire retardant coating for steel structure include film-former, intumescent flame retardant system, filler and additives. There is no pollution to the environment, and after the coating is formed into a film, it is moisture-resistant, weather-resistant and aging-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 steel structure surface should meet the design requirements and the current national regulations. Friendly reminder to all construction friends: 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 time the same proportion is evenly mixed and then sprayed. Until the spraying reaches the specified thickness.

## Physical and chemical

Serial number	Inspection item	Standard requirements	Test result	Conclusion
1	bonding strength	≥0.15	0.62	qualified
2	resistivity against water	720h exposure test and 504h wet and after, the coating shall be free of delamination, foaming and peeling, and the heat insulation efficiency shall be high. Attenuation ≤35%	The coating has no delamination and peeling, and the attenuation of heat insulation efficiency is less than 35%	qualified
3	fire resistance	Ft≥3.00h, average temperature ≤538°C	>3.0h, specimen temperature <538°C	qualified
4	Freeze-thaw cycle resistance	After 15 tests, the coating should have no cracking, peeling, or qipao phenomenon and insulation efficiency attenuation ≤35%	The coating has no delamination and peeling, and the attenuation of heat insulation efficiency is less than 35%	qualified



# 检测报告

TEST REPORT

No.XF2002120



中国认可  
国际互认  
检测  
TESTING  
CNAS L0153



# 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

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)



# Gypsum-based structural fire retardant coating

## Product introduction

Gypsum-based fireproof material takes gypsum as the main base material, and adopts powder composed of inorganic lightweight 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 same time, it has strong adhesion, good deformability and excellent fire resistance. The finished product is not easy to crack and fall off.

## Main performance

Zhihe gypsum-based fire retardant coating is harmless to human body, and has the characteristics of non-corrosiveness, strong adhesion, no natural shedding, no irritating smell and no release of harmful gases. The components of Zhihe gypsum-based fire retardant coating for steel structure include film-former, intumescent flame retardant system, filler and additives. There is no pollution 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 introduction

The tunnel fire-retardant coating developed by our company is mainly composed of inorganic fire-retardant insulating materials. This coating has low density, porosity and low thermal conductivity, which effectively improves the fire resistance limit of concrete structure and has obvious sound absorption effect. Under the RABT heating condition it can effectively block the flame spread under the condition of low temperature and high temperature rise, and provide reliable fire protection for the tunnel, it is mainly suitable for closed space places such as highway tunnels, railway tunnels, petrochemical 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 the fire prevention needs of petrochemical engineering, high-rise buildings, steel structures and underground garages.

# | area of application



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, 1 ton of paint is equivalent to 1.1 tons of use.
- Strong hiding power, a layer of Zhihe paint in Bo Tu can cover the background color of steel 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 (m <sup>2</sup> )
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 ofchemistry	80000
12	Datongenvironment equipmentengineering co., ltd	Desheng fire control	65000
13	Zhongkun machinery	Zhongkun machinery	43000
14	Relocation and transformation ofTaiyuan PeacockInk Co.,Ltd	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 jiu Zhou construction engineering group co.,ltd	100000
17	Bawanghe Industrial Park, Meixian County, Baoji City	Shanxi zhongshengindustry group co., ltd	60000
18	Standardization Workshop Construction Project of Meixian Science and TechnologyIndustrial Park	Shanxi zhongshengindustry group co., ltd	60000
19	Peacockink relocation, transformation and upgrading project	Shanxi hongii construction engineering co.. ltd	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., ltd	40000
23	Intelligent cold chain complete equipment research and development and industrializationdemonstration base project	Shanxi honglu Tianlong steel structure co., ltd	35000
24	Auto parts production line project	Shanxi sanyuan yangyihao auto industry co., ltd	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	Jinjitian circular economyindustrial park standardization workshop building	Shanxi Zhongyu Luqiao construction engineering co.ltd	13000
29	Production project of steel wire and wire rope with an annual output of 80,000 tons	Shanxi Ji Li da si sheng zhi Zao co., ltd	12750

# Representative projects in the past year

serial number	Project name	Cooperative unit	covered area (m <sup>2</sup> )
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 Project	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 engineering 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 distributionequipment 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	Shandonggruibolong 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







Professional, persistent, honest and win-win

## Hebei zhihe fire prevention material technology co., ltd

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