



~引进国外切片机，棒料切割成片料，可加工低厚度产品，精度高。厚度公差： $\pm 15\mu\text{m}$ 。

~引进国外精磨设备，精度高，稳定性高。厚度公差： $\pm 10\mu\text{m}$ 。

~Introducing the import cutting equipment to process low thickness and high precision wafers. Thickness tolerance: $\pm 15\mu\text{m}$;

~Introducing the import fine grinding equipment with high precision and high stability. Thickness tolerance: $\pm 10\mu\text{m}$.

~采用国外先进的生产管理方法，定期对管理人员及员工进行相关职业技术培训。

~通过了ISO 9000质量管理体系，遵循6S管理原则，用严格的品质管控方法保证产品的合格率。

~With advanced production management methods, TDG provides administrators and employees with regular vocational technical training.

~Passed ISO 9000 quality management system certification, TDG guarantee the products yield with strict quality control method.

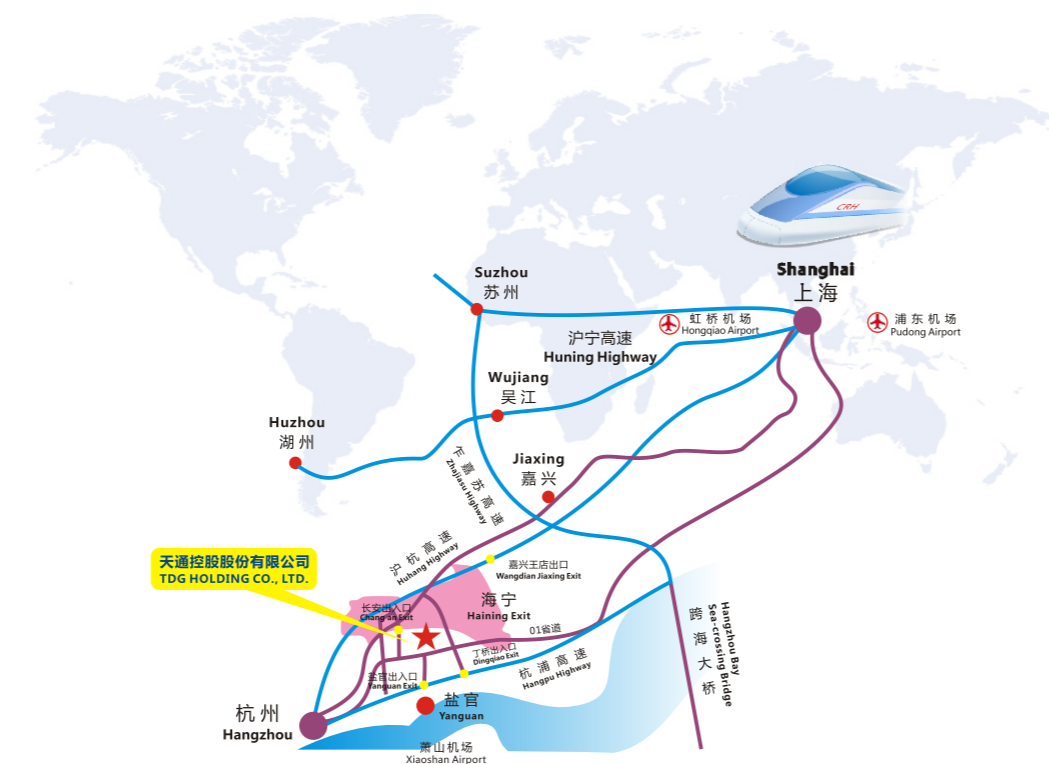


天通控股股份有限公司 / TDG Holding Co., Ltd.

天通控股股份有限公司 TDG HOLDING CO., LTD.

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专业蓝宝石晶体材料制造商
PROFESSIONAL
SAPPHIRE CRYSTAL
MATERIAL
MANUFACTURER



TDG

蓝宝石窗口材料
Sapphire Window Material



天通控股股份有限公司
TDG HOLDING CO., LTD.

股票代码 (Stock Code): 600330

公司简介 Company Profile

天通控股股份有限公司（证券代码：600330）创办于1984年，拥有多家控股公司和参股公司，是国内首家由自然人控股的上市公司，是集科研、制造、销售于一体的国家重点高新技术企业。经过结构调整，目前天通已形成电子材料、电子部品、智能装备和产业投资四大业务板块。

天通在浙江海宁、宁夏银川建立了蓝宝石产业基地。

通过引进消化吸收国际先进的长晶技术及晶片的切磨抛技术，致力于开发高品质蓝宝石材料，注重大尺寸、高品质蓝宝石产品的研制。产品覆盖2-12英寸蓝宝石晶片，为客户提供高品质产品与服务，已成为中国蓝宝石行业的领跑者。

Founded in 1984, TDG (Stock Code : 600330) was the first public company held by individuals in China, which has possessed several holding companies and share holding companies. TDG is a key national Hi-Tech enterprise integrats R&D, manufacturing and marketing in one. TDG focuses on electronic materials, electronic components, intelligent equipment and strategic investment.

TDG established its Sapphire industrial bases in Haining and Yinchuan.

By adopting the advanced international crystal growth method and wafer cutting, grinding and polishing technology, TDG is committing to developing high quality sapphire crystal materials, researching large size and high quality sapphire products. Products covers 2-12 inches sapphire wafer. Providing customers high quality products and services. TDG has become the leader of China's sapphire industry.



蓝宝石特性
Sapphire Features

Properties 性能	Sapphire 蓝宝石	Glass 玻璃
Chemical Formula / 化学组成	AL ₂ O ₃	SiO ₂
Crystal Structure / 晶体结构	六方晶系 Hexagonal System a=4.76Å c=12.99Å	非晶体
Melting Temperature / 熔点	2053°C	无固定熔点
Density / 密度	3.98g/cm ³	≈2.4g/cm ³
Hardness / 硬度	9(mohs)	6~6.5(mohs)
Purity / 单晶纯度	>99.996%	混合物
Linear Thermal / 热膨胀系数 Expansion Coefficient	6.7x10 ⁻⁶ /°C parallel to C axis 5.0x10 ⁻⁶ /°C perpendicular to C axis	9~10 x 10 ⁻⁶ /开
Refractive Index / 折射率	1.762~1.770	1.52
透光率(可见光和红外波段) Near and Mid wave IR transmission	≥85%	≥90%(可见光)
Thermal Capacity / 热容	0.10(cal/°C)	0.19(cal/°C)
Thermal Conductivity / 热导	46.06@0°C 25.12@100°C 12.56@400°C (W/(m.k))	0.81~0.93(W/(m.k))
Dielectric Permeability / 介电常数	9.4@300Kat A axis~11.58@300K at C axis	3.5~3.7 (1MHz下)

蓝宝石镜头及指纹识别盖板 Sapphire Cover lens & Touch ID



产品规格 Product Specification	
长度 (Length)	客户规格 ±0.05mm
宽度 (Width)	客户规格 ±0.05mm
厚度 (Thinkness)	客户规格 ±0.05mm
倒角半径 (Chamfering Radius)	客户规格 ±0.05mm
平坦度 (Flatness)	≤15μm
强度 (Strength)	> 550Mpa
特殊处理 (Special Processing)	按客户要求

产品优势

- ~高灵敏度
- ~耐划伤、耐磨损
- ~良好的光学透射率
- ~化学稳定性好、不易发生腐蚀和潮解

Sapphire Advantages

- ~High sensitivity
- ~Resistance to scratch, durable
- ~Good optical transmittance
- ~Good chemical stability, cannot be easily corroded and deliquesced



蓝宝石手机面板
Sapphire Phone Cover

产品规格 Product Specification	
长度 (Length)	客户规格 ±0.05mm
宽度 (Width)	客户规格 ±0.05mm
厚度 (Thinkness)	客户规格 ±0.05mm
平坦度 (Flatness)	≤5μm
强度 (Strength)	> 550Mpa
特殊处理 (Special Processing)	按客户要求



蓝宝石可穿戴产品
Sapphire Wearable Products

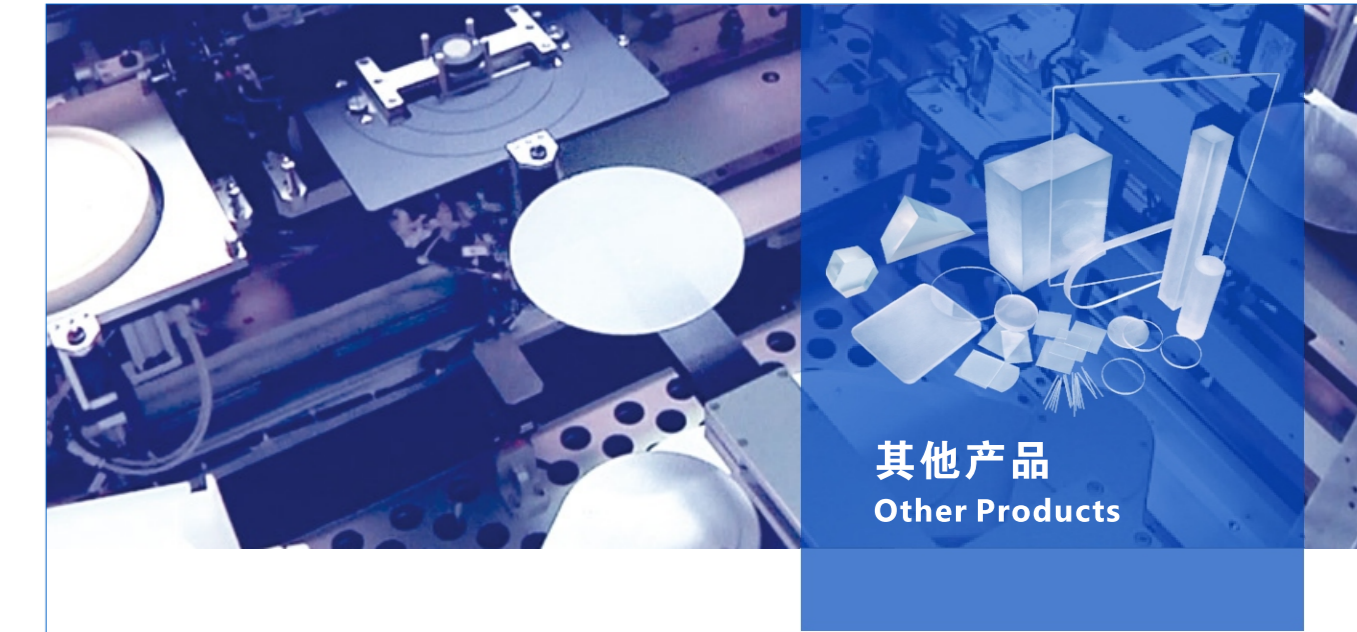
产品优势

- ~高灵敏度
- ~耐划伤、耐磨损
- ~耐高温、耐高压
- ~化学稳定性好、不易发生腐蚀和潮解

Sapphire Advantages

- ~High sensitivity
- ~Resistance to scratch, durable
- ~ Resistance to high temperatures and pressure
- ~ Good chemical stability, cannot be easily corroded and deliquesced

产品规格 Product Specification	
长度 (Length)	客户规格 ±0.05mm
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厚度 (Thinkness)	客户规格 ±0.05mm
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强度 (Strength)	> 550Mpa
特殊处理 (Special Processing)	按客户要求



其他产品
Other Products

产品优势

- ~高硬度、耐磨损
- ~耐高温、耐高压
- ~化学稳定性好、不易发生腐蚀和潮解

Sapphire Advantages

- ~High hardness, Resistance to scratch
- ~Resistance to high temperatures and pressure
- ~ Good chemical stability, cannot be easily corroded and deliquesced

产品规格 Product Specification	
长度 (Length)	客户规格 ±0.05mm
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