YUETING SPECIAL
ALLOY (SHANGHAI) CO., LTD

地址：上海松江区莘砖公路518号双子楼A座12A1306
官网：www.yttzhj.com　　邮箱：YT@yttzhj.com
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(86)400-017-2668

YueTingalloy

悦廷特种合金（上海）有限公司

HAYNES International 中国区授权代理商　　大同特殊鋼 中国区库存代理商

合作钢厂 / Cooperative steel plant

YAKIN　大同特殊鋼　VDM Metals
CARPENTER TECHNOLOGY　HAYNES International　NIPPON STEEL
ATI　outokumpu　SPECIAL METALS　AMAG AUSTRIA METALL
KAISER ALUMINUM　ALCOA　KOBELCO

微信公众号

阿里巴巴商铺

手机官网

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目录 catalogue

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悦廷的概况 / Overview of Yueting

悦廷特种合金（上海）有限公司是一家集采购、加工、代理、直销、物流、仓储于一体的综合性特钢金属企业，我司成立于2012年，坐落于上海市松江漕河泾开发区，公司拥有上海外高桥保税仓、无锡保税仓、华西备用仓等超3000平方米的仓库，提供现货供应。
2021年成立了全资子公司：悦廷（特殊钢）有限公司，开辟海外新航道。

Yueting special alloy (Shanghai) Co., Ltd. is a comprehensive special steel and metal enterprise integrating procurement, processing, agency, direct sales, logistics and storage. Our company was established in 2012 and is located in Caohejing Development Zone, Songjiang, Shanghai. The company has warehouses with an area of more than 3000 square meters, such as Shanghai Waigaoqiao bonded warehouse, Wuxi bonded warehouse and West China standby warehouse, providing spot supply.
In 2021, Yueting (special steel) Co., Ltd., a wholly-owned subsidiary, was established to open up new overseas channels.

悦廷专注于特种合金领域，持续关注海内外优质金属资源，现已与美国HAYNES、 美国冶联ATI、美国SMC、德国VDM、瑞典OUTOKUMPU、日本冶金、日本新日铁、日本大同特殊钢等海外钢厂成为了良好、密切的战略伙伴关系。

Yueting focuses on the field of special alloys and continues to pay attention to high-quality metal resources at home and abroad. It has cooperated with Haynes, ATI, SMC and Germany

主营：超纯净钢、镍基合金、哈氏合金、双相不锈钢、纯镍、钛和钛合金、耐热、耐腐蚀金属等上千款材料，可按照美国ASTM/ASME、美国AMS、德国DIN、日本JIS等标准供应，也可根据客户提供的标准和技术要求提供不同规格。每份产品从原材料到成品，都经过多次质检，附带原厂质保书，支持第三方复检，让材料完好可溯源。

Main products: thousands of materials such as ultra pure steel, nickel base alloy, Hastelloy, duplex stainless steel, pure nickel, titanium and titanium alloy, heat-resistant and corrosion-resistant metals, which can be supplied according to American ASTM / ASME, American AMS, German DIN, Japanese JIS and other standards, or different specifications according to the standards and technical requirements provided by customers. Each product, from raw materials to finished products, has undergone multiple quality inspections, attached with the original factory warranty to support third-party re inspection, so that the materials are intact and traceable.

悦廷建立了完备的售前、售中、售后服务体系，满足客户在半导体、核电、航空航天等不同应用场景下的需求，销售网络遍布全球几十个国家与地区。我司坚持用特种合金产品的规范、标准来要求产品质量，为企业提供高质量、高性能的材料和配套的服务，以技术支持与解决方案，与合作伙伴走向双赢。

Yueting has established a complete pre-sales, in-sales and after-sales service system to meet the needs of customers in different application scenarios such as semiconductor, nuclear power and aerospace. Its sales network covers dozens of countries and regions around the world. We insist on using the specifications and standards of special alloy products to require product quality, provide enterprises with high-quality and high-performance materials and supporting services, and move towards a win-win situation with partners with technical support and solutions.

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发展历程 / development history

2012年

悦廷特种合金(上海)有限公司成立，专注超级合金的现货供应。

Yueting special alloy (Shanghai) Co., Ltd. was established to focus on the spot supply of superalloys.

2014年

与欧洲、美国、日本、瑞典等八大百年钢厂签订合作协议。于国内上海、无锡、华西等地开枝散叶，建立分储货仓。

Signed cooperation agreements with eight hundred year old steel mills in Europe, the United States, Japan and Sweden.It has opened branches and leaves in Shanghai, Wuxi, West China and other places in China, and established sub storage warehouses.

2017年

进军半导体行业，以及从热加工到冷加工BA管和EP管的业务。

Signed Haynes China authorized agent to provide imported Superalloys for domestic enterprises.

2019年

签约HAYNES中国区授权代理商，为国内企业提供进口高温合金。

Enter the semiconductor industry and the business from hot processing to cold processing of Ba tubes and EP tubes.

2020年

签约日本大同特殊钢中国区库存代理，引入半导体行业原材料“CLEANSTAR”系列。

We are deeply engaged in the semiconductor industry and continue to introduce high-quality materials. Now we are the general agent of "cleanstar" of Datong ultra pure steel in Japan.

2021年

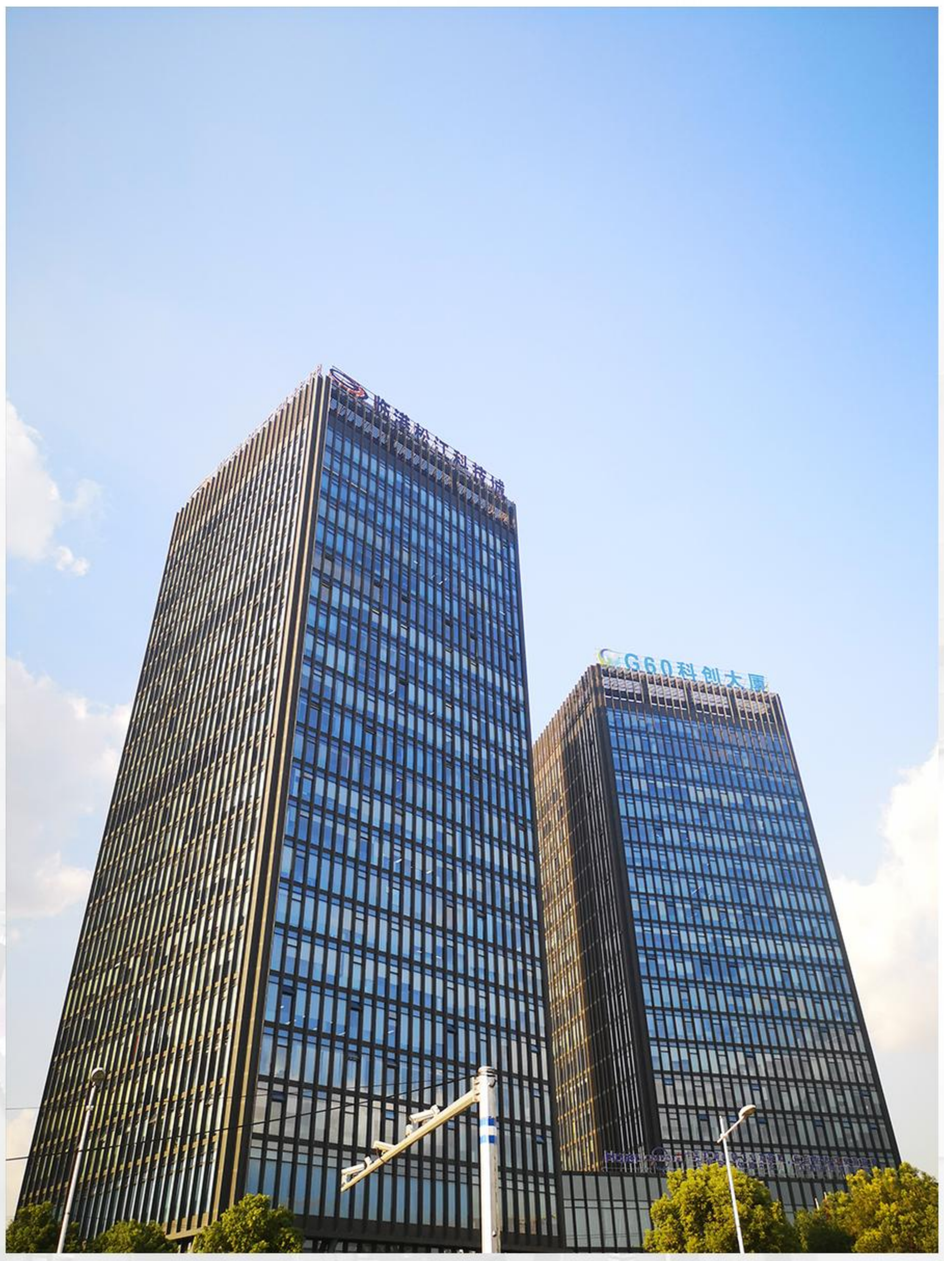
成立首家全资外贸子公司：悦廷（特殊钢）上海有限子公司。主营用于化工、石油天然气领域的镍基合金等特材。

Establish the first wholly-owned foreign trade subsidiary: Yueting (special steel) Shanghai Co., Ltd. Nickel based alloys are mainly used in the fields of petroleum and chemical industry.

Future

悦廷将持续引入优良的合金特材，保持“立意高远，展翅翱翔”的姿态，为成为行业的风向标而奋发拼搏。

Yueting will continue to introduce excellent alloy special materials, maintain the attitude of "lofty intention and soaring", and work hard to become the wind vane of the industry.



代加工工厂

超洁净清洗

电解抛光

千级洁净室

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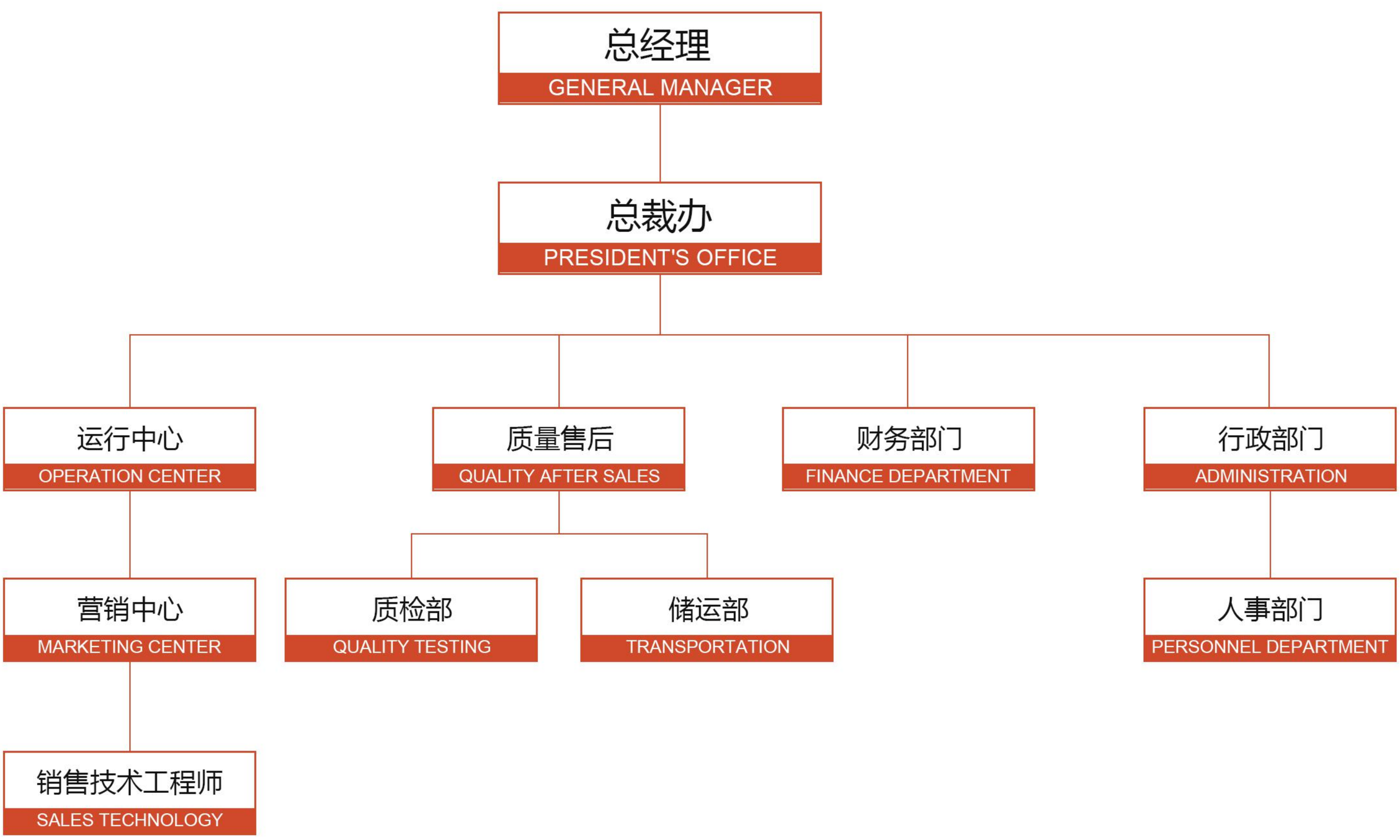
组织结构 / organization structure



悦廷特种合金（上海）在十多年实践中，形成了以“严格苛求、学习创新的道路、争创信用的目标”为主线，以“诚信、协同”为主要价值观的悦廷文化。在团队凝聚力的作用下，我司各个部门严密配合，共同努力，引导整个企业欣欣向荣。悦廷将厚积薄发、吸纳各行业的人才，以更辉煌的业绩为目标。

In more than ten years of practice, Yueting special alloy (Shanghai) has formed a Yueting culture with "strict demands, the road of learning and innovation and the goal of striving for credit" as the main line and "integrity and coordination" as the main values. Under the role of team cohesion, all departments of our company closely cooperate and work together to guide the prosperity of the whole enterprise. Yueting will accumulate and absorb talents from various industries with the goal of more brilliant performance.

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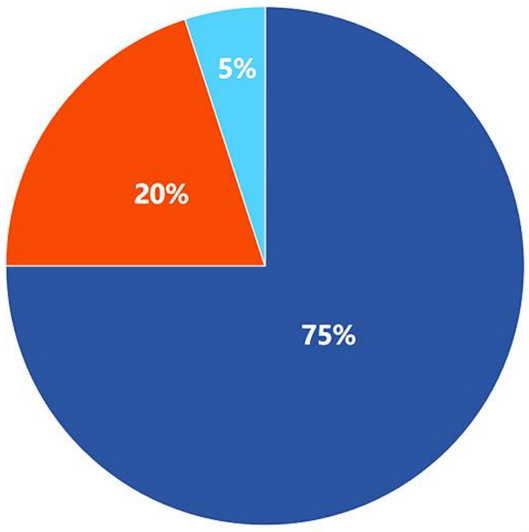
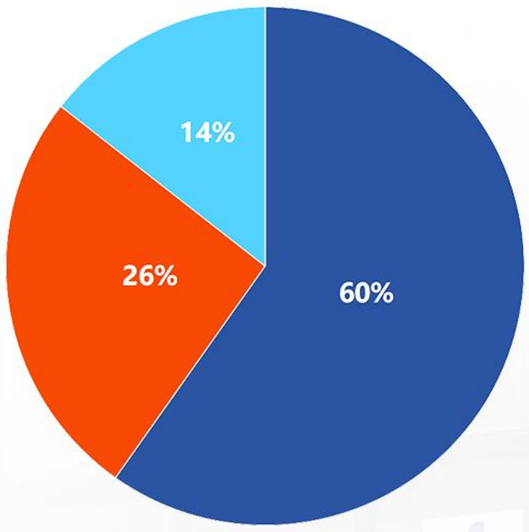
客户渠道 / Customer channel



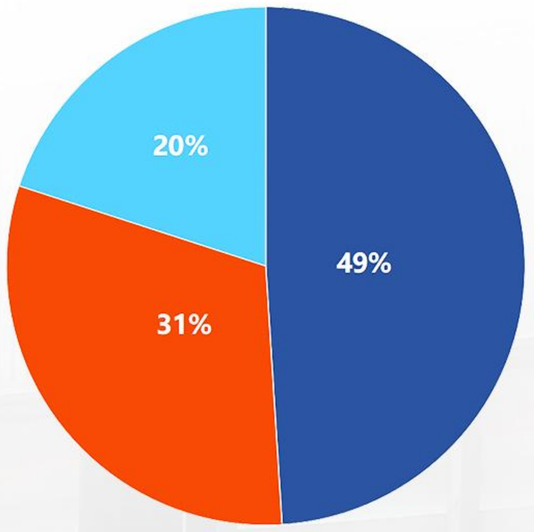
2012-2014年

悦廷特种合金成立
专注特种合金的现货供应



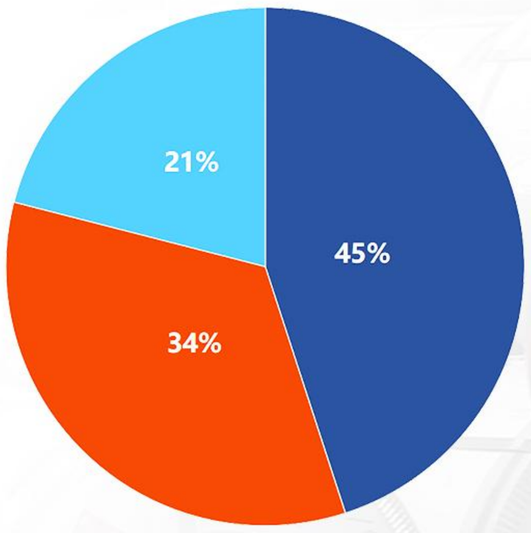
2015年

2014年悦廷先后与日本、美国、德国、瑞典等地的八家国际一流钢厂签订合作协议



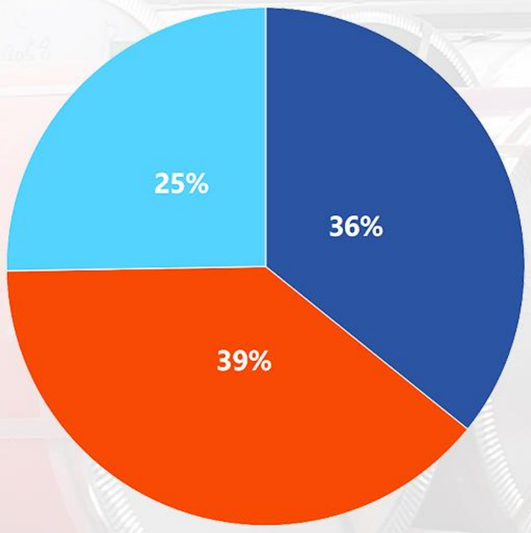
2016-2018年

镍市场大幅震荡，悦廷以充足的现货库存应对挑战，解客户危急，收获了良好的口碑



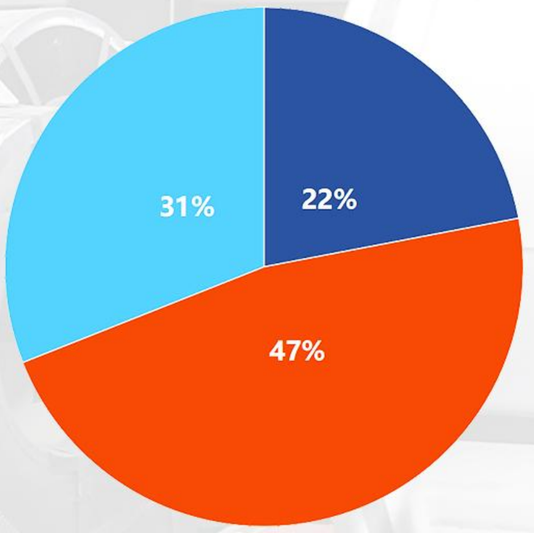
2019年

签约HAYNES中国区项目授权代理商，扩大国内的库存规模至3000平方米。



2020年

代理日本大同的专利材料CLEANSTAR，作为中国区现货库存代理商。



2021年

开启战略升级：迎合国内半导体产业升级，业务板块延伸至“超高纯洁净钢”

广告渠道　口碑营销　钢厂资源

面对复杂多变的市场挑战，悦廷特种合金锐意进取，以积极主动的姿态不断开拓新的市场。悦廷特种合金具有数据发掘能力、整合线上线下全渠道资源获客，形成了以口碑营销和钢厂资源为渠道，网络营销为宣传口的立体化营销网络。

Facing the complex and changeable market challenges, Yueting special alloy is determined to forge ahead and constantly explore new markets with a proactive attitude. Yueting special alloy has the ability of data mining, integrating online and offline omni-channel resources to win customers, and has formed a three-dimensional marketing network with word-of-mouth marketing and steel plant resources as channels and network marketing as publicity.

我司现与八家海外百年钢厂形成了长期的战略伙伴关系，在半导体、核电、航空等近二十个应用领域均开辟了赛道。多年来悦廷以材料品质和解决方案打动了客户。累计与数千家公司有业务往来，逐步将服务范围由国内扩展至海外，也欢迎有合作意向的企业莅临我司洽谈。

Our company has formed a long-term strategic partnership with eight overseas Centennial steel plants, and has opened up tracks in nearly 20 application fields such as semiconductor, nuclear power and aviation. Over the years, Yueting has moved customers with material quality and solutions. We have business contacts with thousands of companies and gradually expand the service scope from domestic to overseas. Enterprises with cooperation intention are also welcome to visit our company for negotiation.

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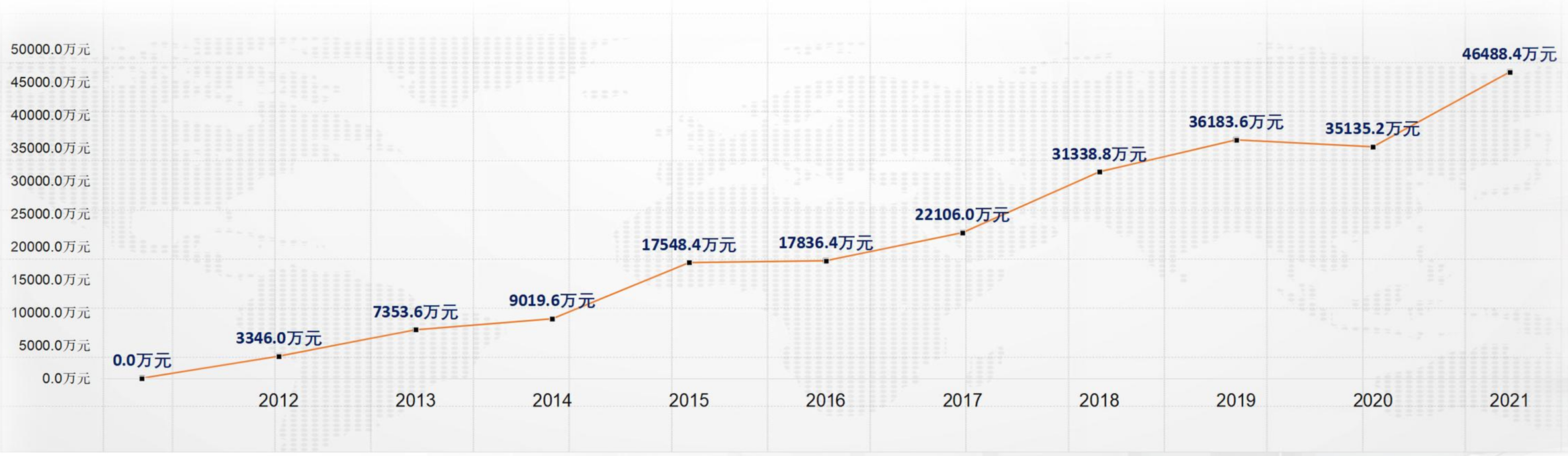
营收状况 / Revenue status



年份	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
金额	3346.0万元	7353.6万元	9019.6万元	17548.4万元	17836.4万元	22106.0万元	31338.8万元	36183.6万元	35135.2万元	46488.4万元

从数据来看，公司收入持续保持迅猛的上升趋势，营收增长率良好。一方面得益于我司处于扩张期，不断扩容团队与业务范围；另一方面得益于领导层长期以来对风向把握能力和决策能力。

From the data, the company's revenue continues to maintain a rapid upward trend, and the revenue growth rate is good. On the one hand, thanks to the expansion of our team and business scope; On the other hand, it benefits from the leadership's ability to grasp the wind direction and make decisions for a long time.

从曲线来看，我司的营业额在2014、2018、2019、2020年有几次较大的增幅：

From the curve, the turnover of our company has increased several times in 2014, 2018, 2019 and 2020:

- 2013~2014年间我司先后与欧日美瑞等八家海外钢厂建立了良好而稳定的合作关系，提升了产品质量，扩大了自身实力。
  From 2013 to 2014, our company has successively established good and stable cooperative relations with eight overseas steel mills such as Europe, Japan, the United States and Switzerland, ensured product quality and expanded its own strength.
- 2018年国内半导体科技取得突破，我司紧跟行业风向，将业务延伸至半导体方向。
  In 2018, domestic semiconductor technology made a breakthrough. Our company closely followed the industry trend and extended its business to the semiconductor direction.
- 2019年签约HAYNES中国区项目授权代理商，扩大国内的库存规模至3000平方米。
  In 2019, the authorized agent of Haynes China project was signed to expand the domestic inventory scale to 3000 square meters.
- 2020年加深与日本大同特殊钢的合作，签约中国区库存代理商，代理超纯净钢CLEANSTAR等钢材
  In 2020, deepen the cooperation with Datong special steel in Japan, sign an inventory agent in China, and act as an agent for ultra pure steel, cleanstar and other steels

“不断开拓市场、不断接触新的业务”是悦廷的经营理念，我们努力奋斗，开拓进取，在特种合金的发展道路上从未停下前进的步伐，在特殊钢市场诠释了属于自己的概念，未来悦廷将更加精益求精，做高新材料的排头尖兵。

"Constantly exploring the market and constantly contacting new businesses" is Yueting's business philosophy. We work hard, forge ahead, never stop moving forward on the development road of special alloys, and interpret our own concept in the special steel market. Yueting will be more refined and become the vanguard of high-tech materials in the future.

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服务用户 / Service user

材料贸易历来是资本较量的舞台，悦廷之所以能在数千家竞争对手间脱颖而出，拥有稳定向上的市场空间，与悦廷在特种合金行业充足的资历、充足的阅历有关，也与悦廷和企业间互相扶持的的合作关系必不可少，目前悦廷合作的知名企业：中广核、中航国际、中国石化、中国原子能科学研究院、中国航天科工二院、上海航天技术研究院、河南航天液压气动技术有限公司、贵州航天乌江机电设备有限责任公司、中国中煤能源集团有限公司、江南造船(集团)有限责任公司、中国船舶集团有限公司第七二五研究所等。

Material trade has always been a stage for capital competition. The reason why Yueting can stand out among thousands of competitors and has a stable and upward market space is related to Yueting's sufficient qualifications and experience in the special alloy industry, as well as the mutually supportive cooperative relationship between Yueting and enterprises. At present, Yueting cooperates with well-known enterprises: CGN, AVIC international Sinopec, China Academy of atomic energy, China Second Academy of Aerospace Science and industry, Shanghai Institute of aerospace technology, Henan Aerospace Hydraulic and Pneumatic Technology Co., Ltd., Guizhou Aerospace Wujiang Electromechanical Equipment Co., Ltd., China Coal Energy Group Co., Ltd., Jiangnan Shipbuilding (Group) Co., Ltd., the 725 Research Institute of China Shipbuilding Corporation, etc.

和悦廷合作的几大理由：

Several reasons for cooperation with Yueting:

增加合作各方的收益，也是合作的根本目的。通过合作，各方可以利用合作的整体优势，把蛋糕做大。悦廷通过与来自欧日美的百年钢厂对接，提供合适进口材料的现货与期货供应，而企业可以将材料应用到各个领域，满足实际需要。企业对悦廷服务的高满意度，为我们积累了口碑，使我们与越来越多的企业形成长期合作的战略伙伴，让合作各方都能获得满意的收益。

Increasing the benefits of all parties is also the fundamental purpose of cooperation. Through cooperation, all parties can make use of the overall advantages of cooperation to make the cake bigger. Through docking with Centennial steel mills from Europe, Japan and the United States, Yueting provides spot and futures supply of suitable imported materials, and enterprises can apply materials to various fields to meet actual needs. The enterprise's high satisfaction with Yueting's service has accumulated a reputation for us, enabling us to form long-term strategic partners with more and more enterprises, so that all partners can obtain satisfactory benefits.

可以加快产品开发和投入市场的进程。材料市场竞争激烈，环境瞬息万变。一个市场机会的出现，很快会有许多企业来争夺。与深耕于特种合金产业的悦廷合作是面对市场经济的合理选择，悦廷可提供各行业的特种合金材料，供企业不断推陈出新，应对来自竞品的挑战。

It can speed up the process of product development and putting into the market. The material market is highly competitive and the environment is changing rapidly. With the emergence of a market opportunity, many enterprises will soon compete for it. Cooperation with Yueting, which is deeply engaged in special alloy industry, is a reasonable choice in the face of market economy. Yueting can provide special alloy materials in various industries for enterprises to constantly push through the old and bring forth the new and meet the challenges from competitive products.

可以降低企业风险。现代企业的产品开发、生产等活动越来越复杂，一旦决策失误或在经营过程中某一环出现难以预测的情况，很可能遭受很大的损失。悦廷经营的每一份材料都附带原钢厂质保书，支持三方质检，配以专人专车运输，让材料质量安全无纰漏。

It can reduce enterprise risk. The product development, production and other activities of modern enterprises are becoming more and more complex. Once the decision is wrong or there is an unpredictable situation in a certain link in the business process, it is likely to suffer great losses. Every material operated by Yueting is accompanied by the original steel factory warranty, which supports the three-party quality inspection, and is transported by special personnel and special vehicles to ensure the quality and safety of materials.

可以促进资产的合理利用。在交易过程中，追求材料的性能与性价比是企业的合理需求。如何给提供给企业合理的报价与适合的材料，减少企业成本，缩短交易周期，是悦廷的销售技术工程师所擅长的课题。选择悦廷，让每一份资金都发挥最大的效用。

It can promote the rational utilization of assets. In the transaction process, the pursuit of material performance and cost performance is the reasonable demand of the enterprise. How to provide enterprises with reasonable quotation and suitable materials, reduce enterprise costs and shorten transaction cycle is the subject that Yueting's sales technical engineers are good at. Choose Yueting to maximize the effectiveness of each fund.

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钢厂合作 / Steel plant cooperation

悦廷专注于特种合金领域，持续关注海内外金属资源，现已与美国HAYNES、 美国冶联ATI、美国SMC、德国VDM、瑞典OUTOKUMPU、日本冶金、日本新日铁、日本大同特殊钢等海外百年钢厂成为了良好、密切的战略伙伴关系。

Yueting focuses on the field of special alloys and continues to pay attention to high-quality metal resources at home and abroad. It has become a good and close strategic partnership with overseas first-class steel mills such as Haynes, ATI, SMC, VDM, Outokumpu, Japan metallurgy, Nippon Steel and Datong special steel.

HAYNES International

中国区授权代理商

美国哈氏合金国际公司距今已有近百年历史，在高合金领域拥有充足实力。Haynes国际公司主要从事高质量的耐腐蚀和耐高温镍-钴合金的开发和生产。Haynes公司的服务中心及分支机构能为客户及时提供板材、卷材、棒材、管材、锻件、法兰和连接件等。

Hastelloy international has a history of nearly 100 years and has sufficient strength in the field of high alloy. Haynes international is mainly engaged in the development and production of high-quality corrosion-resistant and high-temperature resistant nickel cobalt alloys. The service center and branches of Haynes company can provide customers with plates, coils, bars, pipes, forgings, flanges and connectors in time.

大同特殊鋼

中国区库存代理商

日本大同特殊钢集团创立于1916年，生产开发各种特殊钢钢材及热处理设备，尤其是工具钢在塑料模具、冷作模具、热作模具方面都具有十分杰出的钢种，在世界上享有盛誉。大同除拥有控VARSR设备外，还拥有能重熔钛及其合金PPC炉。其产品“飞机发动机主轴”获得世界三大航空发动机制造厂产品材料认定。

Datong special steel group, founded in 1916, produces and develops all kinds of special steel and heat treatment equipment, especially tool steel. It has very outstanding steel grades in plastic molds, cold working molds and hot working molds, and enjoys a high reputation in the world. Datong has not only varsr controlled equipment, but also PPC furnace capable of remelting titanium and its alloys. Its product "aircraft engine spindle" has been recognized as the product material of the world's three major aircraft engine manufacturers.

SPECIAL METALS

SMC生产的各种特种焊材能够胜任各种恶劣的作业环境，如超高温或各种不同形式的锈蚀或各种有毒有害气体的侵蚀等。历年来取得了包括美国核电NCA3800标准在内的多种质量认证。公司生产的各种产品以其稳定的质量，以及在各工业领域中的优异表现赢得了世界各地用户的赞扬。

Various special welding materials produced by SMC can be competent for various harsh working environments, such as ultra-high temperature or various forms of corrosion or erosion of various toxic and harmful gases. Over the years, it has obtained a variety of quality certifications, including the nca3800 standard of American nuclear power. Various products produced by the company have won praise from users all over the world for their stable quality and excellent performance in various industrial fields.

VDM Metals

作为世界 金属材料制造商, 一百多年来VDM致力于高性能镍基合金的生产与研制。 应用范围涉及石油化工, 海洋工程, 航空航天, 能源, 环境保护, 汽车工业及电子工业等领域, 其合金品种多达270多种, 供应形式有板材, 带材棒材, 丝材, 管材, 锻材及焊接用材等。可按ASTM, ASME, DIN 等通用标准进行生产。

As a world manufacturer of metal materials, VDM has been committed to the production and development of high-performance nickel base alloys for more than 100 years. The scope of application covers the fields of petrochemical industry, marine engineering, aerospace, energy, environmental protection, automobile industry and electronic industry. There are more than 270 kinds of alloys, and the supply forms include plate, strip, bar, wire, pipe, forging and welding materials. It can be produced according to ASTM, ASME, DIN} and other international general standards.

YUETING SPECIAL
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钢厂合作 / Steel plant cooperation

outokumpu

奥托昆普公司是历史悠久的不锈钢生产商，其冷轧钢年产量为260万吨。创造先进的材料，高效、持久以及壳循环使用，帮助世界可持续发展。奥托昆普公司在全球30多个国家内拥有员工12000多名，总部设在芬兰埃斯波，并在赫尔辛基纳斯达克上市。

Otto kunp is a stainless steel manufacturer with a long history. Its annual output of cold rolled steel is 2.6 million tons. Create advanced materials, efficient, durable and shell recycling to help the world's sustainable development. Ottokunp has more than 12000 employees in more than 30 countries around the world. It is headquartered in ESPO, Finland and listed on Helsinki NASDAQ.

YAKIN

日本冶金工业将其开发能力和制造技术有机地结合起来，利用不锈钢的量产设备制造高性能不锈钢、合金产品，由于从熔炼到连续铸造、热轧、冷轧等一系列工序在同一厂内完成，有效地降低了物流成本，缩短了交货期。

Japan's metallurgical industry organically combines its development capacity with manufacturing technology, and uses stainless steel mass production equipment to manufacture high-performance stainless steel and alloy products. Since a series of processes from smelting to continuous casting, hot rolling and cold rolling are completed in the same plant, the logistics cost is effectively reduced and the delivery time is shortened.

NIPPON STEEL 日鉄日新製鋼

新日本制铁公司是具有市场竞争力的钢铁企业之一，无论从企业的研发能力、管理水平，还是从产品的质量和技术含量方面来讲，都堪称钢铁界的一面旗帜，成功走出了一条清洁生产的企业发展之路。

Nippon Steel is one of the iron and steel enterprises with market competitiveness. It can be called a banner in the iron and steel industry in terms of enterprise R & D ability, management level, product quality and technical content, and has successfully walked out of a clean production enterprise development road.

ATI

美国冶联科技集团是一家以生产、销售特种金属材料为核心业务的跨国公司，是世界上富有前景的特种金属材料公司之一。生产多种不锈钢和其他特殊合金，其产品运用包括航天，石油和燃气、汽车、食品业，化学加工、运输、生活必需品、发电、以及医学等行业。

MCC Technology Group is a multinational company with the core business of producing and selling special metal materials. It is one of the promising special metal materials companies in the world. It produces a variety of stainless steel and other special alloys. Its product applications include aerospace, oil and gas, automobile, food industry, chemical processing, transportation, daily necessities, power generation, medicine and other industries.










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钢厂合作 / Steel plant cooperation

KAISER ALUMINUM

美国凯撒铝业（Kaiser Aluminum）是一家半成品铝制品的领先生产商。凯撒在北美拥有12个生产厂，能生产钢坯、铸造、棒材和板坯产品，这些产品被合金化并铸造成特定形状，以满足悦廷客户汽车、建筑、电气和运输市场的需求，为最苛刻的航空航天、汽车和工业应用提供高度工程化的解决方案.

Kaiser aluminum is a leading producer of semi-finished aluminum products. Caesar has 12 production plants in North America, which can produce billet, casting, bar and slab products. These products are alloyed and cast into specific shapes to meet the needs of Yueting customers in the automotive, construction, electrical and transportation markets, and provide highly engineered solutions for the most demanding aerospace, automotive and industrial applications

ALCOA

美国美铝（Alcoa）是一家全球铝供应商，其产品组合包括铝土矿、氧化铝和铝的冶炼和铸造，自铝工业诞生之日起，美铝就一直是卓越生产和领先地位的代名词。美国铝业在全球拥有七座活跃的铝土矿矿山，并经营其中四个，因此Alcoa是世界上最大的铝土矿生产商之一，美铝从其矿山提供铝土矿，以满足悦廷客户的特定需求，并为全球炼油厂提供一致、可靠和可持续的原材料供应。

Alcoa is a global aluminum supplier whose product portfolio includes smelting and casting of bauxite, alumina and aluminum. Alcoa has been synonymous with excellent production and leading position since the birth of aluminum industry. Alcoa has seven active bauxite mines in the world and operates four of them. Therefore, Alcoa is one of the largest bauxite producers in the world. Alcoa provides bauxite from its mines to meet the specific needs of Yueting customers and provide a consistent, reliable and sustainable supply of raw materials for global refineries.

AMAG AUSTRIA METALL

AMAG奥地利金属公司（AUSTRIA METALL）的两个生产基地分别在奥地利的兰舍芬和加拿大的七岛港，主要生产高质量的原铝、铸铝和轧制铝，核心竞争力是回收再利用、铸造、轧制、热处理和表面处理。AMAG以回收的材料为原料，结合尖端的设备以及优越的生产技能，按照严格的标准生产优质产品，各种各样的铝废料每天都被转化为高质量的铸轧产品，进一步运用于悦廷客户的航空、运输和机械工程等高端领域。

Amag Austria metal's two production bases are in lanshefen, Austria and Qidao port, Canada. They mainly produce high-quality raw aluminum, cast aluminum and rolled aluminum. Their core competitiveness is recycling, casting, rolling, heat treatment and surface treatment. With recycled materials as raw materials, advanced equipment and superior production skills, amag produces high-quality products according to strict standards. All kinds of aluminum waste are transformed into high-quality casting and rolling products every day, which are further used in high-end fields such as aviation, transportation and mechanical engineering of Yueting customers.

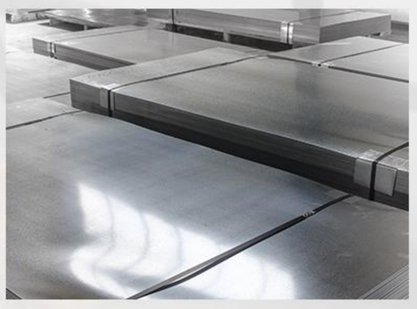
KOBELCO

日本神户制钢所属于日本第三大钢铁联合企业，以及世界500强企业之一。企业创建于1905年，是一家实力强劲的的综合性跨国公司。长期以来一直以以钢铁业、锻造业为业务核心，主要业务领域包括：钢铁材料、焊接材料、铝及铜、钛制品、基本建设工程作业、机械工业、建筑器械、电子信息业等 。

Kobe Steel is the third largest steel complex in Japan and one of the world's top 500 enterprises. Founded in 1905, the company is a powerful comprehensive multinational company. For a long time, it has been focusing on the iron and steel industry and forging industry. Its main business areas include: Iron and steel materials, welding materials, aluminum and copper, titanium products, capital construction engineering operations, machinery industry, construction equipment, electronic information industry, etc.







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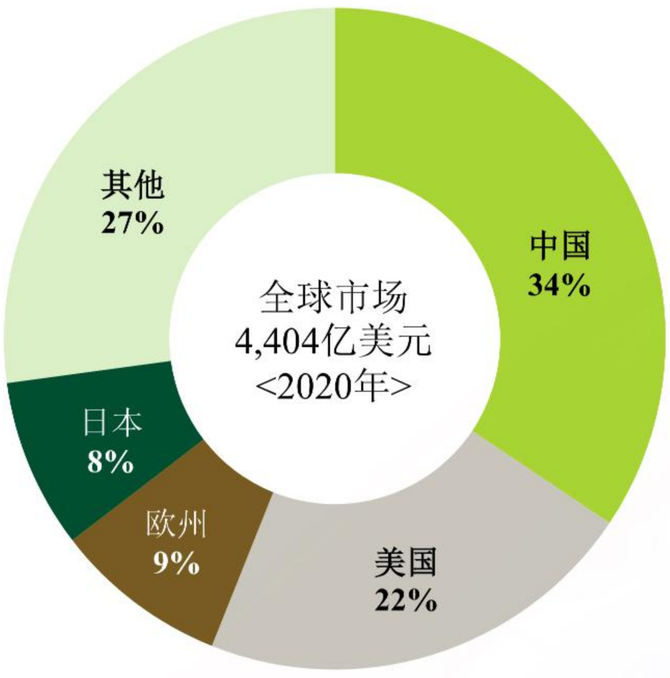
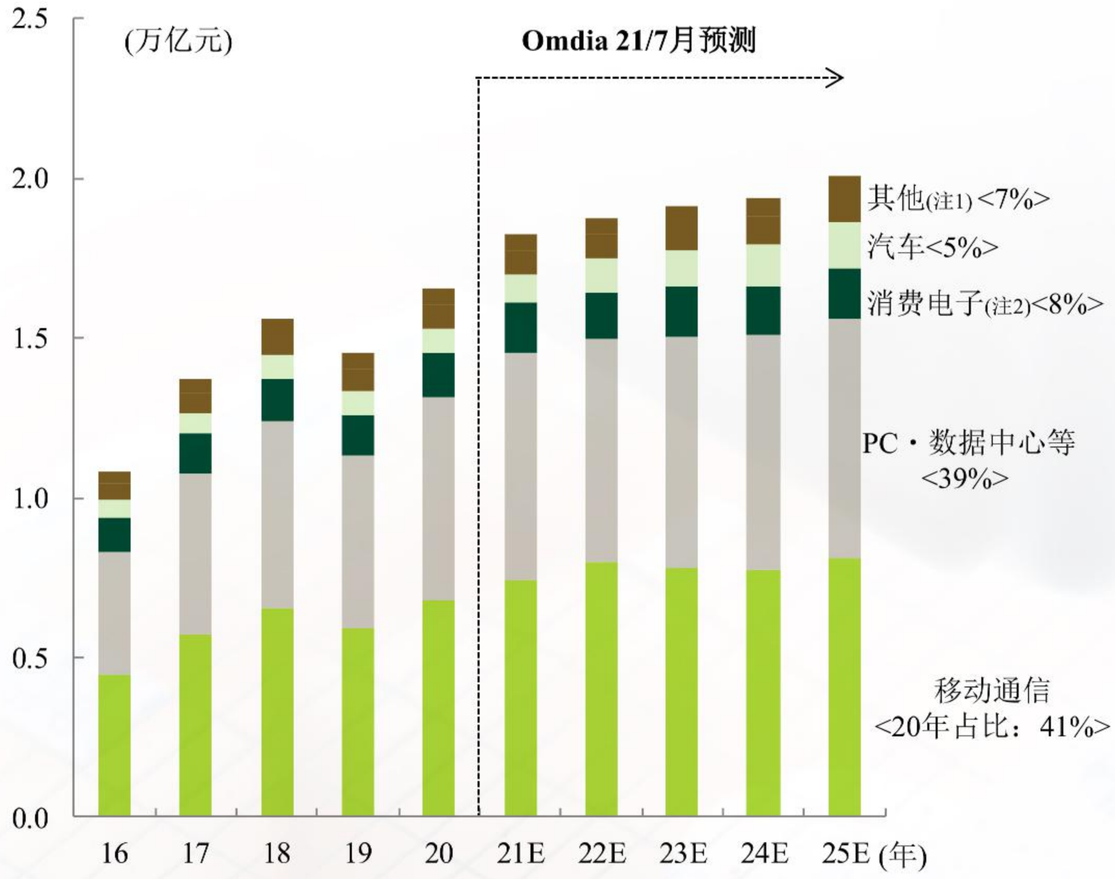
半导体行业 / semiconductor

全球半导体市场区域结构(20年)



(出处) Wind

中国半导体市场的下游需求动向



(注1)用于工业、固定通信等、(注2)用于家电等

(出处)Omdia「AMFT Shipment_China_Q2 2021」

目前中国半导体产业仍处于初级阶段，仅占全球市场份额的百分之五，发展程度低于国际先进水平。与之对应的是中国对半导体的需求则日益增大，在2020年全球半导体销售额统计数据中：中国占比34.4%，比第二名美国高12%，俨然已经成为全球半导体企业最大的市场。

At present, China's semiconductor industry is still in its infancy, accounting for only 5% of the global market share, and its development level is lower than the international advanced level. Correspondingly, China's demand for semiconductors is increasing. In the statistics of global semiconductor sales in 2020, China accounted for 34.4%, 12% higher than the second United States, which seems to have become the largest market for global semiconductor enterprises.

YueTing alloy

悦廷特种合金商业嗅觉敏锐、积极占据半导体材料市场，目前已经与日本大同特殊钢达成战略合作关系，作为大同在中国区的一级现货库存代理商，代理产品【超纯净钢CLEANSTAR】，主要应用于半导体行业，材料分A、B、C三种级别。提供高纯不锈钢母材，多涉及超纯净半导体领域材料，采用国际公认ISO质量管理程序，重视产品质量和细节，严格把控尺寸和公差，确保在生产过程中每一步环节的质量。多年来，悦廷合金提供了在半导体、医疗高纯流体管、集成电路、消费电子、通信系统、光伏发电、照明应用、大功率电源转换等领域的多种材料。

Yueting special alloy has a keen business sense and actively occupies the semiconductor material market. At present, it has reached a strategic cooperation relationship with Datong special steel of Japan as Datong's first-class spot inventory agent in China, Agent products [ultra pure steel cleanstar] is mainly used in the semiconductor industry. The materials are divided into three levels: A, B and C. It provides high-purity stainless steel base materials, mostly involving ultra pure semiconductor materials. It adopts internationally recognized ISO quality management procedures, pays attention to product quality and details, and strictly controls the size and tolerance to ensure the quality of each step in the production process. Yueting alloy has improved for many years It provides a variety of materials in the fields of semiconductors, medical high-purity fluid tubes, integrated circuits, consumer electronics, communication systems, photovoltaic power generation, lighting applications, high-power power power conversion and so on.

核心理念:为气体输送应用提供高质量的半导体级材料以及各类进口特种合金。

Core concept: provide high-quality semiconductor grade materials and various imported special alloys for gas transportation applications.

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半导体行业 / semiconductor

公司以高质量、高要求、高服务和创新解决方案，为半导体、TFT/LCD和太阳能市场等要求严苛的行业提供高等级不锈钢管道组件及创新的管道产品，以满足客户超高纯度气体的需求。材料入库后，质检人员通过对壁厚、真圆度、粗糙度、表面形态和化学成分的检验，从光亮退火到电解抛光层层测试后达到纯净至完美的洁净度和极限尺寸精度规范的公差要求。为达到高的洁净度，采用UHP电解抛光，且母材符合SEMI F20标准的UHP等级。

With high quality, high requirements, high service and innovative solutions, the company provides the highest grade stainless steel pipeline components and innovative pipeline products for industries with the most stringent requirements such as semiconductor, TFT / LCD and solar energy market, so as to meet the needs of customers for ultra-high purity gas. After the materials are warehoused, the quality inspection personnel pass the inspection of wall thickness, true roundness, roughness, surface morphology and chemical composition, and reach the tolerance requirements of pure to perfect cleanliness and limit dimensional accuracy specification after layer by layer testing from bright annealing to electrolytic polishing. In order to achieve the highest cleanliness, UHP electrolytic polishing is adopted, and the base metal meets the UHP grade of semi F20 standard.

日本大同专利产品半导体制造装置用奥氏体系不锈钢, CLEANSTAR®

优异的纯净度

利用优异的熔炼技术来降低钢中所含的非金属夹杂物和气体成分。

Excellent purity

Excellent melting technology is used to reduce the non-metallic inclusions and gas composition in steel.

优异的耐蚀性

通过降低碳含量、非金属夹杂物, 使得耐蚀性优于一般的 SUS316L。

Excellent corrosion resistance

By reducing carbon content and non-metallic inclusions, the corrosion resistance is better than the general SUS316L.

优异的电解抛光性、钝化处理性

表面粗糙度、缺陷个数、表面组成（CR/FE 比率）可满足UHP等级要求。

Excellent electrolytic polishing and passivation treatment

The surface roughness, number of defects and surface composition (CR / Fe ratio) can meet the requirements of UHP grade.

优异的焊接性

通过降低锰含量, 可以减少锰的焊接烟尘以及抑制焊接热影响区耐蚀性的降低。

Excellent weldability

By reducing the content of manganese, the welding smoke of manganese can be reduced and the corrosion resistance of welding heat affected zone can be restrained.

优异的特长来自日本大同所具有的制造方法

CLEANSTAR® A：真空感应熔炼法（ＶＩＭ）、真空电弧重熔法（ＶＡＲ）　　CLEANSTAR® B：真空电弧重熔法（ＶＡＲ）

VIM：VACUUM INDUCTION MELTING　VAR：VACUUM ARC REMELTING　　CLEANSTAR® 对应特性要求，分别有 A、B、C 三个等级。

The excellent specialty comes from the manufacturing method of Datong, Japan

CLEANSTAR ® A: Vacuum induction melting (VIM), vacuum arc remelting (VaR) and cleanstar ® B: Vacuum arc remelting (VaR)

VIM：vacuum Induction Melting VAR：vacuum arc remelting CLEANSTAR ® Corresponding to the characteristic requirements, there are three levels: A, B and C.

化学成分 / CHEMICAL COMPOSITION

钢种	化学成分 (重量%)							
	C	Si	Mn	S	Ni	Cr	Mo	Al
CLEANSTAR A (VIM - VAR)	0.006	0.13	降至极低	降至极低	14.7	16.7	2.25	降至极低
CLEANSTAR B (AOD - VAR)	0.007	0.23	0.23	降至极低	14.7	16.9	2.23	降低
CLEANSTAR C (AOD)	0.012	0.38	0.45	降低	12.2	16.9	2.03	降低
SEMI F20 HP/UHP 等级	≦0.030	≦1.00	≦1.50	≦0.010	10.0 14.0	16.0 18.0	2.00 3.00	≦0.01
SUS316L (一般材)	0.013	0.28	1.84	0.014	12.1	16.8	2.02	0.01

注：数值为代表值，并非保証值

纯净度 / PURITY

	Type	GP 等级		HP等级		UHP等级	
		Thin	Heavy	Thin	Heavy	Thin	Heavy
SEMI F20 ASTM E45, A法	A	≦2.5	≦1.0	≦2.0	≦1.0	≦1.5	≦1.0
	B	≦2.5	≦1.0	≦2.0	≦1.0	≦1.0	≦1.0
	C	≦2.5	≦1.0	≦2.0	≦1.0	≦1.0	≦1.0
	D	≦2.5	≦1.0	≦2.0	≦1.0	≦1.0	≦1.0
等级定位		SUS316L (一般材)		CLEANSTAR C		CLEANSTAR A CLEANSTAR B	

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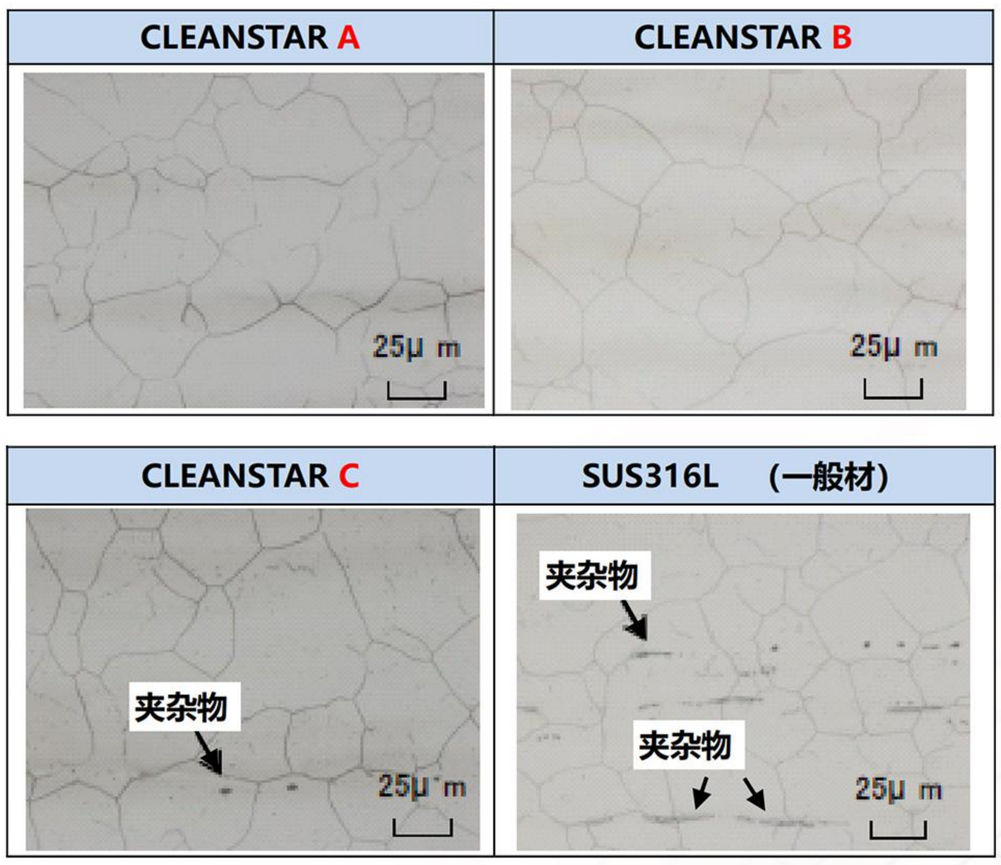
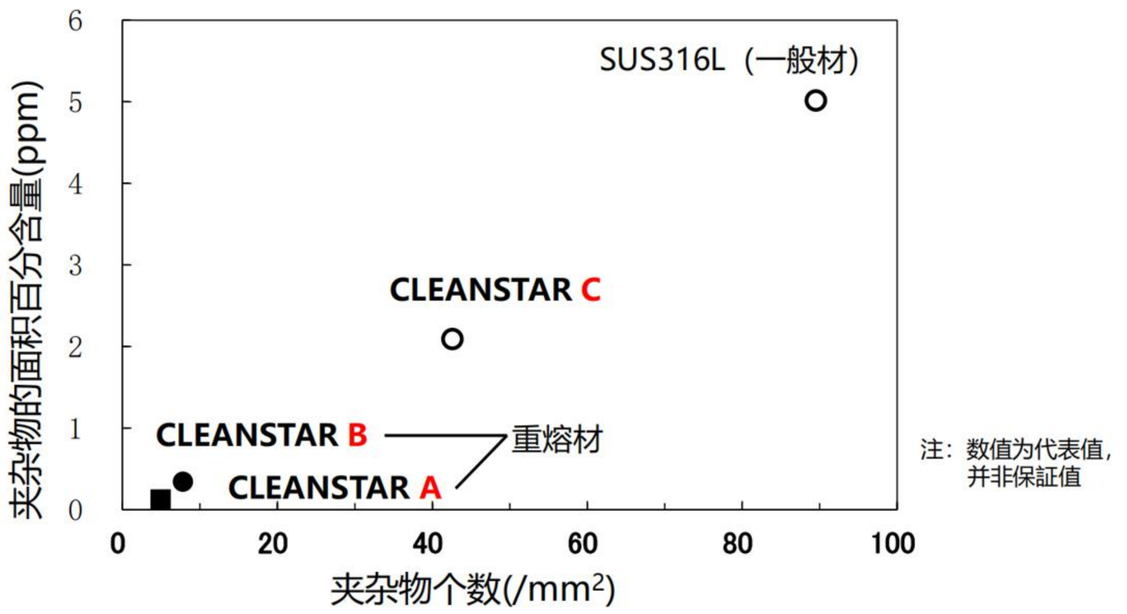
半导体行业 / semiconductor

纯净度：非金属夹杂物（微观组织实例）
Purity: non metallic inclusions (examples of microstructure)



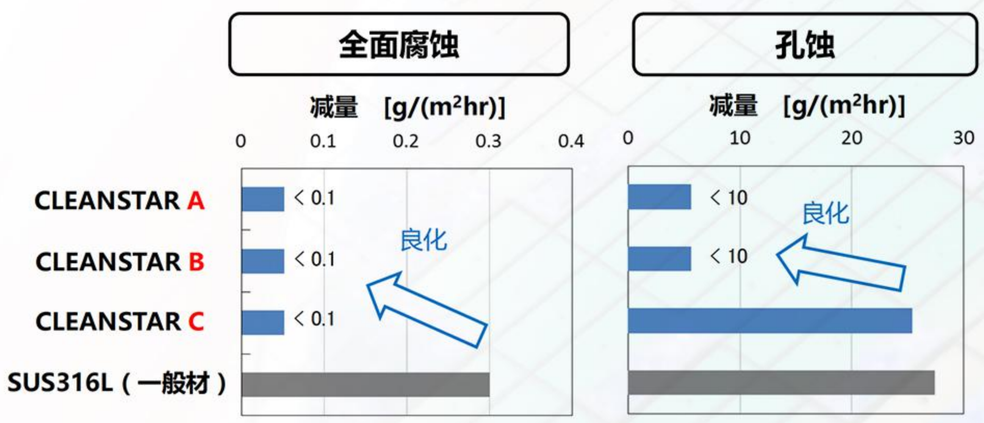
纯净度：非金属夹杂物的个数和面积百分含量
Purity: number and area percentage of non-metallic inclusions



注：数值为代表值，并非保証值

- 纯净度良好的顺序如下
  CLEANSTAR A ＞ CLEANSTAR B＞ CLEANSTAR C＞ SUS316L(一般材)
- 尤其是重熔材CLEANSTAR A 和 CLEANSTAR B 的纯净度非常高。

耐蚀性：腐蚀减量
Corrosion resistance: corrosion reduction



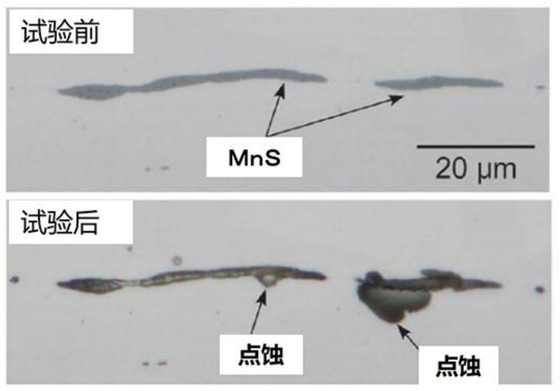
方法:	浸渍试验	浸渍试验(JIS G0578)(ASTM G48-A)
溶液:	1% 盐酸水溶液	6% 氯化铁水溶液
温度:	室温 (25°C, 298K)	35°C (308K)
时间:	6 小时	24 小时

试验用材：固溶化热处理 – 砂纸（#400）研磨

注：数值为代表值，并非保証值。

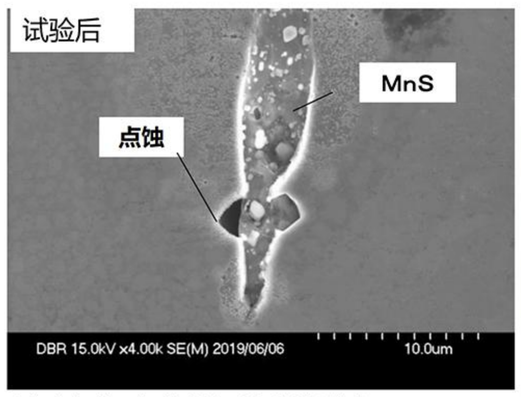
耐蚀性：孔蚀的诱发源
Corrosion resistance: the inducing source of pitting corrosion

<盐水环境下>



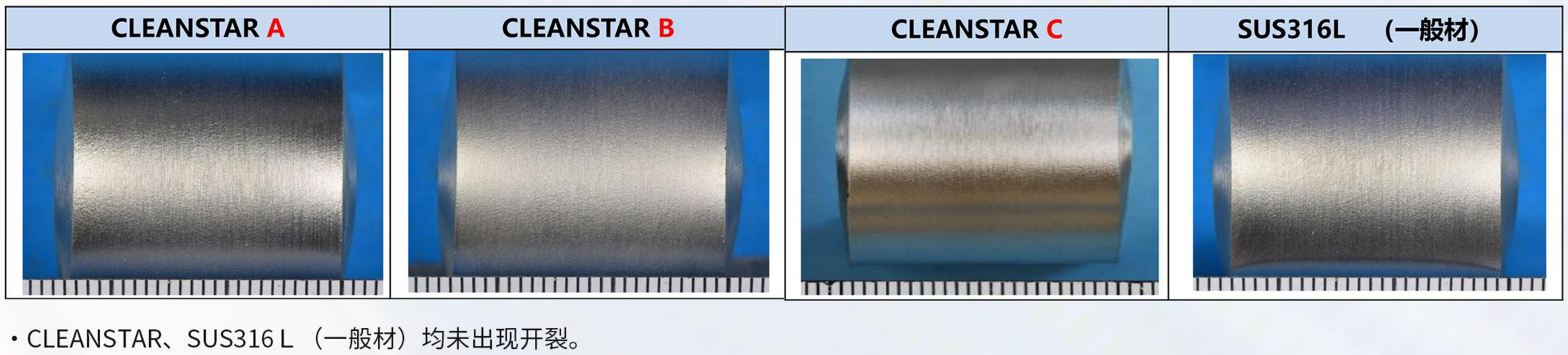
试验条件: 极化试验
(0.1M / L 氯化钠水溶液)

<酸环境下>



试验条件: 挥发性气体腐蚀试验
(35%HCl 室温, 6小时)

耐蚀性：腐蚀减量
Corrosion resistance: corrosion reduction



- CLEANSTAR、SUS316 L （一般材）均未出现开裂。

试验方法：SEMI F20 (ASTM A262 PRACTICE E)　　试片：固溶化热处理 – 敏化处理（ 677°C (1250°F) X 1小时） – 晶间腐蚀试验

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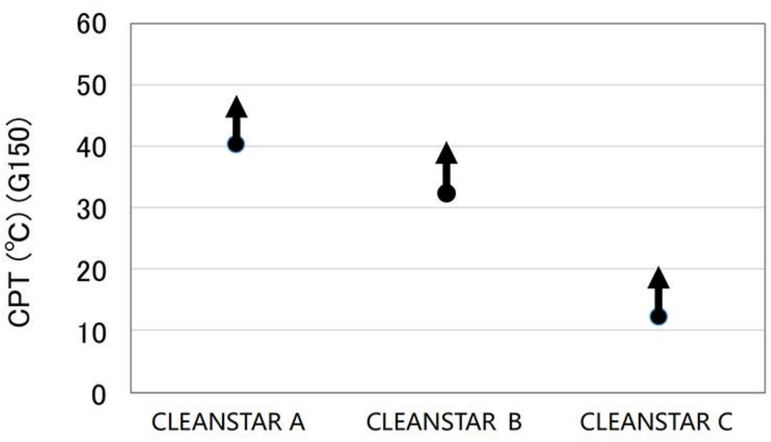
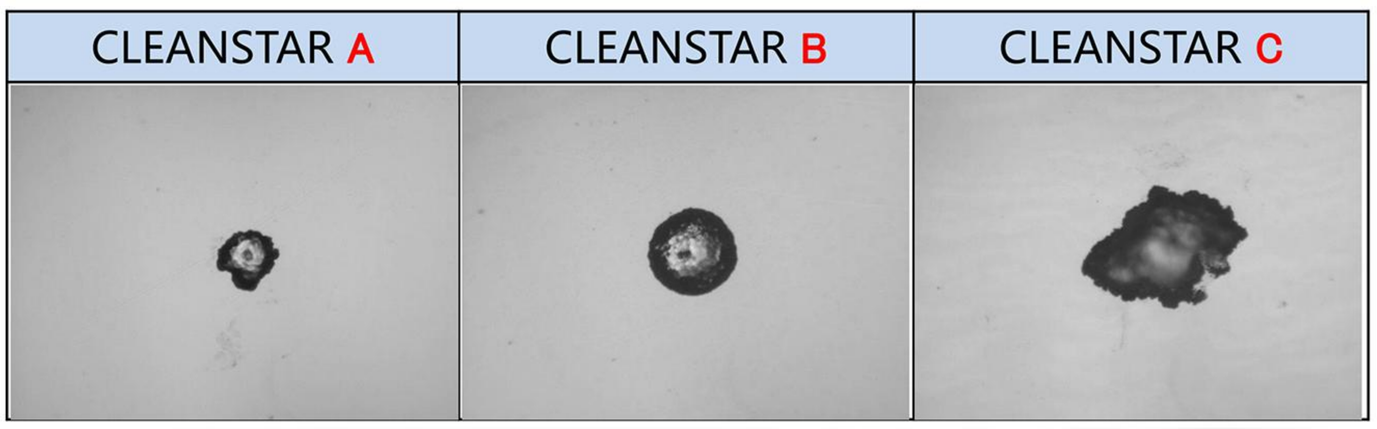
半导体行业 / semiconductor

耐蚀性：CPT试验
Corrosion resistance: CPT test





注:数值为代表值,并非保証值。 ・CPT值(临界孔蚀发生温度）的良好顺序如下:CLEANSTAR A ＞CLEANSTAR B ＞CLEANSTAR C

电解抛光性、钝化处理性
Electrolytic polishing and passivation

标准	工序	项目		SEMI F19 HP等级	SEMI F19 UHP等级	CLEANSTAR A	CLEANSTAR B	CLEANSTAR C	SUS316L一般材
SEMI F37	电解抛光后	表面粗糙度	Ra Ave.（μm）	≦0.25	≦0.13	0.03	0.03	0.03	0.03
			Ra Max.（μm）	≦0.38	≦0.25	0.03	0.03	0.03	0.03
			Ry Max.（μm）	≦3.75	≦2.50	0.17	0.19	0.20	0.24
SEMI F60	钝化处理后	表面成分	Cr/Fe	≧1.0	≧1.5	1.8	2.0	1.8	1.9
			CrOx/FeOx	≧1.0	≧2.0	3.0	3.3	2.9	2.9
SEMI F73		表面缺陷数	平均缺陷数	≦30	≦10	1	1	7	11
			最大缺陷数	≦50	≦20	8	7	13	22

注：数值为代表值，并非保証值。

・CLEANSTAR和SUS316L（一般材）符合 SEMI F19 的UHP标准
・重熔材的CLEANSTAR A 和 B 的表面缺陷个数（平均）较少

电解抛光性、钝化处理性（图）
Electrolytic polishing and passivation (Fig.)

CLEANSTAR® 符合 ASTM A276/A276M 的机械性
CLEANSTAR ® Meet the mechanical property requirements of ASTM a276 / a276m.

固溶化热处理状态

标准/钢种	0.2%屈服 (MPa)	抗拉强度 (MPa)	延伸率 (%)	颈缩率 (%)	硬度 HBW
ASTM A276/A276M 标准	≧170	≧ 485	≧40	≧ 50	-
CLEANSTAR A	200	507	66	87	137
CLEANSTAR B	204	510	65	86	140
CLEANSTAR C	225	530	63	81	143

注：数值为代表值，并非保証值。

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半导体行业 / semiconductor

HASTELLOY® C-22® alloy

C-22应用领域广泛，具备优异的抗氯化物点蚀性能

哈氏合金C-22合金（UNS N06022）是一种众所周知且久经验证的镍铬钼材料，其主要特性是耐氧化、渗锌和非氧化性化学物质,也可以防止点蚀、缝隙侵蚀和应力腐蚀开裂。其高铬含量提供了更高的抗氧化性，使得C-22比同系列的C-276合金具有更高的抗腐蚀性，如抗氯离子。氯离子的对产品的腐蚀隐蔽且难以观测，容易腐蚀不锈钢钢材，而C-22则对该环境下引起的点蚀具有优异的抵抗力。

Enhanced versatility and exceptional resistance to chloride-induced pitting

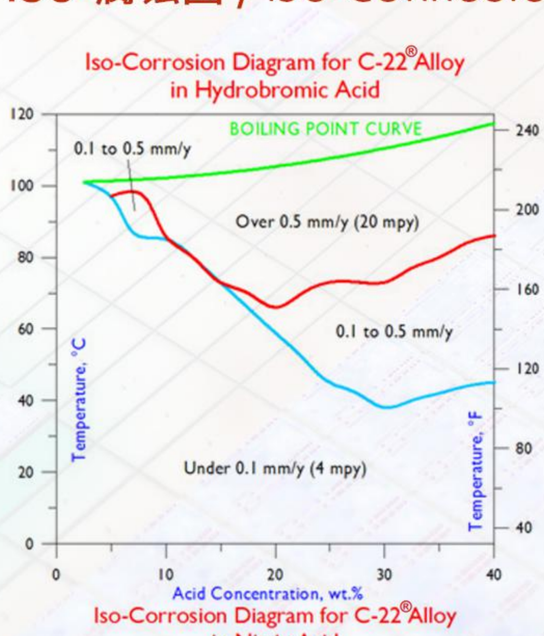
HASTELLOY® C-22® alloy (UNS N06022) is one of the well-known and well-proven nickel□chromium-molybdenum materials, the chief attributes of which are resistance to both oxi□dizing and non-oxidizing chemicals, and protection from pitting, crevice attack, and stress corrosion cracking. Its high chromium content provides much higher resistance to oxidizing media than the family standard, C-276 alloy, and imparts exceptional resistance to chlo□ride-induced pitting, an insidious and unpredictable form of attack, to which the stainless steels are prone.

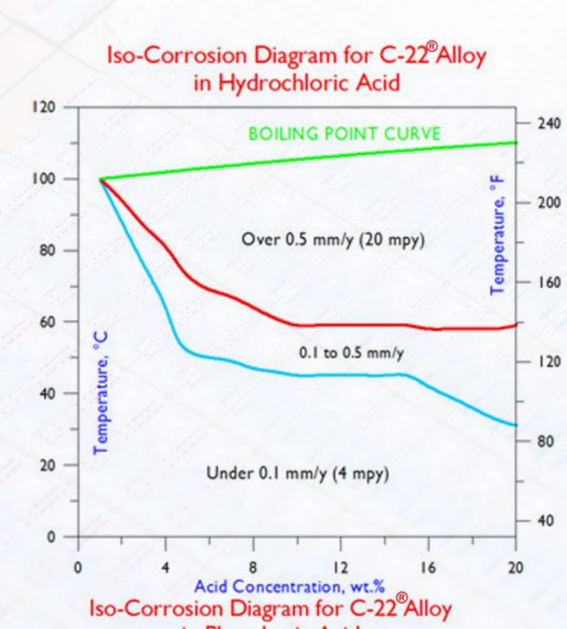
Like other nickel alloys, HASTELLOY® C-22® alloy is very ductile, exhibits excellent welda□bility, and is easily fabricated into industrial components. It is available in the form of plates, sheets, strips, billets, bars, wires, pipes, tubes, and covered electrodes. Typical chemical process industry (CPI) applications include reactors, heat exchangers, and columns.

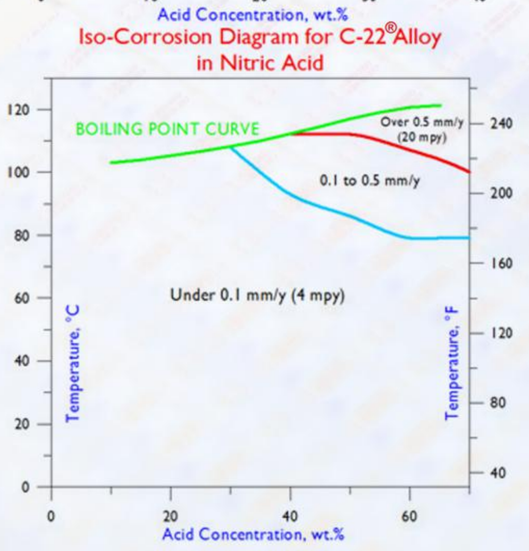
化学成分 / CHEMICAL COMPOSITION

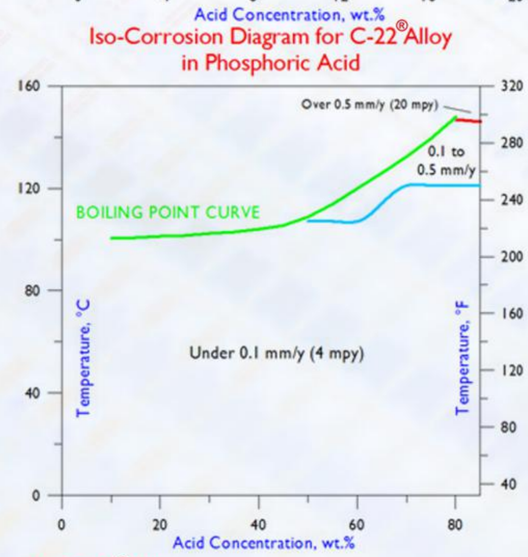
Weight %	
Nickel:	56 Balance
Chromium:	22
Molybdenum:	13
Iron:	3
Cobalt:	2.5 max.
Tungsten:	3
Manganese:	0.5 max.
Silicon:	0.08 max.
Carbon:	0.01 max.
Vanadium:	0.35 max.
Copper:	0.5 max.

ISO-腐蚀图 / ISO-CORROSION DIAGRAMS

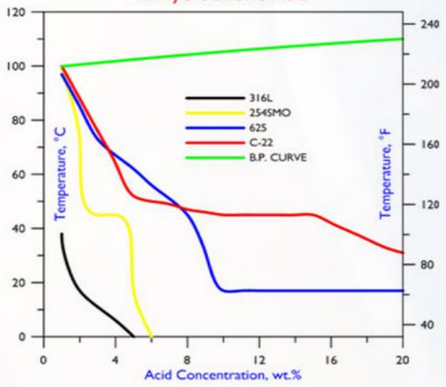


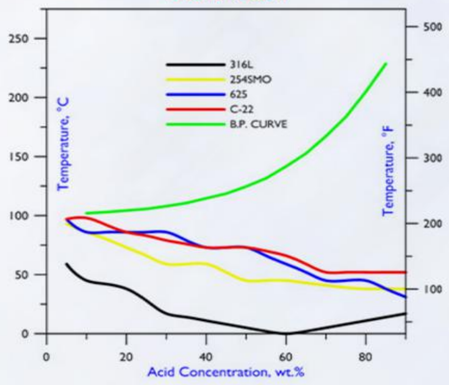


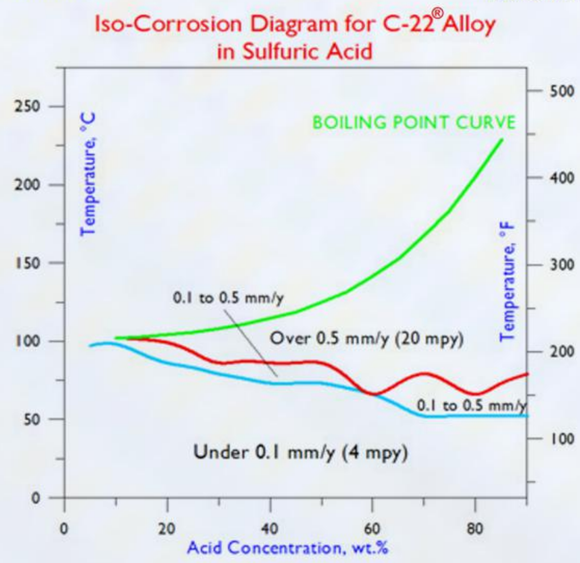




比较HASTELLOY®C-22®合金与其他材料的性能
COMPARATIVE 0.1 MM/Y LINE PLOTS







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半导体行业 / semiconductor

ATI 36™(UNS K93600 or K93603)

ATI 36是一种镍铁合金，具有高达约200°C（~400°F）的低热膨胀性能，以及低至液态氢温度-253°C（-423°F）的中等强度和良好韧性。这些性能配合良好的焊接性和理想的物理性能，使得ATI 36在许多需要精确尺寸稳定性的应用中具有吸引力。
在液化天然气罐车、液化天然气运输和储存容器等应用中，ATI 36合金也具有极大的优势，因为它可以最大限度地减少材料因热收缩而产生的任何应变。低温应用ATI 36合金的成分经过调整，以在低温下获得非常低的热膨胀系数。ATI 36还广泛用于制造电气和电子行业的双金属部件。以及高膨胀合金包层的低膨胀材料，如UNS K92510，用于制造双金属恒温器。

ATI 36 alloy is a nickel-iron alloy combining low thermal expansion properties up to about 200°C (~400°F) along with moderately high strength and good toughness down to -253°C (-423°F), the temperature of liquid hydrogen. These properties combined with good weldability and desirable physical properties make this alloy attractive for many applications requiring precise dimensional stability. In applications such as in LNG tankers and in transportation and storage vessels for liquefied gas, ATI 36 alloy is of great advantage due to the minimization of any strains in the material resulting from thermal contraction. The composition of ATI 36 alloy for cryogenic application is adjusted to achieve very low thermal expansion coefficient at low temperature. This alloy is also used extensively in the manufacture of bimetallic components for electrical and electronic industries. It is the low expansion material used in the cladding of high expansion alloys, such as UNS K92510 to make bimetallic thermostats.

化学成分
CHEMICAL COMPOSITION

Element	Weight %
C	0.05
Mn	0.60
S	0.015
Si	0.40
Ni	38.00
Co	0.50
Al	0.10
Fe	Balance
Cr	0.25
Mg	0.10
P	0.015
Ti	0.10
Zr	0.10

热膨胀系数
THERMAL EXPANSION COEFFICIENT

Thermal Expansion Coefficient (Chemistry selected for application)	
-240 to -18°C	1.8 µm/m°C
-129 to -18°C	1.6 µm/m°C
25 to 93°C	0.5 - 1.1 µm/m°C
25 to 148°C	0.8 - 1.4 µm/m°C
25 to 260°C	2.0 - 2.7 µm/m°C
25 to 371°C	3.7 - 4.4 µm/m°C

机械和物理性能
MECHANICAL AND PHYSICAL PROPERTIES

Typical Annealed Properties			
0.2% Yield Strength	33.33-50.7* ksi (230-350* MPa)	**Density**	0.291 lb/in^3 (8.05 g/cm^3)
Tensile Strength	58-72.5* ksi (400-500* MPa)	**Electrical Resistivity**	81 microhm cm
Elongation	•••	**Grain Size**	6 or finer
Hardness	60 min - 85 max HRB	**Elastic Modulus**	21.4 x 10^6 psi (148 GPa)

*min

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航发合金 / Aeroengine alloy

悦廷合金致力于通过先进材料的开发及应用推动航空航天事业的进步与发展，争做中国航天航空材料领导者。以一流的“航空标准”管理体系支撑钢材产业的高质量发展，携手美国凯撒铝业、美国美铝、AMAG奥地利金属公司等百年专业制铝厂，为航空终端提供发动机盘、轴件及飞机结构件用原材料，赋能中国航空业态升级。

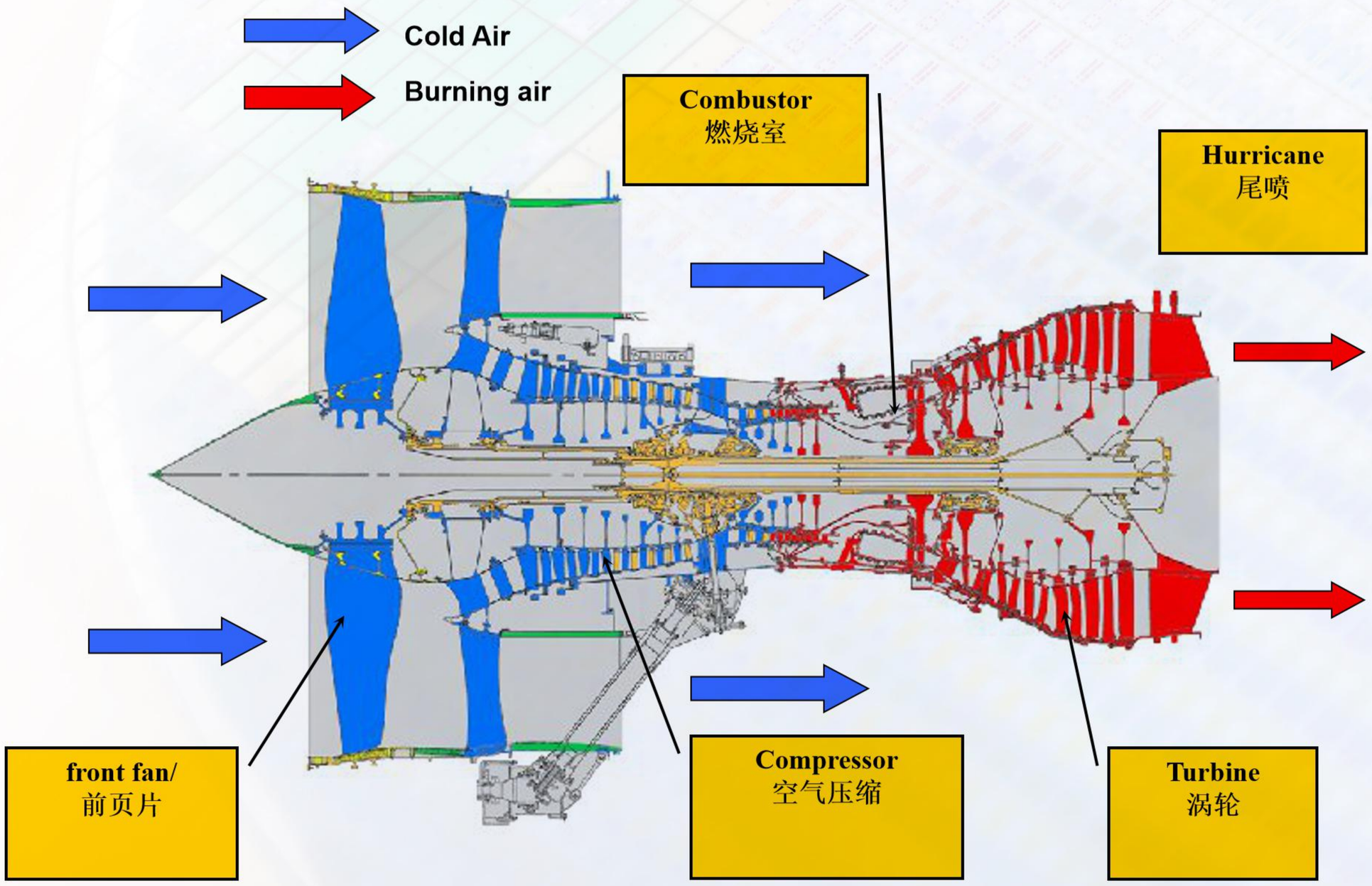
Yueting alloy is committed to promoting the progress and development of aerospace industry through the development and application of advanced materials, and striving to be the leader of aerospace materials in China. With the first-class "aviation standard" management system, it supports the high-quality development of the steel industry, and works with century old professional aluminum factories such as Caesar aluminum, Alcoa and amag Austrian metal company to provide raw materials for engine discs, shafts and aircraft structural parts for aviation terminals, enabling the upgrading of China's aviation industry.

航空发动机材料
Aeroengine materials

航空发动机材料是制造航空发动机气缸、活塞、压气机、燃烧室、涡轮、轴和尾喷管等主要部件所用的结构材料。航空发动机早期采用铝合金、镁合金、高强度钢和不锈钢等制造；后期为适应增加发动机推力、提高飞机飞行速度的需要，钛合金、高温合金和复合材料相继得到应用。在航空发动机中，涡轮叶片由于处于温度最高、应力最复杂、环境最恶劣的部位而被列为第一关键件，并被誉为“王冠上的明珠”。涡轮叶片的性能水平，特别是承温能力成为一种型号发动机先进程度的重要标志，在一定意义上，也是一个国家航空工业水平的显著标志。

Aeroengine materials are the structural materials used to manufacture the main components of aeroengine, such as cylinder, piston, compressor, combustion chamber, turbine, shaft and tail nozzle. Early aeroengines were made of aluminum alloy, magnesium alloy, high-strength steel and stainless steel; In the later stage, titanium alloy, superalloy and composite materials were applied one after another to meet the needs of increasing engine thrust and improving aircraft flight speed. In aeroengine, turbine blade is listed as the first key part because it is at the position with the highest temperature, the most complex stress and the worst environment, and is known as the "pearl on the crown". The performance level of turbine blades, especially the temperature bearing capacity, has become an important symbol of the advanced degree of a type of engine. In a certain sense, it is also a significant symbol of the level of a national aviation industry.

航空发动机气流
Aeroengine airflow



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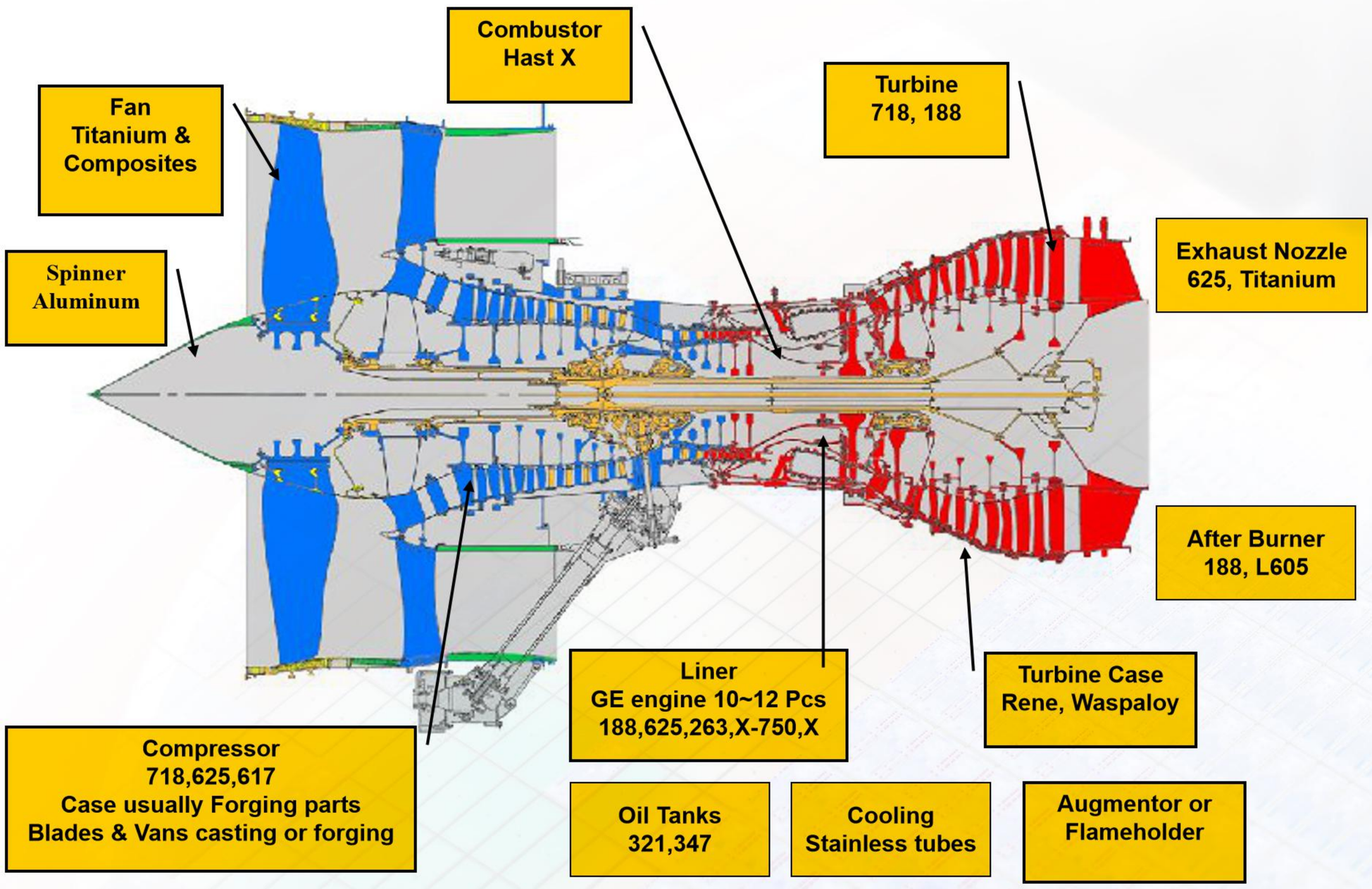
航发合金 / Aeroengine alloy

材料用途
Material use

Gas Turbine:CFM56,CF6,GE90,PW2000,PW4000,Trent,RB211 etc.



我们的大多数金属板都成为组件的装配零件，例如：
Most of our sheet metal become fabricated parts of an assembly, For instance:

-燃烧室的金属板与铸造、锻造和机加工的棒材零件相结合。
-Combustors have sheet metal combined with cast, forged, and machined bar parts.

-压缩机和涡轮机壳通常为锻件。
-Compressor and turbine cases are usually forgings.

-压缩机叶片和涡轮叶片通常为铸件或锻件（有时使用棒材作为原料）。
-Compressor blades and turbine blades and vanes are generally castings or forgings (sometimes utilizing bar as feedstock).

-在涡轮机部分，有“护罩”，通常有带蜂窝密封件（通常为X）的金属板衬垫。
-In the turbine sections, there are “shrouds” which normally have a sheet metal backing with honeycomb seals (generally HAST X).

-排气喷嘴（塞子和喷嘴组件）通常为625 A或BETA钛合金。
-The exhaust nozzles (plug and nozzle assembly) are generally 625 a or Beta Titanium.

-一些发动机、增强器（或火焰稳定器或后燃烧器）使用多种合金，如RENE 41、WASPALOY、188和617
-Some engines, the augmentor (or flameholder or after burner) utilize a variety of alloys such as Rene 41, WASPALOY, 188, and 617

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航发合金 / Aeroengine alloy

材料用途
Material use

-取决于发动机制造商。有：
>大量管道用于燃油、排气（冷却）和排气管道。
>油箱和冷却器（通常由321或347板等不锈钢制成）。
>燃料喷嘴组件（通常为铸件或带有机加工棒组件的组件）。
-Depending on the engine manufacturer. There are :
>large amounts of tubing used for fuel, bleed air (cooling), and exhaust ducting.
>oil tanks and coolers (generally fabricated from stainless like 321 or 347 sheet).
>fuel nozzle assemblies (often castings or assemblies with machined bar components).

-发动机外部还有其他部件（有时包括镍合金）、挂架和挂架整流罩。有许多小型钣金和机加工棒材零件
- Outside of the engine, there are other components (sometimes including nickel alloys), pylons, and pylon fairings. There are many, small sheet metal and machined bar parts

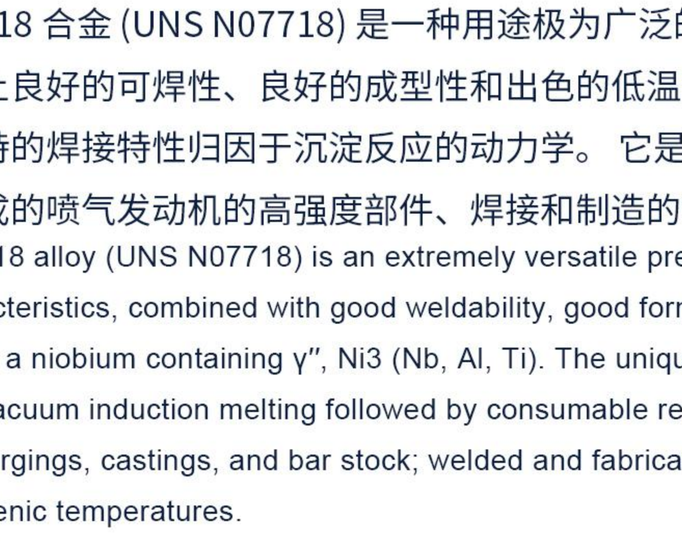
718 alloy (UNS N07718)

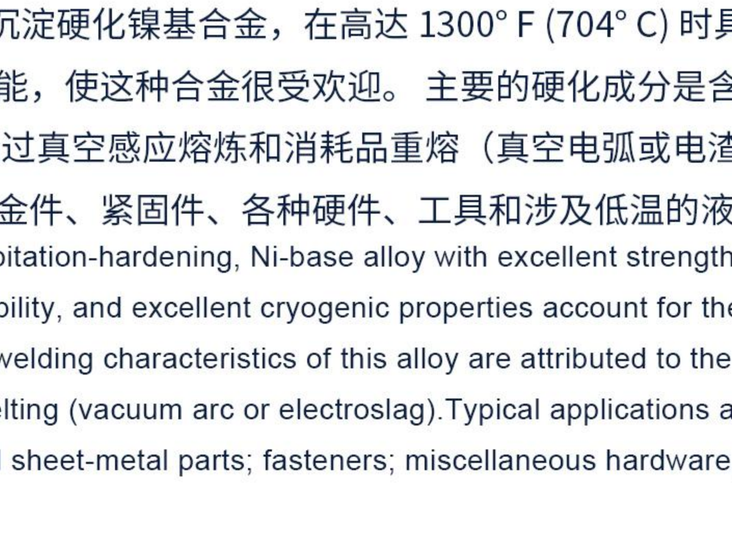
718 合金 (UNS N07718) 是一种用途极为广泛的沉淀硬化镍基合金，在高达 1300° F (704° C) 时具有出色的强度和良好的延展性。 这些特性，加上良好的可焊性、良好的成型性和出色的低温性能，使这种合金很受欢迎。 主要的硬化成分是含有γ″、Ni3（Nb、Al、Ti）的铌。 这种合金独特的焊接特性归因于沉淀反应的动力学。 它是通过真空感应熔炼和消耗品重熔（真空电弧或电渣）生产的。典型应用是由锻件、铸件和棒料制成的喷气发动机的高强度部件、焊接和制造的钣金件、紧固件、各种硬件、工具和涉及低温的液体火箭部件。

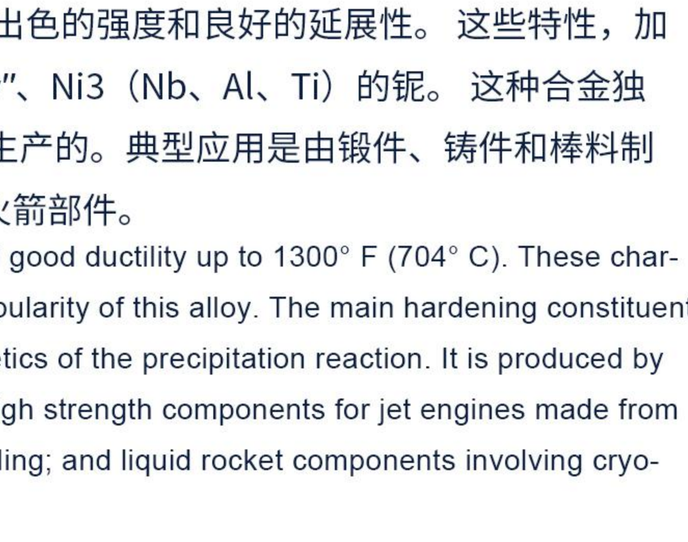
718 alloy (UNS N07718) is an extremely versatile precipitation-hardening, Ni-base alloy with excellent strength and good ductility up to 1300° F (704° C). These characteristics, combined with good weldability, good formability, and excellent cryogenic properties account for the popularity of this alloy. The main hardening constituent is a niobium containing γ″, Ni3 (Nb, Al, Ti). The unique welding characteristics of this alloy are attributed to the kinetics of the precipitation reaction. It is produced by vacuum induction melting followed by consumable remelting (vacuum arc or electroslag).Typical applications are high strength components for jet engines made from forgings, castings, and bar stock; welded and fabricated sheet-metal parts; fasteners; miscellaneous hardware, tooling; and liquid rocket components involving cryogenic temperatures.

Chemical Composition

	C	Mn	Si	S	P	Cr	Ni	Co	Fe	Mo	Ti	Al	B	Cb + Ta
% w/w, min.	-	-	-	-	-	17.00	50.0	-	Bal	2.8	0.65	0.20	-	5.0
% w/w, max.	0.08	0.35	0.35	0.015	0.015	21.00	55.0	1.0	-	3.3	1.15	0.80	0.006	5.5







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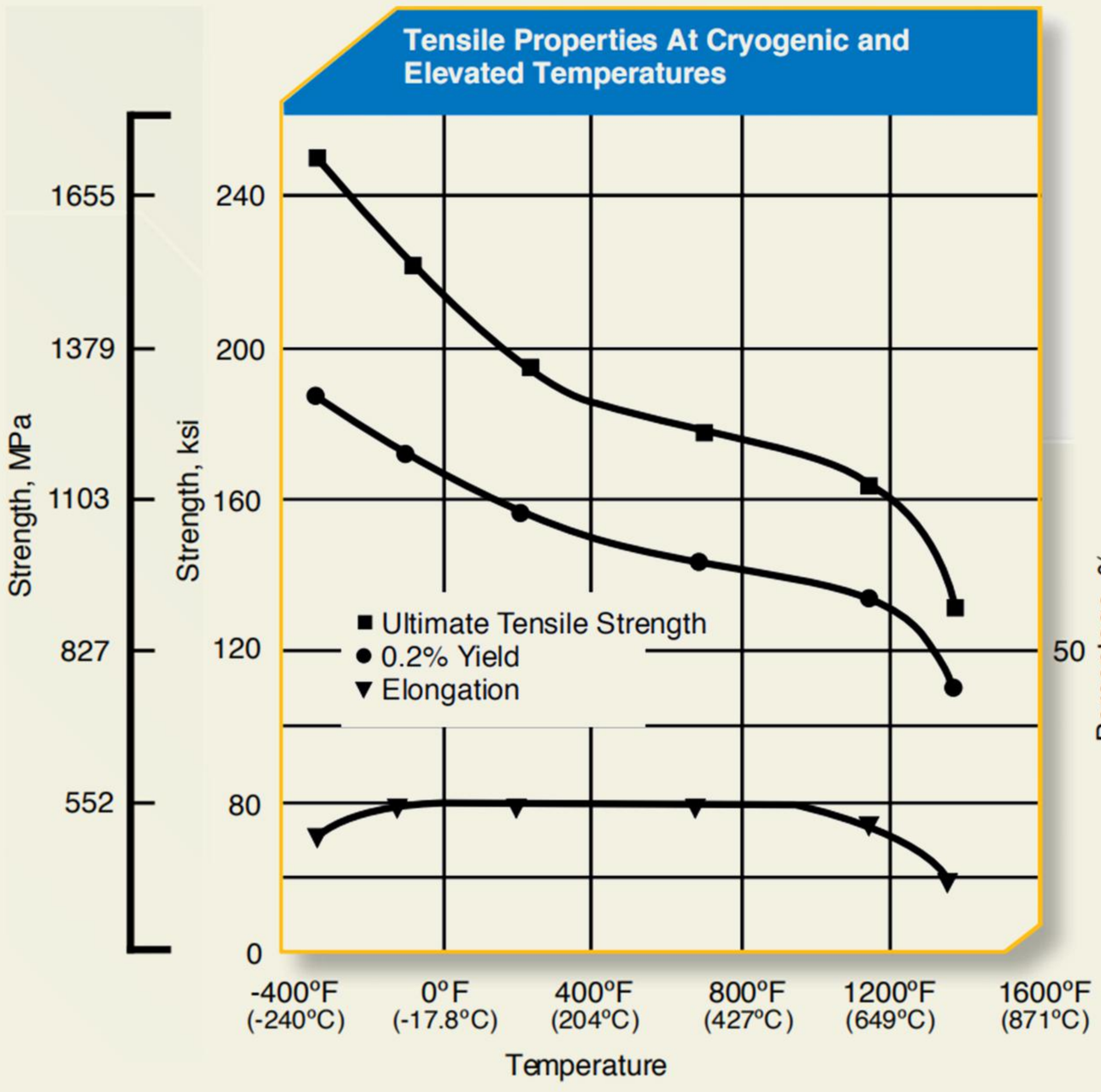
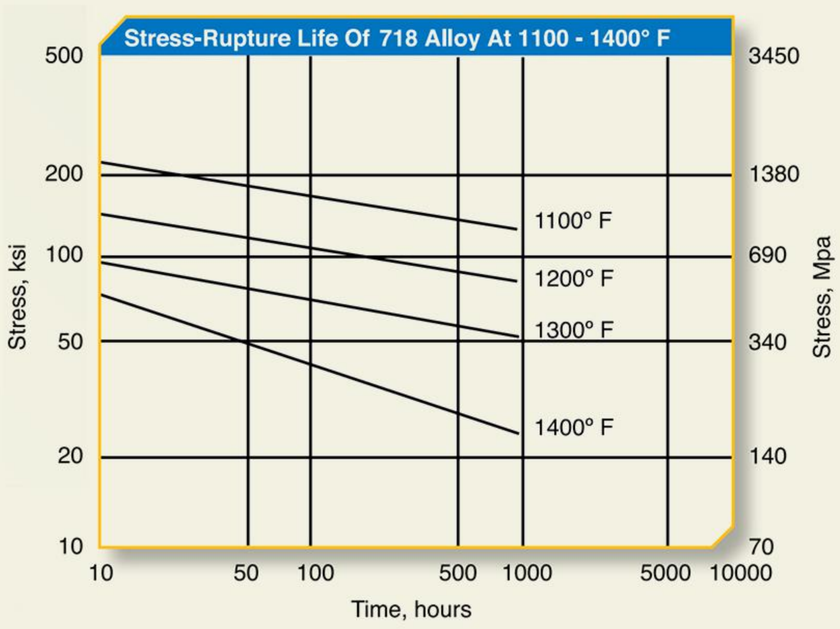
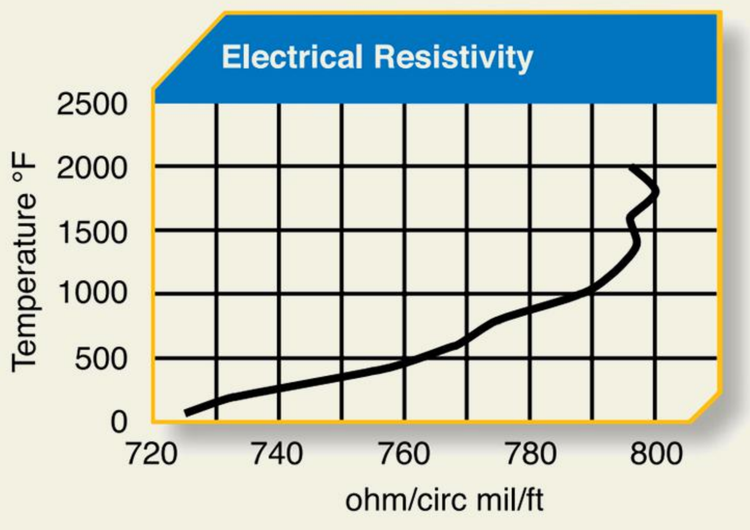
航发合金 / Aeroengine alloy







Annealed 1800° 1hr. Air Cooled at 1325° F.
Hold 8 hr. Air Cool

625 alloy (UNS N06625)

625 合金（UNS N06625）是一种高强度镍基合金，兼具良好的强度和韧性以及优异的抗氧化和耐腐蚀性能。添加钼和铌导致合金的固溶强化并提供出色的耐腐蚀性。最初被认为是一种purley 固溶强化合金，该合金的低碳版本可以通过析出进行时效硬化，从而实现显着强化。这是一个有价值的工具，可以用于无法进行冷加工的重型部分。 625 合金易于焊接，可用于各种制造的产品。该合金是通过真空感应熔炼和电渣重熔来生产的。

625 alloy (UNS N06625) is a high strength nickel-base alloy that combines good strength and toughness with excellent oxidation and corrosion resistance. The addition of molybenum and niobium results in the solid solution strengthening of the alloy and providing the outstanding corrosion resistance. Initially regarded as a purley solid solution strengthened alloy, a low carbon version of the alloy can beage hardened by the precipitation that allows significant strengthening. This is a valuable tool that can be used in heavy sections where cold working is not possible. 625 alloy is easily welded which permits its use in a wide variety of fabricated products. The alloy is produced by vacuum induction melting followed by electroslag remelting. 625 alloy is widely used in aerospace for airframe and jet engine applications as well as in the chemical, nuclear, and marine industries

Chemical Composition

	C	Mn	Si	S	P	Cr	Ni	Co	Fe	Mo	Ti	Al	Cb+Ta
% w/w, min.	-	-	-	-	-	20.0	Bal.	-	-	8.0	-	-	3.15
% w/w, max.	0.10	0.50	0.50	0.015	0.015	23.0	-	1.0	5.0	10.0	0.40	0.40	4.15

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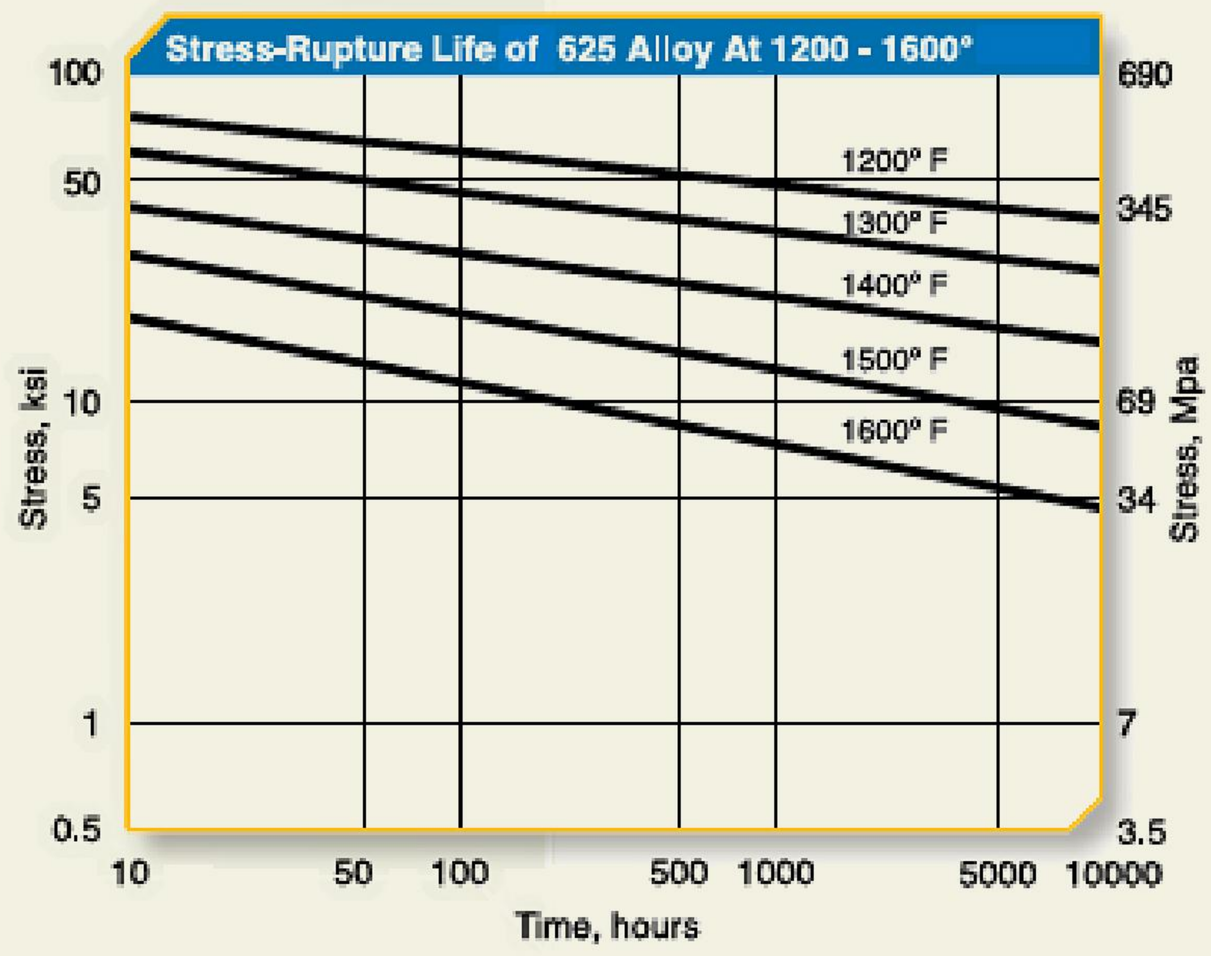
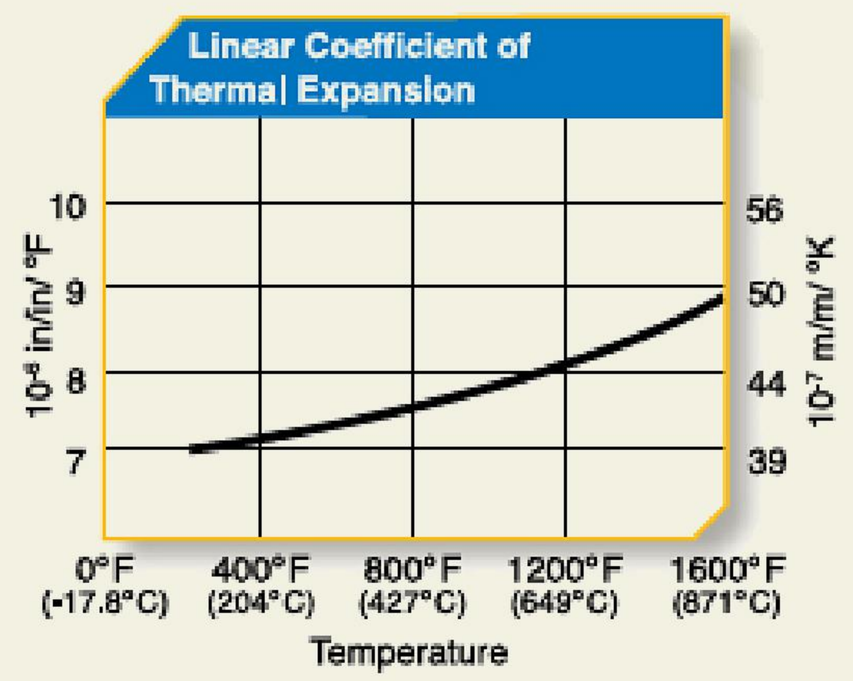
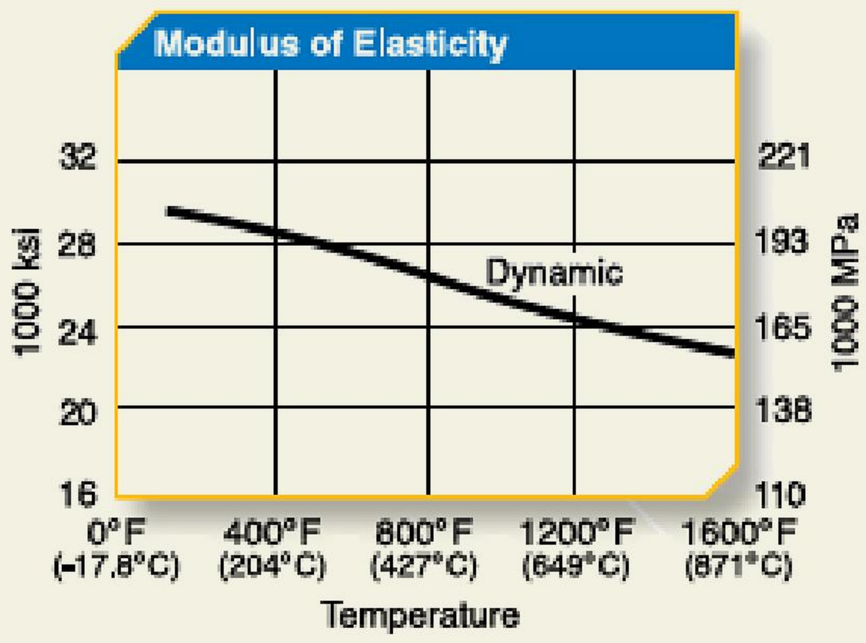
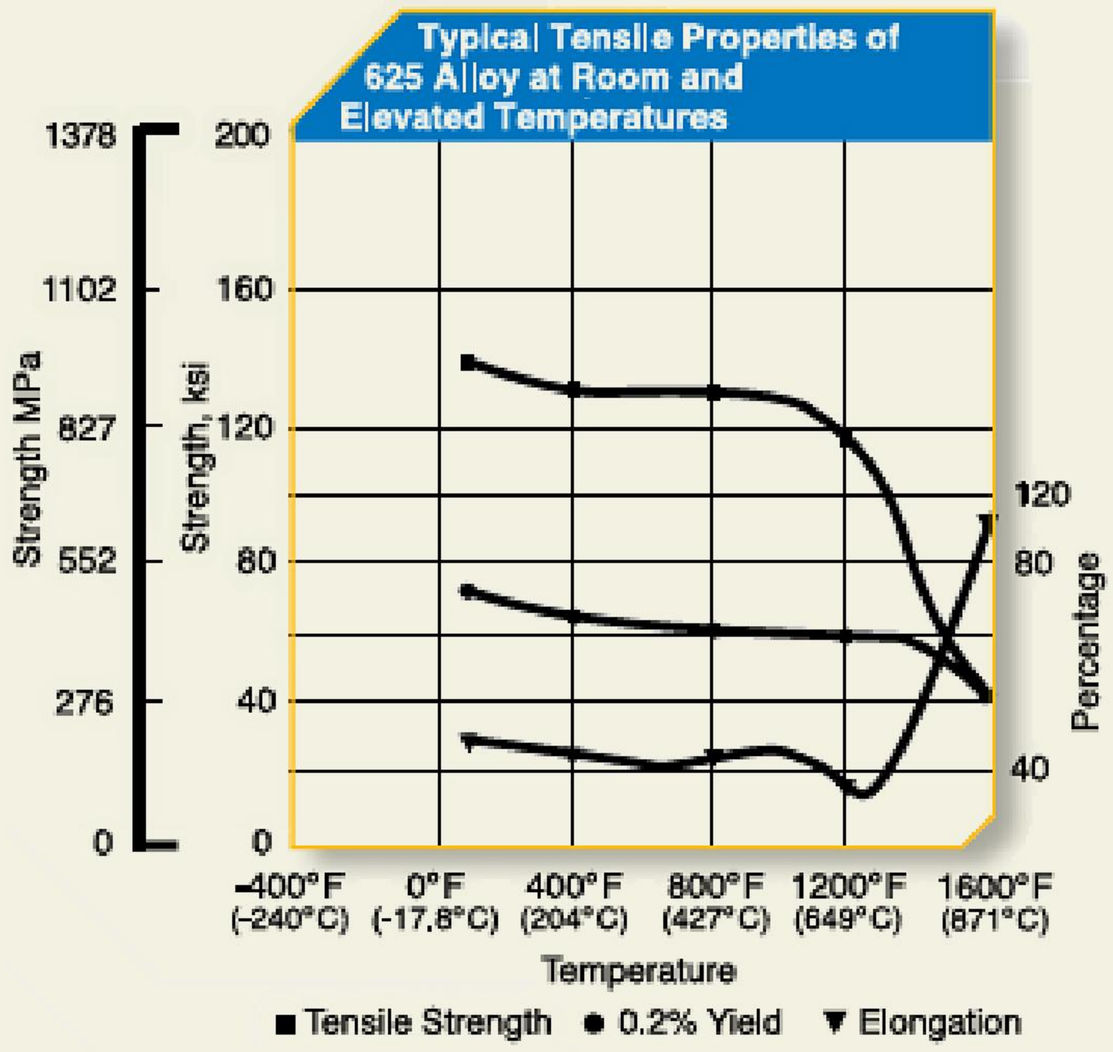
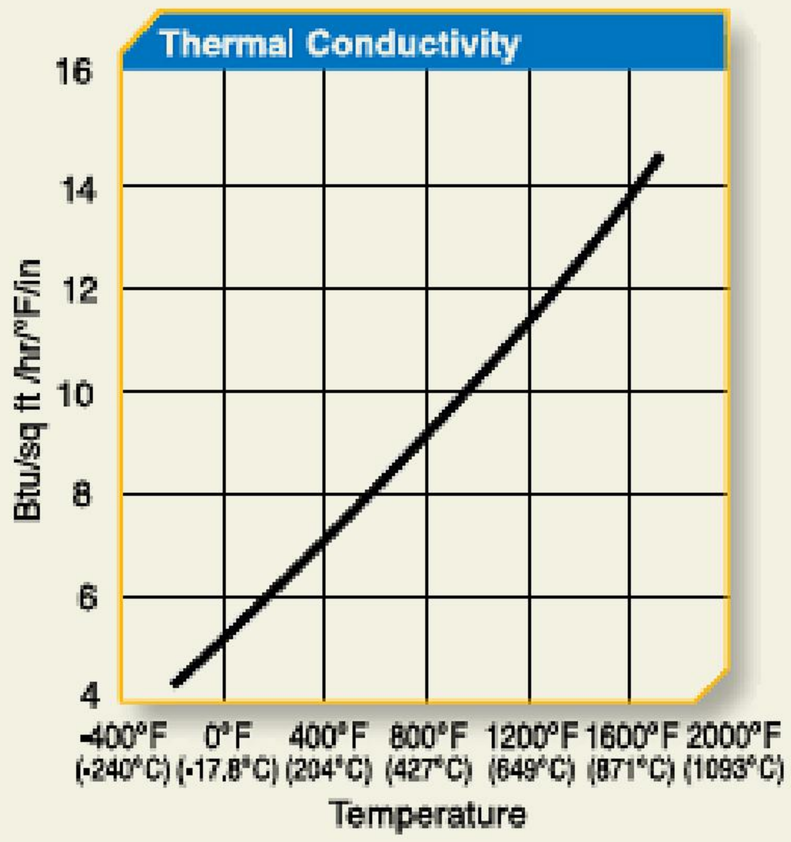
航发合金 / Aeroengine alloy











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航发合金 / Aeroengine alloy

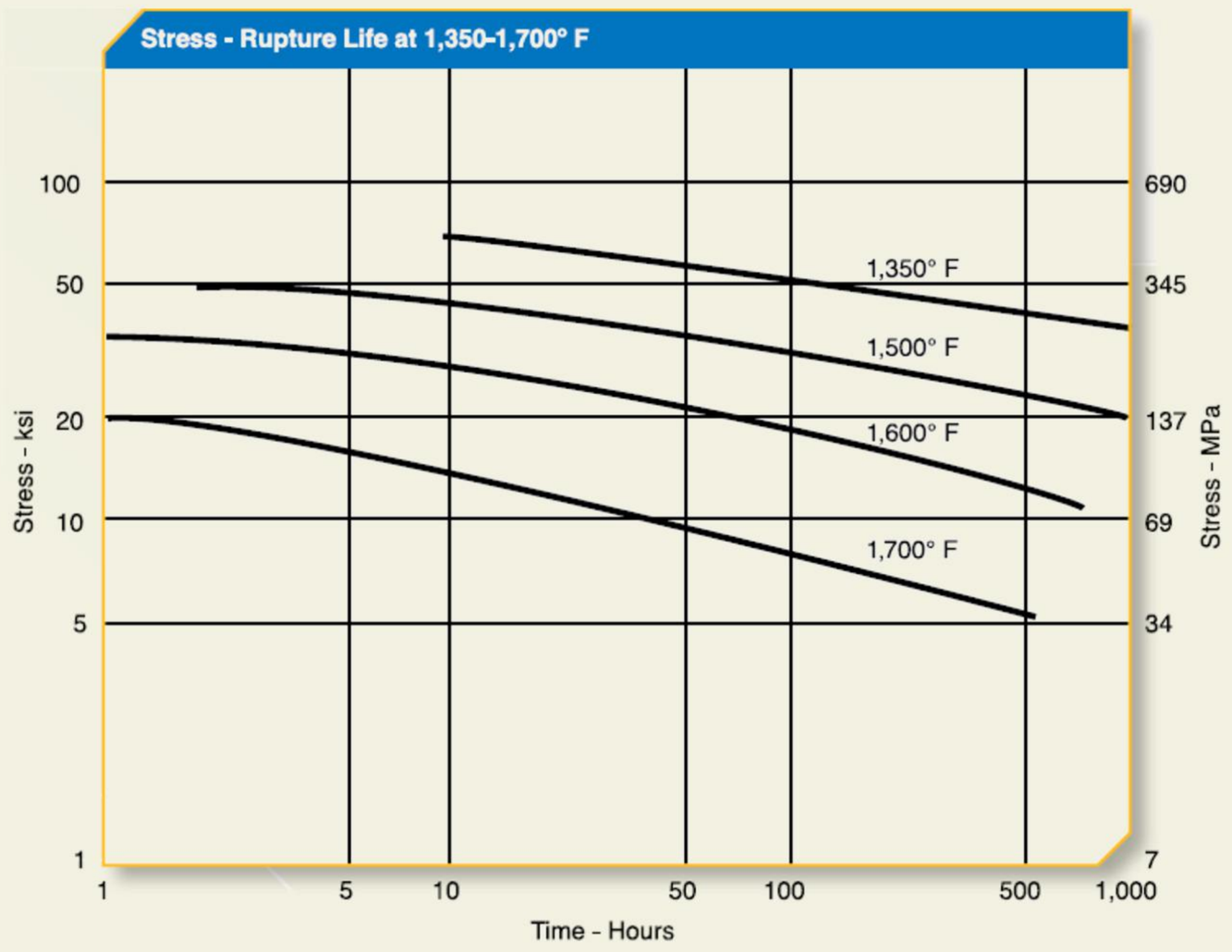
X-750 alloy (UNS N07750)

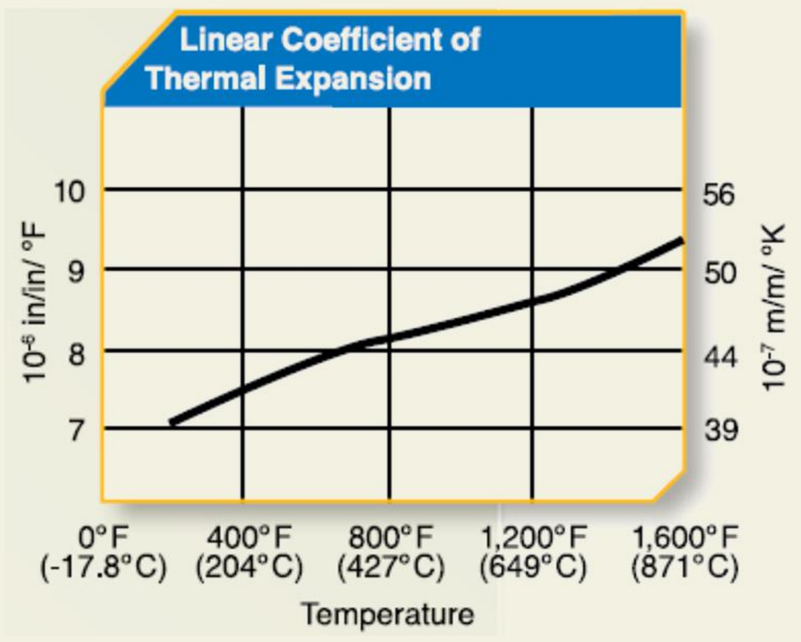
X-750 合金 (UNS N07750) 是一种可沉淀硬化的镍基高温合金，用于以下应用要求高强度约 1300°F (704°C) 和抗氧化性约 1800°F (982°C)。热处理后，X-750 合金在温度下具有高应力断裂强度和低蠕变速率高达大约 1500°F (816°C)。X-750 合金还具有很强的耐腐蚀性。 这种合金主要用于航空航天工业的物品如燃气轮机转子叶片、燃气轮机叶轮、螺栓和其他燃气轮机结构件。 它也被用于喷气机发动机加力燃烧室、机身和导弹结构。 非航空航天应用包括热处理夹具、成型工具和挤压模具。

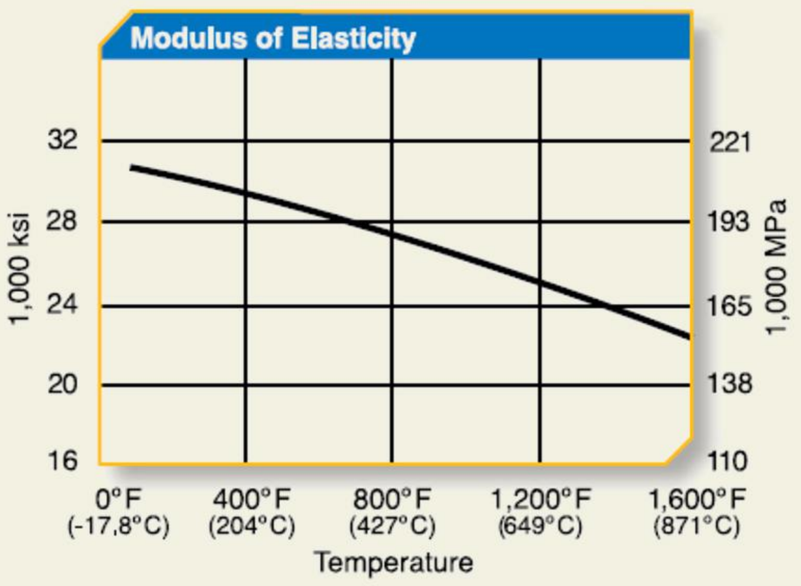
X-750 alloy (UNS N07750) is a precipitation hardenable nickel-base superalloy which is used in applications requiring high strength to approximately 1300°F (704°C) and oxidation resistance to approximately 1800°F (982°C).Following heat treatment, X-750 alloy possesses high stress-rupture strength and a low creep rate at temperatures up to approximately 1500°F (816°C).X-750 alloy is also highly resistant to corrosion. This alloy has been used primarily in the aerospace industry for items such as gas turbine rotor blades, gas turbine wheels, bolts, and other gas turbine structural parts. It has also found use in jet engine afterburners and airframe and missile structures. Non-aerospace applications include heat treat fixtures, forming tools, and extrusion dies.

Chemical Composition

	C	Cr	Fe	Ti	Al	Nb + Ta	B	V	Ni
% w/w, min.	0.03	14.0	6.0	2.0	1.10	0.7	0.0015	-	Bal.
% w/w, max.	0.1	17.0	9.0	2.6	1.35	1.2	0.009	0.15	Bal.







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核电工程建设 / Nuclear industry

随着科技与经济的发展，人们对高性能能源的需求迫在眉睫，核能是人类最具希望的未来能源之一，它作为高效清洁的能源应用广泛。核能的特性是对工作环境要求较高，因此各国对核电用钢的需求激增，因此核电钢材具有广阔的应用前景。

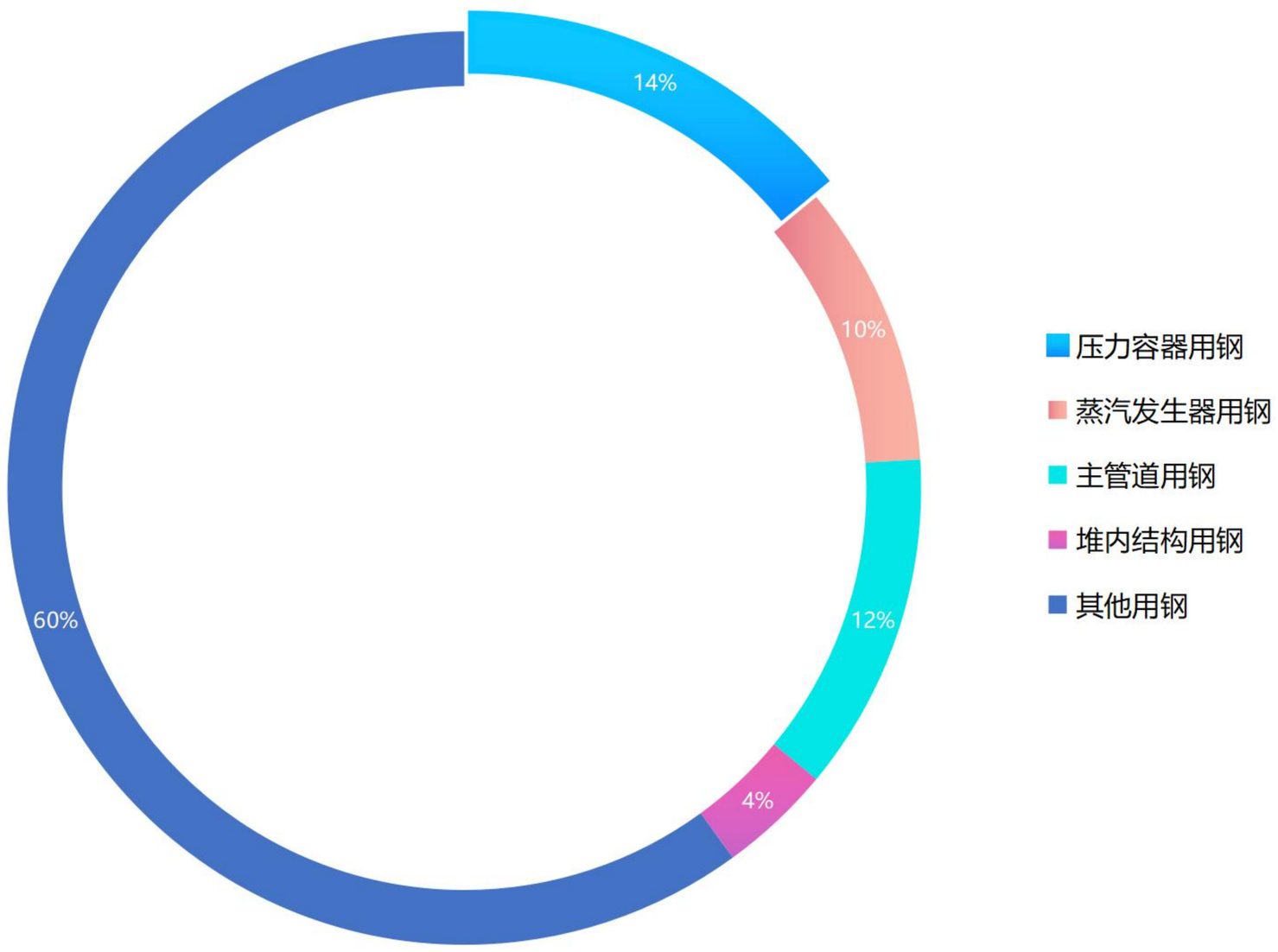
With the development of science and technology and economy, people's demand for high-performance energy is imminent. Nuclear energy is one of the most promising future energy for mankind. It is widely used as an efficient and clean energy. The characteristic of nuclear power is that it has high requirements for the working environment. Therefore, the demand for nuclear power steel in various countries is soaring. Therefore, nuclear power steel has broad application prospects.

中国目前是世界上少数拥有较完整的核工业体系的国家之一，现位居第三位，与世界顶尖水平相比，我国核电的发展仍然有巨大的潜力。悦廷合金立意深远，捕捉到核电必将成为未来能源的主要支撑，面对核电用钢客户的高标准，公司凭借稳定的产品质量及完善的质保体系，为中国核电行业领域提供双相不锈钢板等相关产品，坐稳新一代核能用钢标准的推进者和材料代理商，实现从“跟跑”到“合作”的快速发展，推动中国核电事业的发展进程，为我国核电行业走出国门、走向国际化提供了支撑，打下了坚实的基础。

At present, China is one of the few countries in the world with a relatively complete nuclear industry system, and now ranks third. Compared with the world's top level, the development of nuclear power in China still has great potential. Yueting alloy has a far-reaching intention and captures that nuclear power will become the main support of future energy. Facing the high standards of nuclear power steel customers, the company provides dual phase stainless steel plates and other related products for China's nuclear power industry with stable product quality and perfect quality assurance system, so as to become a promoter and material agent of a new generation of nuclear power steel standards, It has realized the rapid development from "following" to "leading", promoted the development process of China's nuclear power industry, provided support and laid a solid foundation for China's nuclear power industry to go abroad and internationalization.

通常情况下核电用钢部位主要有3处：核岛用钢、常规岛用钢、厂房及其他部分用钢。其中，核岛用钢为核心关键部位用钢，也是技术要求最高的部分，按照材质来分，大体可分为碳钢、不锈钢和特殊合金，若进一步细分，则有碳(锰)钢、低合金钢、不锈钢、锆合金、钛铝合金和镍基合金等，规格分为板、管、丝、棒、带、铸件、焊材等。

Generally, there are three main parts of nuclear power steel: nuclear island steel, conventional island steel, plant and other parts of steel. Among them, the steel for nuclear island is the steel for the core and key parts, which is also the part with the highest technical requirements. According to the material, it can be roughly divided into carbon steel, stainless steel and special alloy. If it is further subdivided, it includes carbon (manganese) steel, low alloy steel, stainless steel, zirconium alloy, titanium aluminum alloy and nickel base alloy. The specifications are divided into plate, pipe, wire, rod, strip, casting, welding material, etc.



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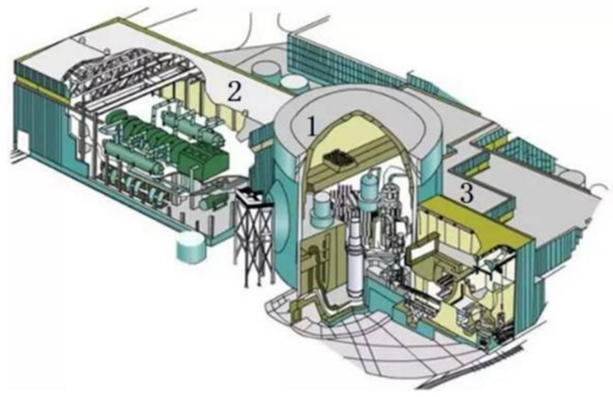
核电工程建设 / Nuclear industry

材料种类	牌号	应用领域	材料类型
奥氏体不锈钢	Z2CN19-10NS	CRDM密封壳，CRDM行程套管，RVI吊兰法兰、上支承法兰，EVI支承住，导向筒等管材	锻件、管材
	Z3CN18-10NS	RVI堆芯支承板、上支承板	锻件
	Z2CND18-18NS	接管安全端	锻件
	Z3CN20-09M	主管道	锻件、铸件
镍基合金	NC30Fe	CRDM管座贯穿件，SGU型传热管，SG水室隔板	锻件、管材
	718合金	燃料组件定位格架，弹簧，压紧螺栓	锻件、丝材
	800合金	传热管	锻件、管材
	750合金	弹簧	丝材、带材
	600合金	水室隔板	锻件

核能关键设备通常在高温、高压、强腐蚀和强辐照的工况条件下工作，要满足核性能、力学性能、化学性能、物理性能、辐照性能等各种性能要求，对钢材产品要求极高。

Nuclear key equipment usually works under the working conditions of high temperature, high pressure, strong corrosion and strong irradiation. To meet various performance requirements such as nuclear performance, mechanical performance, chemical performance, physical performance and irradiation performance, there are very high requirements for steel products.



600 alloy (UNS N06600)

600合金（UNS N06600）是一种镍铬合金，设计用于从低温到高温的环境中,温度范围为2000华氏度（1093摄氏度）。600合金是非磁性的，易于焊接。该合金用于各种耐腐蚀应用。该合金的高镍含量提供了一定程度的抗腐蚀性还原性环境，而材料中的铬含量可抵抗较弱的氧化环境。提高该材料的镍含量可提供优异的抗氯化物应力腐蚀开裂能力。 600合金的成形性能与稳定奥氏体不锈钢相似。

Alloy 600 (UNS n06600) is a nickel chromium alloy designed for use in low to high temperature environments with a temperature range of 2000 degrees Fahrenheit (1093 ℃). Alloy 600 is non-magnetic and easy to weld. The alloy is used in various corrosion-resistant applications. The high nickel content of the alloy provides a certain degree of corrosion resistance and reducing environment, while the chromium content in the material can resist weak oxidation environment. Increasing the nickel content of the material can provide excellent resistance to chloride stress corrosion cracking. Formability of alloy 600 Similar to stable austenitic stainless steel.

Chemical Composition

	C	Mn	Si	S	P	Cr	Ni + Co	Fe	Mo	Ti	Al	B	Cu
% w/w, min.	-	-	-	-	-	15.50	Balance	8.00	-	-	-	-	0.10
% w/w, max.	0.05	0.25	0.20	0.002	-	-	Balance	-	-	-	-	-	-

Product Form	Specification			
	ASTM	ASME	AMS	MIL
Plate, Sheet and Strip	B168	SB-168	5540	MIL-N-23228
Pipe and Tubing	B167 B516 B517	SB-167 SB-516 SB-517	5580	MIL-DTL-23227
Condenser Tubing	B163	SB-163		DTL
Rod, Bar and Forgings	B166	SB-163	5665	MIL-23229
Wire	B166	SB-166	5687	

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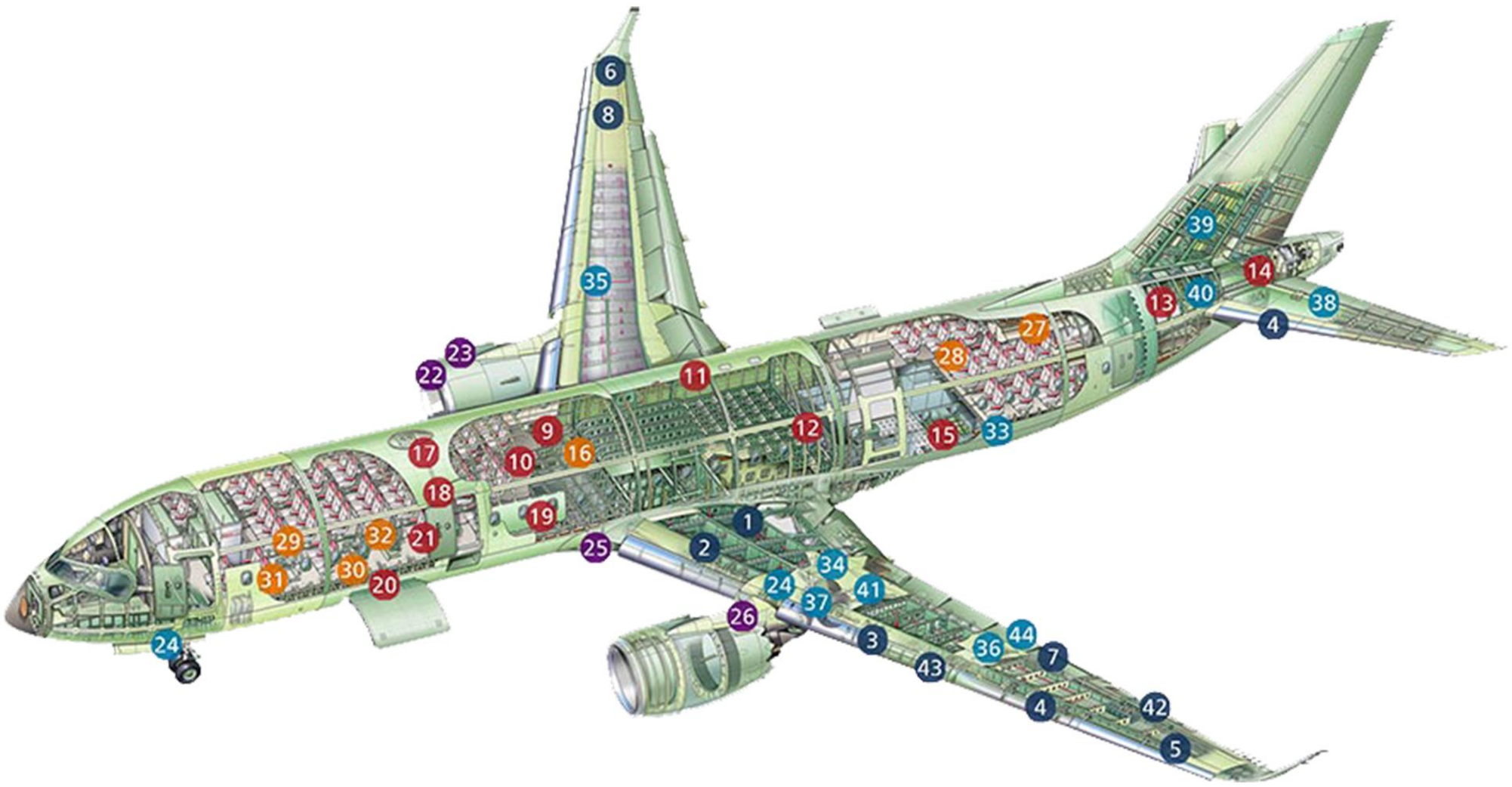
铝合金业务 / Aluminum alloy business

悦廷专供航空航天用的铝合金主要特点有：大型化和整体化、薄壁化和轻量化、断面尺寸和形位公差精密化、组织性能的均匀化和优质化。根据飞机不同的使用条件和部位，航空航天用铝合金主要分为高强铝合金、耐热铝合金和耐蚀铝合金。高强铝合金主要用于飞机机身部件、发动机舱、座椅、操纵系统等，使用最为广泛。

The main features of Yueting aluminum alloy for aerospace are: large scale and integration, thin wall and lightweight, precision of section size and shape and position tolerance, homogenization and quality of microstructure and properties. According to different service conditions and parts of aircraft, aluminum alloys for aerospace are mainly divided into high-strength aluminum alloy, heat-resistant aluminum alloy and corrosion-resistant aluminum alloy. High strength aluminum alloy is mainly used for aircraft fuselage components, engine compartment, seats, control system, etc., which is the most widely used.

当今世界各国航空飞机结构用铝合金主要是高强度的2系(2024、2017、2A12等)和超高强度的7系(7075、7475、7050、7A04等)，另外还有部分5系(5A06、5052、5086等)和6系(6061、6082等)以及少量的其他系列铝材。

Nowadays, the aluminum alloys used in aviation aircraft structures in the world are mainly high-strength Series 2 (2024, 2017, 2A12, etc.) and ultra-high-strength Series 7 (7075, 7475, 7050, 7A04, etc.), in addition, there are some series 5 (5A06, 5052, 5086, etc.) and series 6 (6061, 6082, etc.) and a small amount of other series aluminum materials.



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铝合金业务 / Aluminum alloy business

Sheet Coil & Plate Alloy 6061

该合金通常选用在需要焊接或钎焊的场合，或是在各种温度的条件下需要高耐腐蚀性材料的场合。 合金在O型回火的成形性极佳，T4型回火的成形性良好。与其他加工合金相比，加工难度更大。阳极氧化后的耐蚀性和外观优于所有其他螺杆机合金，强度则相对较低。

Generally selected where welding or brazing is required or for its high corrosion resistance in all tempers. Formability is excellent in O temper and good in the T4 temper. Machining is more difficult when compared to the other machining alloys. Corrosion resistance and appearance after anodizing are superior to all other screw machine alloys while strength is the lowest.

化学成分限值
CHEMICAL COMPOSITION LIMITS

									Others	
Weight %	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Each	Total
Minimum	0.40	-	0.15	-	0.8	0.04	-	-	-	-
Maximum	0.8	0.7	0.40	0.15	1.2	0.35	0.25	0.15	0.05	0.15

典型机械性能
TYPCAL MECHANICAL PROPERTIES

Temper	Tensile (.500" Dia. Specimen)					Hardness	Shear		Fatigue*		Modulus	
	Ultimate		Yield		Elongation/4D	Brinell 500kg 10 mm	Ultimate Shearing Strength		Endurance Limit - R.R. Moore Type		Modulus of Elasticity	
	KSI	MPa	KSI	MPa	%		KSI	MPa	KSI	MPa	KSI x 10^3	Gpa
T451	35	241	21	145	25	65	24	165	14	97	10.0	68.3
T6, T651	45	310	40	276	17	95	30	207	14	97	10.0	68.3

*5 x 10E8 cycles of reversed stress

比较特征
COMPARATIVE CHARACTERISTCS

Temper	Corrosion Resistance		Cold Workability[3]	Machinability[3]	Anodize Response[3]	Brazeability[4]	Weldability[4]		
	General[1]	Stress[2]					Gas	Arc	Spot
0	B	A	A	D	A	A	A	A	B
T451	B	B	B	C	A	A	A	A	A
T6, T651	B	A	C	C	A	A	A	A	A

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铝合金业务 / Aluminum alloy business

ROD & BAR ALLOY 7075

该款合金具有普通螺杆机合金中最高的强度。T73和T7351回火优越的抗应力腐蚀性能使其成为2024、2014和2017等在许多最关键应用的合理替代品。T6和T651回火具有良好的可加工性、电阻焊和耐腐蚀性。该款合金因其优越的强度而被飞机和军械工业大量使用。

This alloy offers the highest strength of the common screw machine alloys. The superior stress corrosion resistance of the T73 and T7351 tempers makes it a logical replacement for 2024, 2014 and 2017 in many of the most critical applications. The T6 and T651 tempers have fair machinability, resistance welding and corrosion resistance ratings. This alloy is heavily utilized by the aircraft and ordnance industries because of its superior strength.

化学成分限值
CHEMICAL COMPOSITION LIMITS

									Others	
Weight %	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Each	Total
Minimum			1.20		2.10	0.18	5.10			
Maximum	0.40	0.50	2.00	0.30	2.90	0.28	6.10	0.20	0.05	0.15

典型机械性能
TYPCAL MECHANICAL PROPERTIES

Temper	Tensile (.500" Dia. Specimen)					Hardness	Shear		Fatigue*		Modulus	
	Ultimate		Yield		Elongation/4D	Brinell 500 kg 10 mm	Ultimate Shearing Strength		Endurance Limit - R.R. Moore Type		Modulus of Elasticity	
	KSI	MPa	KSI	MPa	%		KSI	MPa	KSI	MPa	KSI x 10^3	Gpa
0	33	228	15	103	17	60	22	152			10.3	71.0
T6, T651	83	572	73	503	11	150	48	331	23	158	10.3	71.0
T73, T7351	73	503	63	434	13		44	303	23	158	10.3	71.0

*5 x 10E8 cycles of reversed stress

比较特征
COMPARATIVE CHARACTERISTCS

Temper	Corrosion Resistance		Cold Workability[3]	Machinability[3]	Anodize Response[3]	Brazeability[4]	Weldability[4]		
	General[1]	Stress[2]					Gas	Arc	Spot
T6, T651	C	C	D	C	B	D	D	D	B
T73, T7351	C	B	D	C	B	D	D	D	B

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铝合金业务 / Aluminum alloy business

Tube & Pipe Alloy 5052

一种镁合金。通常用于液压管应用。良好的耐腐蚀性和焊接性。

One of the magnesium alloys. Typically used in hydraulic tube applications. Good corrosion resistance and good weldability.

化学成分限值
CHEMICAL COMPOSITION LIMITS

										Others	
Weight %	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Each	Total
Nominal	0.25	0.4	0.1	0.1	2.2 – 2.8	0.15 – 0.35	…	0.1	…	0.05	0.15

典型机械性能
TYPCAL MECHANICAL PROPERTIES

Temper	Tensile					Hardness	Shear		Fatigue		Modulus	
	Ultimate		Yield		Elongation/4D	Brinell 500kg 10 mm	Ultimate Shearing Strength		Endurance Limit - R.R. Moore Type		Modulus of Elasticity	
	KSI	MPa	KSI	MPa	%		KSI	MPa	KSI	MPa	KSI x 10^3	Gpa
O	28	195	13	90	25	47	18	125	16	110	10.2	70
H32	33	230	28	195	12	60	20	140	17	115	10.2	70
H34	38	260	31	215	10	68	21	145	18	125	10.2	70

比较特征
COMPARATIVE CHARACTERISTCS

Temper	Corrosion Resistance		Cold Workability[3]	Machinability[3]	Anodize Response[3]	Brazeability[4]	Weldability[4]		
	General[1]	Stress[2]					Gas	Arc	Spot
O	A	A	A	D	*	C	A	A	B
H32	A	A	B	D	*	C	A	A	A
H34	A	A	B	C	*	C	A	A	A

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铝合金业务 / Aluminum alloy business

Aluminium Alloy 5083

5083铝合金是高镁合金，在不可热处理合金中强度良好，耐蚀性、可切削性良好。阳极化处理后表面美观。电弧焊性能良好。5083合金中的主要合金元素为镁，具有良好的抗蚀性与可焊接性能，以及中等强度。优良的抗腐蚀性能使5083合金广泛用于海事用途如船舶，以及汽车、飞机焊接件、地铁轻轨，需严格防火的压力容器（如液体罐车、冷藏车、冷藏集装箱）、制冷装置、电视塔、钻探设备、交通运输设备、导弹零件、装甲等。

5083 aluminum alloy is a high magnesium alloy with good strength, corrosion resistance and machinability among non heat treatable alloys. The surface is beautiful after anodizing. The arc welding performance is good. The main alloying element in 5083 alloy is magnesium, which has good corrosion resistance, weldability and medium strength. The excellent corrosion resistance makes 5083 alloy widely used in maritime applications, such as ships, automobile, aircraft welding parts, subway light rail, pressure vessels requiring strict fire prevention (such as liquid tank cars, refrigerated vehicles, refrigerated containers), refrigeration devices, TV towers, drilling equipment, transportation equipment, missile parts, armor, etc.

化学成分限值
CHEMICAL COMPOSITION LIMITS

Chemical Composition Limits											
Weight%	**Al**	**Si**	**Fe**	**Cu**	**Mn**	**Cr**	**Mg**	**Ti**	**Zn**	**Other Each**	**Others Total**
Alloy 5083	Bal	0.40 max	0.40 max	0.10 max	0.40 / 1.0	0.05 / 0.25	4.0 / 4.90	0.15 max	0.25 max	0.05 max	0.15 max

典型机械性能
TYPCAL MECHANICAL PROPERTIES

Material	Temper	Tensile Strength (ksi) min	Yield Strength (ksi) min	Elongation % in 2"
5083 Extruded Bar (<5" diameter)	0	39	16	14
5083 Extruded Bar (<5" diameter)	H111	40	24	12
5083 Extruded Bar (<5" diameter)	H112	39	16	12

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库存实力 / Inventory strength

悦廷特种合金（上海）拥有上海外高桥保税仓、无锡保税仓、华西备用仓等超3000平方米的现货仓库，与日方专员对接，采用“6S标准”管理货物，可承接供应链上下端的需求，运输网络辐射全球。

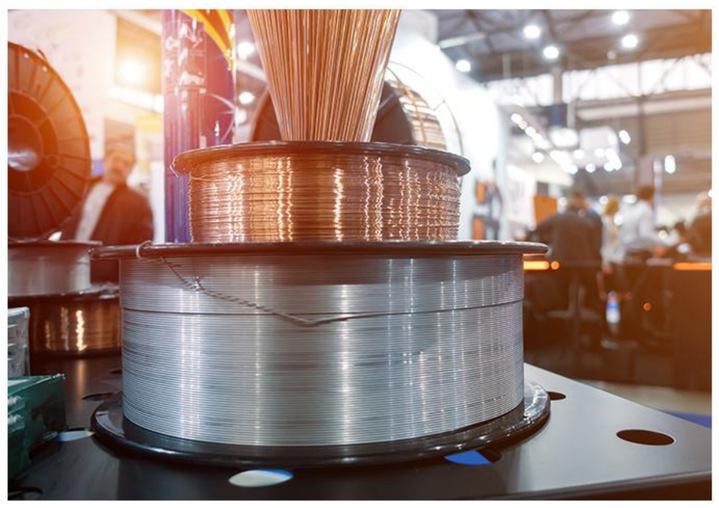
Yueting special alloy (Shanghai) has more than 3000 square meters of spot warehouses such as Shanghai Waigaoqiao bonded warehouse, Wuxi bonded warehouse and Huaxi standby warehouse. It connects with the Japanese Commissioner and adopts the international advanced "6S standard" to manage the goods. It can meet the needs of the upper and lower ends of the supply chain and radiate the world through the transportation network.

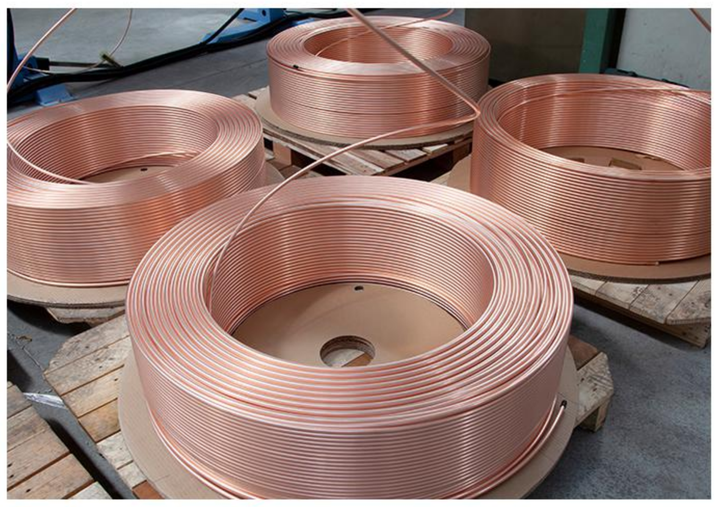
我司常备不锈钢库存16000吨、特殊钢常备库存2000吨、超纯净钢10吨、铝材/铜材/钛材50吨，库存充足，搭配“专车货物运输、专人物流配送”的配套服务，提高了货物的周转率，缩短客户的订货周期、减少客户的订货费用。

Our company has 16000 tons of standing stainless steel, 2000 tons of special steel, 10 tons of ultra pure steel and 50 tons of aluminum / copper / titanium. Combined with the supporting services of "special vehicle cargo transportation and specially assigned logistics distribution", it improves the turnover rate of goods, shortens the customer's order cycle and reduces the customer's order cost.









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库存表 / an inventory statement

./SC 可供现货　　。 可供产品形式　　(.) 需要确认　　— 待更新

牌号/Product	板/plate	棒/stick	带（箔）/Tape (foil)	管/Tube	丝/silk	型材/Profile	粉/powder
HAYNES C-22	./SC	./SC	./SC	./SC	—	—	(.)
Inconel 601	./SC	./SC	./SC	./SC	./SC	—	(.)
Inconel 600	./SC	./SC	./SC	./SC	./SC	—	—
RA330	./SC	./SC	./SC	./SC	./SC	—	—
HAYNES 718	./SC	./SC	./SC	./SC	./SC	—	—
Inconel 602ca	./SC	。	./SC	./SC	./SC	—	—
HAYNES 625	./SC	./SC	./SC	。	./SC	。	—
HAYNES 617	./SC	./SC	./SC	。	。	。	—
HAYNES 282	./SC	./SC	./SC	./SC	—	—	。
HAYNES 263	./SC	./SC	./SC	./SC	./SC	。	—
HAYNES C-2000	。	。	./SC	./SC	./SC	—	—
HAYNES 244	./SC	。	./SC	./SC	./SC	—	—
HAYNES 242	./SC	。	./SC	./SC	./SC	—	—
HAYNES 214	./SC	。	。	。	。	—	—
HAYNES 188	./SC	。	。	。	。	—	—
HAYNES 230	./SC	。	。	。	。	—	—
HASTELLOY W	./SC	。	./SC	。	./SC	—	—
HASTELLOY S	./SC	—	./SC	—	./SC	—	。
NAS HX	。	。	(.)	—	。	。	(.)
HAYNES C-276	(.)	./SC	—	—	./SC	./SC	(.)

附录：库存表内材料的统计数据截止于本文档完成时。如果您需要了解我司经营牌号的库存消息，欢迎拨打悦廷咨询热线或联系悦廷销售技术工程师，及时掌握材料动态。

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Appendix: statistical data of materials in the inventory table as of the completion of this document. If you need to know the inventory information of our business brand, please call Yueting Consulting Hotline or contact Yueting sales technical engineer to grasp the material trends in time.

悦廷特种合金(上海)有限公司

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