



Gooch & Housego

Transparent Engines and Furnaces



Products:

- Engine liners
- Piston windows
- Gas flow and combustion visualisation
- Fused silica and Sapphire
- Opto-mechanical assemblies

Key Features:

- Cylinder sizes to 150mm length
- High pressure capability
- High optical transmission
- Fused Silica, 180nm-3500nm
- Sapphire, 150nm-6000nm
- Precision manufacturing
- Exact specifications

Compliance:

- ISO 9001

Product description

Gooch & Housego has developed a substantial portfolio of knowledge in the manufacture of transparent engine cylinders and windows in support of the automotive industry's research community.

Optical diagnostics form an important aspect of engine automotive engine development and optical access to the combustion chamber through cylinder liner and piston enables visualisation of flows and combustion and in turn the development of improved performance and more environmentally friendly vehicles.

Gooch & Housego is able to supply fused silica and sapphire components for uses such as cylinder liners and piston windows to customer specific requirements. In addition, Gooch & Housego engineers and scientists can provide technical support in the design and modelling of many aspects relating to material properties and performance.

With most automotive companies working towards better fuel consumption engines and lower emissions, Gooch & Housego is a proud to be leading the optics community in the drive to enable future environmentally friendly vehicles.

As part of our policy of continuous product improvement we reserve the right to change specifications at any time
PO8003 Rev 1



光技術をサポートする
株式会社オプトサイエンス
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General product specifications

Parameter	Specification
Material	<i>Fused silica, Fused quartz, Sapphire</i>
Temperature	<i>Please specify</i>
Pressure	<i>Please specify</i>
Surface Quality	<i>Please specify</i>
Parallelism	<i>Please specify</i>
Wavefront Distortion	<i>Please specify</i>
Dimensional Tolerance	<i>Please specify</i>
Wavelength range	<i>Please specify</i>
Optical power density	<i>Please specify</i>
Operating & storage conditions	<i>Please specify</i>

Customer specific enquiries

The majority of our customers require custom components manufactured and coated to their own demanding specifications. Please send your specification to sales@goochandhousego.com or contact your local sales representative do discuss your requirements.

We also do:

- **Acousto-Optics**
- **Electro-Optics**
- **Non Linear Optics & Infra Red Optics**
- **Fibre Optics**
- **RF drives**
- **Coatings**

Contact: sales@goochandhousego.com

www.goochandhousego.com



ガラスエンジニアリング

Glass Engineering

General Capabilities

- Glass
- Ceramics
- Ferrite

Applications

Components where the following requirements are critical:

High voltage electrical insulation
Resistance to thermal shock
Low expansion/high stability
Resistance to chemical attack
High vacuum
High temperature

Materials

Optical and soda glass
Borosilicate glass
Zero expansion glass-ceramic
High aluminas
Fused silica
Crystal quartz
Ruby, sapphire, YAG etc.
Ferrites (customer supply only)
Most hard non-metallic materials

Processes

Grinding and Polishing:
- Flat
- Cylindrical
- Spherical
- Boring
Drilling
Shaping
Polishing
Honing and polishing of holes

Gooch & Housego can apply precision and optical expertise to the manufacture of components in the above materials, offering precision optical finishes with extremely high accuracy on engineering parts.

All materials can be supplied. Gooch & Housego also work on customers materials, such as ferrite, where special or precise properties are best controlled by the customer. The highly qualified Technical Department is always available to help and advise.

Value Added Service

A team of scientists are available to discuss your special requirements. We also offer a complete OEM service, components can be packaged, traceable and shipped direct to inventory.



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