质量控制文件

Quality Control Document

2019.11.05

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公司简介

Company Profile

公司概况

宝鸡市奥龙过滤器材科技有限责任公司创建于 2009 年，公司创始人邱先生是西北有色金属研究院粉末冶金实验室专家、高级工程师，专业从事金属粉末烧结研究 50 多年。公司创建初期主要以各科研院所及实验室的金属粉末冶金材料课题及实验项目为主营业务。随着金属粉末烧结多孔材料市场应用的拓展，奥龙公司以钛、不锈钢及镍基高温合金烧结多孔材料的研发与生产为主营业务，同时承担国家多项科研项目的研发生产，尤其擅长生产超薄、超厚和超大尺寸的金属粉末烧结多孔板材。产品主要应用于石油石化、化工制药、食品饮料、航空航天、核工业、半导体电子、氢动力新能源等领域。产品先后荣获国家中小企业科技创新奖、国家新材料创新奖等。公司 2016 年通过 ISO9001:2015 国际质量管理体系认证，用体系规范

生产流程，强化质量管理，贯彻创新、创优产品理念，以市场为导向来提升我们的产品质量和服务能力，努力打造奥龙品牌。

Brief Introduction

Baoji Along Filtration Materials S&T Co., Ltd was founded in 2009, Mr. Qiu, the founder of the company, is an expert and senior engineer in the powder metallurgy laboratory of northwest institute of nonferrous metals, specializing in metal powder sintering research for more than 50 years. At the initial stage of establishment, the company mainly focused on the research projects and experimental projects of metal powder metallurgy materials in various research institutes and laboratories. As the application of metal powder sintered porous material expansion, Along company is mainly engaged in the research and production of titanium, stainless steel and nickel-based superalloy sintered porous materials, at the same time to undertake r&d and production of many national scientific research project, especially good at production of ultrathin, super thick and large size of metal powder sintered porous plate. The products are mainly used in petroleum, petrochemical, chemical pharmaceutical, food and beverage, aerospace, nuclear industry, semiconductor electronics, hydrogen power new energy and other fields. The products have won the national small and medium-sized enterprise science and technology innovation award, the national new material innovation award. In 2016, Along company passed iso9001:2015 international quality management system certification, standardized production process with the system, strengthened quality management, implemented the concept of innovation and excellent products, market-oriented to improve our product quality and service capabilities, and strive to build Along brand.

公司团队

Our Team

技术总监：邱工，毕业于中南大学粉末冶金系，中国粉末冶金高级工程师，从事金属粉末烧结多孔材料研究 50 余年。

CTO: Mr.Qiu, the founder of Along, graduated from the department of powder metallurgy, central south university, he is a senior engineer of powder metallurgy in China, has been engaged in metal powder sintering porous materials research for more than 50 years.

生产经理：张涛，金属材料专业学士学位，负责日常生产运营及技术转化。

Production Manager: Zhang Tao, bachelor degree in metal materials, responsible for daily production operation and technical transformation.

质检经理：杨华，负责工厂生产加工过程的质量管控及成品检测。

QCM: Yang hua, responsible for quality control and finished product inspection.

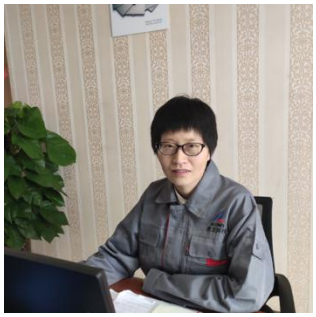
销售品管：杨波，负责成品质量检测、包装、物流及售后服务。

Sales QC: Sam Yang, responsible for finished product quality inspection, packaging, logistics and after-sales service.

跟单专员：陈园园，负责销售单据、报关资料的制作，同时负责生产进度的监督和跟进。

Order supervisor: Andy Chen, responsible for the production of sales documents and customs declaration materials, as well as the supervision and follow-up of production progress.

Mr. Qiu (CTO&Founder)



Zhang Tao	Yang Hua	Sam Young	Andy Chen
(Production Manager)	(QCM)	(Sales QC)	(Order Supervisor)

生产设备

Equipment

公司拥有卧式真空烧结炉 2 台，立式真空烧结炉 1 台，等静压机、粉末轧机、压力试验机、剪板机、混料机等设备 13 台套，年生产金属粉末烧结多孔材料 800 余吨。可分别生产金属粉末烧结多孔板材和金属粉末烧结多孔管材、棒材等。

The company has 2 horizontal vacuum sintering furnaces, 1 vertical vacuum sintering furnace, 13 sets of isostatic press, powder rolling mill, pressure testing machine, plate shearing machine, mixing machine and other equipment, producing more than 800 tons of metal powder sintered porous materials annually. It can produce metal powder sintered porous plate, metal powder sintered porous pipe, rod, etc.

真空烧结炉

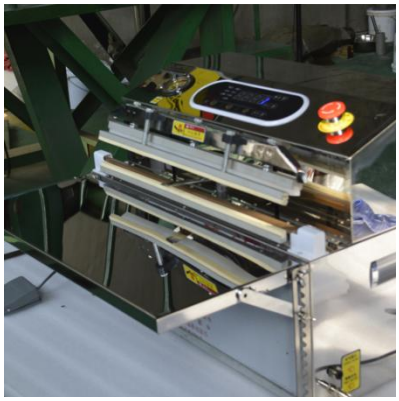
Vacuum sintering furnace

等静压机

Isostatic pressing machine

混料机

Blender mixer



真空包装机

Vacuum package machine

电子喷码仪

Electronic printer

技术服务

Technical Service

-对于长期合作的客户，我们优先支持新产品的研发和试制。

For customers with long-term cooperation, we give priority to support the r&d and trial production of new products.

-VIP 客户可享受技术总监的技术支持服务。

VIP customers can get technical support from technical director.

-优先响应 VIP 客户的技术咨询并提供问题解决方案。

Give priority to respond to the technical consultation of VIP customers and provide problem solutions.

质量保障

Quality Assurance

1. 原材料质量控制

Quality control of raw materials

1.1 钛粉选用 0A 级海绵钛制粉，提供海绵钛检测报告单、钛粉检测报告单及钛烧结多孔板检测报告单。

Titanium powder shall be made of grade 0A titanium sponge, provide titanium sponge test report, titanium powder test report and titanium sintered porous plate test report.

1.2 钛粉单独存放，仓储区域干净整洁，无任何污染物。

Titanium powders shall be stored separately, and the storage area shall be clean and tidy without any pollutants.

1.3 原材料使用进行批号登记，确保每批次产品使用同批次钛粉。

Register the batch number of raw materials to ensure that each batch of products USES

the same batch of titanium powder.

1.4 实行物料领用计划，确保 8 小时使用规则。

Implement material requisition plan to ensure 8-hour usage rule.

1.5 开封未用完的钛粉将充装氩气保护存放。

Unsealed unused titanium powder will be filled with argon to protect storage.

Ti Powder Storage

Full View

Batch Classification

Fill with Argon

2. 生产工艺流程质量控制

Quality control of production process

2.1 制定生产计划单及生产进度表，确保生产加工周期。

Make production schedule to ensure the production and processing cycle.

2.2 根据合同制定原材料采购及领用计划。

Make raw material procurement and requisition plans according contract.

2.3 开机前对生产设备进行清洁和维护。

Clean and maintain the equipment before production.

产品检测

Product Testing

1. 随机抽取板材用手折断测试板材脆性和强度。

Randomly selected plates were broken by hand to test the brittleness and strength of the plates.

2. 100%外观检测

Inspection of appearance 100%

2.1 板材表面洁净无污染（黑点、小孔或黄斑）。

Plate surface clean and pollution-free plate (black spot, small hole or yellow spot).

2.2 板材表面无划痕（指甲划过无卡顿感）。

No scratch on the surface of the plate (nail scratch without the feeling of sticking).

3. 100%检测板材长度和宽度

Test plate length and width 100%

3.1 数控车床加工完成后对板材长宽进行测量。

The length and width of the plate are measured after the completion of CNC lathe processing.

3.2 质检专员用买方提供的通止规和塞规对所有成品外径进行 100%检测。

The quality inspector shall use the Poke Yoke and slip gauge provided by the buyer to conduct 100% inspection of all finished products' outer diameters.

3.3 销售品管负责对板材外径尺寸进行 50%复检。

The sales quality control is responsible for the 50% reinspection of the outer diameter of the plate.

4. 按照图纸对板材取 5 点进行厚度检测

According to the drawing, take 5 points for thickness inspection

4.1 板材轧制工序完成后对板材厚度持续进行 50%检测。

After the plate rolling process is completed, the thickness of the plate shall be continuously tested by 50%.

4.2 数控车床加工完成后对板材厚度进行 100%检测。

CNC lathe after the completion of the plate thickness of 100% test.

4.3 销售品管负责对板材厚度进行 50%复检。

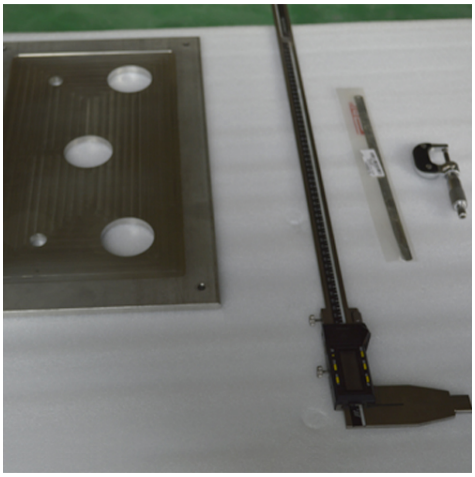
The sales quality control is responsible for the reinspection of the plate thickness by 50%.

5. 检验与包装过程

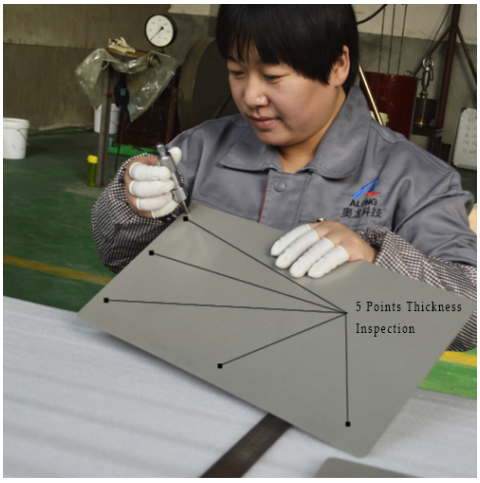
Inspection and packaging photos

5.1 初检

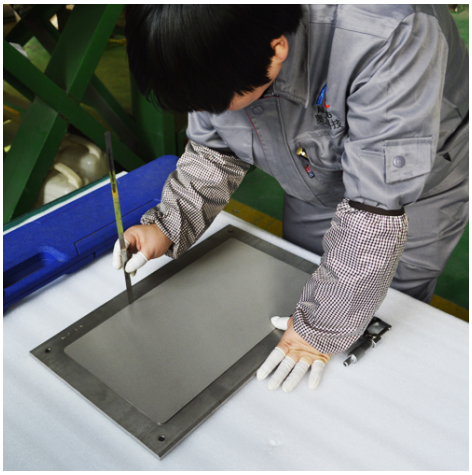
First inspection of appearance 100%



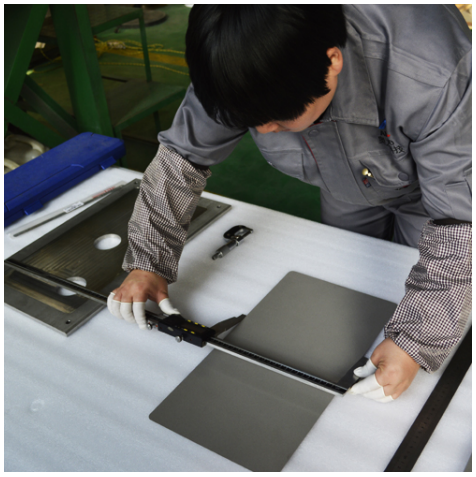
Commonly Measuring Tool



5 Points Of Thickness



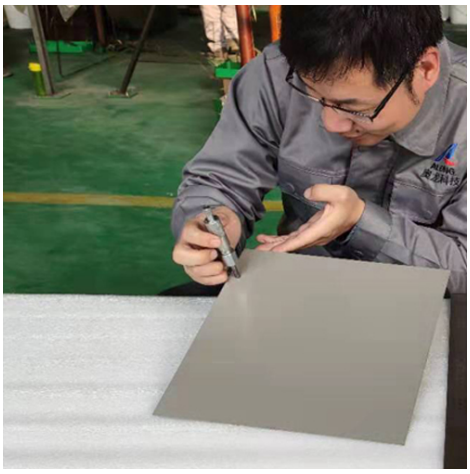
No-go Gauge Inspection



Length&Width Inspection

5.2 复检

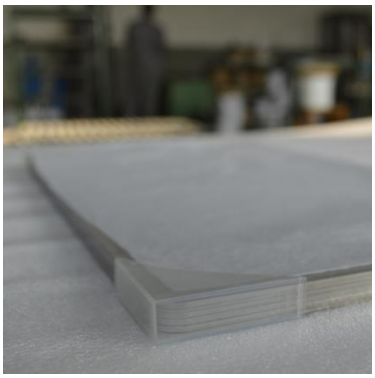
Sales reinspection of appearance 50%

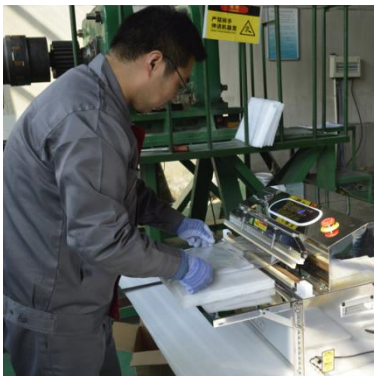


包装要求

Packing Instruction

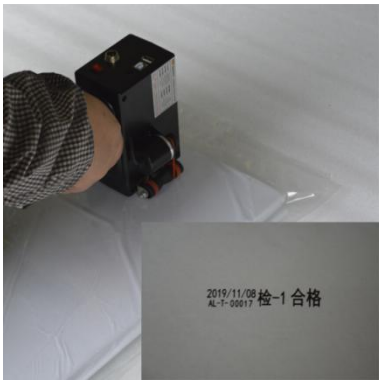
Packaging process





每 10 件板子四角安装特制护角，随后使用真空包装。

Every 10 pieces of porous plate install special corner protect in 4 corners, and vacuum packaging in plastic bags.



真空袋包装上打印批次以及检验合格，随后使用瓦楞纸包装。

The batch number and inspection passed printed on the vacuum bag package, then it was packed with corrugated paper.

最后将瓦楞纸包装装入木箱中等待发货。

Finally, put the corrugated package into wooden case and wait for delivery.

每块板材顶部和底部都有垫纸。

Each sheet has a pad paper at the top and bottom.

每 10 块板材装一个真空包装袋。

Pack 10 plates in a vacuum packing bag.

每 50 块板子装一个纸箱，纸箱各边及上下都有柔软泡沫板保护。

Pack one carton with 50 sheets, all sides and top and bottom of the carton are protected by soft foam board.

每 10 个纸箱装一个木箱。

Every 10 cartons to a wooden case.

其他文件

Other Document

附件 1 材质证明

Annex 1: Material Certifications

附件 2 公司环评证明

Annex 2: Environmental impact assessment

宝鸡市奥龙过滤器材科技有限责任公司

2019.11.05

附件 1 材质证明

Annex1: Material Certifications

洛阳双瑞万基钛业有限公司

海绵钛质量证明书

国家标准号：GB/T2524-2010

证明书号：2019001515　　填证日期：2019 年 7 月 28 日

批号	产品等级	粒度（mm）	每桶净重（kg）	桶数	总净重（kg）
190727-1841	0_A	1-20	250.0	15	3750

化学成份（%）

Ti含量不小于	杂质含量，不大于								
	O	N	H	C	Cl	Si	Fe	Mg	Mn
99.8	0.041	0.003	<0.001	0.005	0.058	0.001	0.015	<0.001	0.005

布氏硬度HB

(HBW/10/1500/30)　　90

说明：　钛含量——100%减去表列杂质总和

制表：王园　审核：李玲玲　质检：袁航红　批准：袁伟

电话：0379-67325040　　传真：0379-67325005

双瑞万基钛业有限公司 质量检验专用章

Material Certification Of Titanium Sponge

TELISON

检 测 报 告
TEST REPORT

NO.BC20191018001 Page 1 of 1

生产日期 Product Date	2019. 10. 18	检测日期 Test Date	2019. 10. 18
样品名称 Sample Name	钛粉	产品规格 Product Size	100-180 目
合同号 Contract Number	TLS20190911001	发货重量 Weight	500KG
产品标准 Product Specification	0A 级	松装密度 Density	1. 44g/cm³
检测方法 Test Method(s)	GB/T 4698.7-2011 GB/T 4698.14-2011 GB/T 1480-2012		

检测结果 Test Result(s)

样品编号 Sample Number	检测项目 Test Item(s) (质量分数)/%						
	O	N	H	Fe	Si	Cl	Mg
TLS20191018-1	0.1530	0.0114	0.0101	≤0.03	0.001	0.057	<0.001
	Mn	Ti	/	/	/	/	/
	0.005	>99.7	/	/	/	/	/
	/	/	/	/	/	/	/
	/	/	/	/	/	/	/

样品编号 Sample Number	检测项目 Test Item(s) (粒度分布)/%						
	+100 目	-180 目	/目	/目	/目	/目	/
TLS20191018-1	0.2%	2%	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/

编制 Compiled By	郭鸿	审核 Reviewed By	樊春燕
质量检验章 Quality Inspection Chapter	检测报告专用章	发货日期 Shipment Date	2019. 10. 18

Material Certification Of Titanium Powder

宝鸡市奥龙过滤器材科技有限责任公司
ALONG Baoji Along Filtration Material S&T Co.,Ltd.
金属粉末烧结多孔材料专家 Expert of metal powder sinter porous materials

产品质量证明书 Product Inspection Certificate

证书编号：20191025WHHK

合同号 S/C No.	AL20191012-5Y				收货单位 Consignee		武汉华科大生命科技有限公司		
产品名称 Product Name	钛粉末烧结滤芯				材质 Material	Ta0	规格 Spec		Φ60X2.0MM
技术标准 Technical Standard	原材料批号 Raw Material No.		状态 Condition		炉号 Heat No.		产品承压 Pressure of products	净重 Net Weight	总数量 Qty
20um	20190928TLS		S		20191022AL		3.0MPa	0.025kg	500 Pcs
化学成分 Composition	Ti	O	N	H	Cl	Si	Fe	Mg	Mn
	≥99.7	0.1530	0.0114	0.0101	0.057	0.001	≤0.03	<0.001	0.005
试样参数性能 Test Performance	测试数 Qty of Test	最大孔径 Max Pore Size			样 1：31μm Sample1:31um		样 2:30μm Sample2:30um		样 3: 32μm Sample3:32um
	3 Pcs	相对透气系数 Relative Permeability			样 1:119m³ /h.KPa.m² Sample 1: 119m³ /h.KPa.m²		样 2: 116m³ /h.KPa.m² Sample2:116m³ /h.KPa.m²		样 3: 120m³ /h.KPa.m² Sample3:120m³ /h.KPa.m²
		过滤效率 Filter Rating %			样 1： 98.5% Sample 1： 98.5%		样 2： 98.9% Sample 2： 98.9%		样 3： 99.3% Sample 3： 99.3%
备注 Notes									

经办人（Inspector）：

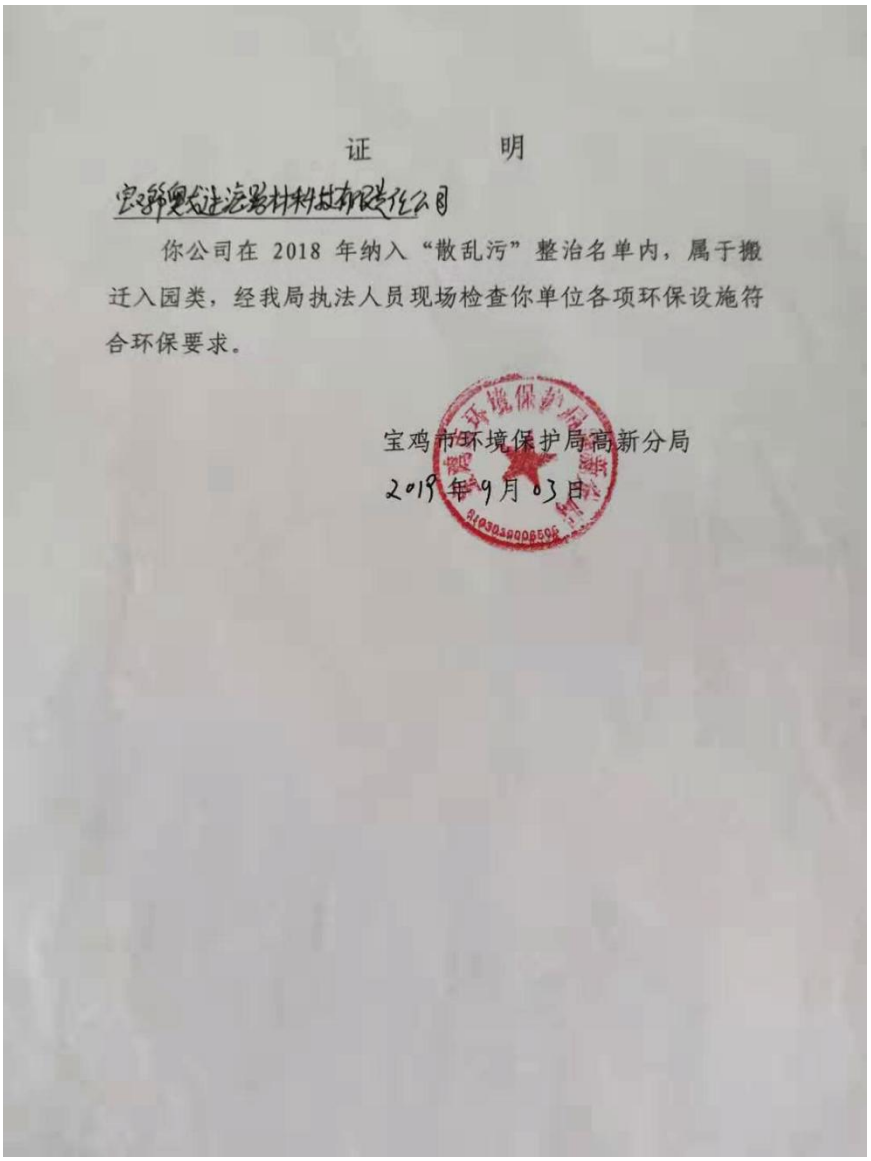
审核(Auditor)：

Official Stamp
2019.10.25

Material Certification Of Sintered Porous Plate

附件 2 公司环评证明

Annex 2: *Environmental impact assessment*



证　　明

宝鸡奥龙过滤器材科技有限责任公司

你公司在 2018 年纳入“散乱污”整治名单内，属于搬迁入园类，经我局执法人员现场检查你单位各项环保设施符合环保要求。

宝鸡市环境保护局高新分局

2019 年 9 月 03 日

Certificate

Baoji Along filtration materials s&t co., Ltd

In 2018, your company will be included in the rectification list of "scattered pollution", which belongs to the relocation enterprise into the new industrial park. After the on-site inspection by the law enforcement family of our bureau, all the environmental protection facilities of your company have met the requirements of environmental protection .

High&new branch, Baoji environmental protection bureau

3th, Sep., 2019