



Glastherm®

**High-strength
heat insulation systems**

高性能隔热系统



Mechanical Engineering Industry



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Competence in Plastics

The Röchling Group, which is headquartered in Mannheim, includes a large number of locations in countries all over the world. With a workforce of several thousand employees, we manufacture our products in close proximity to our customers and markets. Our three company divisions, Industrial, Automotive and Medical, generate billions in sales every year on the European, American and Asian continents.

Röchling Industrial

The **Industrial** division supplies almost every sector of industry with optimal, application-oriented materials. To achieve this, Röchling has probably the world's biggest product portfolio of thermoplastics and composite materials. The company manufactures a range of semi-finished parts such as sheets, rods, tubes, flat bars, finished castings and profiles as well as machined and assembled precision components.

塑料专家

劳士领集团总部位于德国曼海姆，在全球多个国家拥有分支机构。员工达数千名，我们的生产贴近客户和市场。我们的工业、汽车和医疗三大企业部门，在欧洲、美洲和亚洲大陆的年销售额已达数十亿。

劳士领工业

我们的 **工业部** 为几乎所有行业提供面向应用的最佳材料。因此，劳士领拥有全球最广泛的热塑性和热固性塑料产品组合。我们生产的产品包括板材、圆棒、空心棒和扁棒、铸件以及型材乃至经过机加工和装配的精密组件等。

www.roechling.com

Everywhere close to you

Within the Industrial division, the Business Unit Composites is the world's leading supplier of composites, boasting three production sites in Germany, France and the USA as well as numerous processing plants and sales offices. The flexible companies have an inordinate wealth of know-how in the manufacture and application of semifinished products and machined components made of fibre-reinforced plastics, laminated densified wood and laminated pressboard for many branches of the capital goods industry. We develop optimum solutions jointly with the customer, then realise them efficiently.

Your ideas become high quality components

This unique international network of companies offers you the material expertise of an innovative manufacturer of semi-finished plastic products and machined components, as well as outstanding industry know-how and machinery that is unparalleled anywhere else in the world.

You benefit from the synergies of the global locations of the Business Unit. We look forward to meeting your most challenging needs.

我们无处不在

隶属于产业事业部的复合材料业务部 是全球领先的热固性塑料供应商，在德国、法国和美国设有三大生产基地并拥有大量加工与销售分支机构。灵活的 企业架构使我们具备纤维增强塑料、合成树脂胶合板及层压板的半成品和成品生产与应用领域的超凡专业知识。与客户携手合作，共同开发最佳解决方案并高效实施。

将您的想法转变为高品质部件。

作为创新型的塑料半成品和成品制造商，我们拥有独一无二的国际企业网络，为您提供材料专业知识、卓越的行业专有技术和举世无双的机械设备。

您将受益于全球活跃的业务单元的协同工作。我们期待满足您最具挑战性的需求。

Röchling Group worldwide Röchling集团遍布全球



Heat insulation systems offer advantages

Glastherm® reduces energy costs

Glastherm® heat insulation systems are made of glass-fibre reinforced composites and are indispensable in situations where plant components need to be thermally insulated for operational or economic reasons. The high-strength Glastherm® heat insulation materials are resistant to high temperatures and boast a long service life. Their exceptional thermal and mechanical properties make them advantageous in terms of economic efficiency and process engineering:



Reduced energy costs

Glastherm® heat insulation systems have very low thermal conductivity and therefore a very high heat insulation level which **reduces** the **energy consumption** and **energy costs** of your machines.



Consistently high product quality

Glastherm® facilitates **temperature control** within the tools you use, enabling the **operating temperature to be kept at a constant level** and helping to **keep the quality** of your products at a consistently high level.



Shorter warm-up times

The sustained heat insulation performance of Glastherm® allows shorter heating-up times. Glastherm® reduces heat loss which means that your production machines take less time to heat up and have more available capacity.

隔热系统提供了优势

Glastherm® 降低能源成本

如果设备部件由于功能性或经济上的原因必须隔热，那么由玻璃纤维增强复合材料制成的 Glastherm® 隔热系统是不可缺少的。Glastherm® 隔热材料是高强度、耐高温的材料，具有较长的使用寿命，并由于其出色的热性能和机械性能而具有经济和工艺技术优势：



降低能源成本

Glastherm® 隔热系统具有极低的导热性，因此具有很高的隔热作用，可以使能源消耗量和您机器的能源成本得到降低。



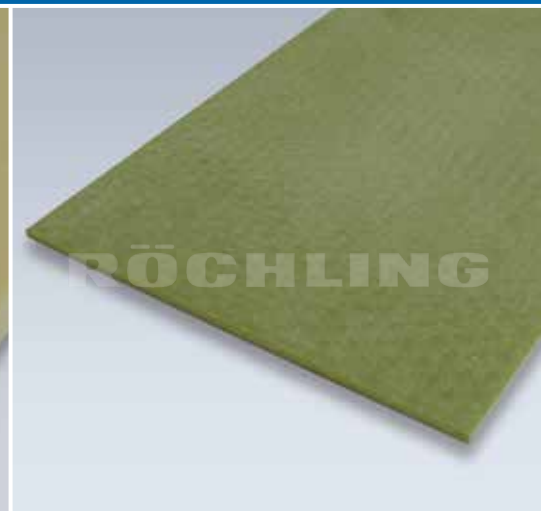
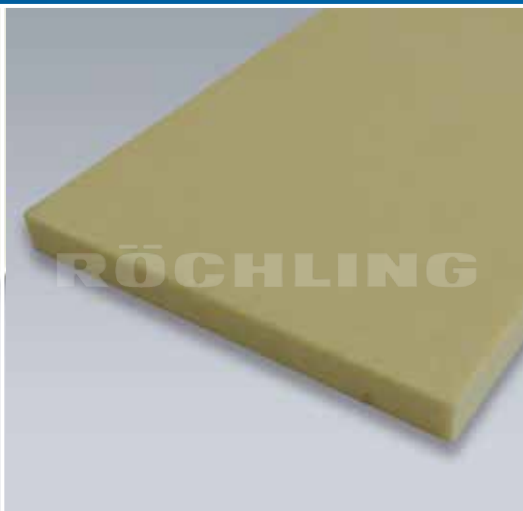
您的产品保持始终如一的高品质

Glastherm® 隔热系统使您的工具内部的温度控制变得容易，使之能保持恒定的工作温度，从而有助于使您的产品保持始终如一的高品质。



缩短加热时间

Glastherm® 隔热系统持久的隔热性可以实现更短的加热时间。由于 Glastherm® 隔热系统可减少热损失，这样有助于您的生产设备的加热时间变得更短，从而提高生产能力。





Long-term low maintenance

Boasting very high resistance as well as form and dimensional stability, even in very high operating temperatures, Glastherm® heat insulation systems require little maintenance and keep down the costs of servicing your plant and equipment.



使用周期长易保养

即使在非常高的工作温度下，Glastherm® 隔热系统也拥有很高的抗压性、良好的形状和尺寸稳定性，因此，Glastherm® 隔热系统几乎不需维护并且可以降低您的设备的保养成本。



Easy to work with

Glastherm® can be easily cut and adapted with standard metal tools. We recommend diamond cutters for relatively large jobs.



易于加工

Glastherm® 隔热材料可以使用常见的金属工具很容易地进行切割和加工。如果是复杂的加工，我们建议使用金刚石切割工具。



Excellent mechanical, chemical and electrical properties

All Glastherm® heat insulation systems have excellent levels of resistance to chemicals, very good electrical insulation properties and good mechanical and dynamic strength.



优异的机械、化学和电气性能

所有的 Glastherm® 隔热系统具有出色的耐化学腐蚀，极其良好的电绝缘性能和良好的机械及抗疲劳强度等特性。

Comprehensive product range

Numerous fields of application

Glastherm® heat insulation systems have proven their effectiveness in many inner and outer insulation applications over decades. Typical fields of application include:

- Hydraulic wood and plastic presses
- Tool and mould construction, injection moulding machines
- Tyre presses and machines for rubber processing

Comprehensive product range

Röchling supplies an extensive range of Glastherm® heat insulating materials for all areas of application:

- Glastherm® HT 200
- Glastherm® HT LC
- Glastherm® HT 220
- Glastherm® HT 250 M
- Glastherm® HT 250 HQ
- Glastherm® HT 300
- Glastherm® HT 500

齐全的产品系列

众多的应用领域

几十年来，Glastherm® 隔热系统作为外部或内部隔热材料得到广泛的应用，并且久经考验。

典型的应用范围：

- 液压人造板和注塑压机
- 工具和模具制造，注塑设备
- 轮胎硫化机和橡胶加工机器

齐全的产品系列

您将从劳士领集团获得用于所有应用领域的 Glastherm® 隔热材料的全面的产品目录。

- Glastherm® HT 200
- Glastherm® HT LC
- Glastherm® HT 220
- Glastherm® HT 250 M
- Glastherm® HT 250 HQ
- Glastherm® HT 300
- Glastherm® HT 500

Glastherm® materials – compressive strength at temperature

Glastherm® 隔热材料 – 在高温下的抗压强度

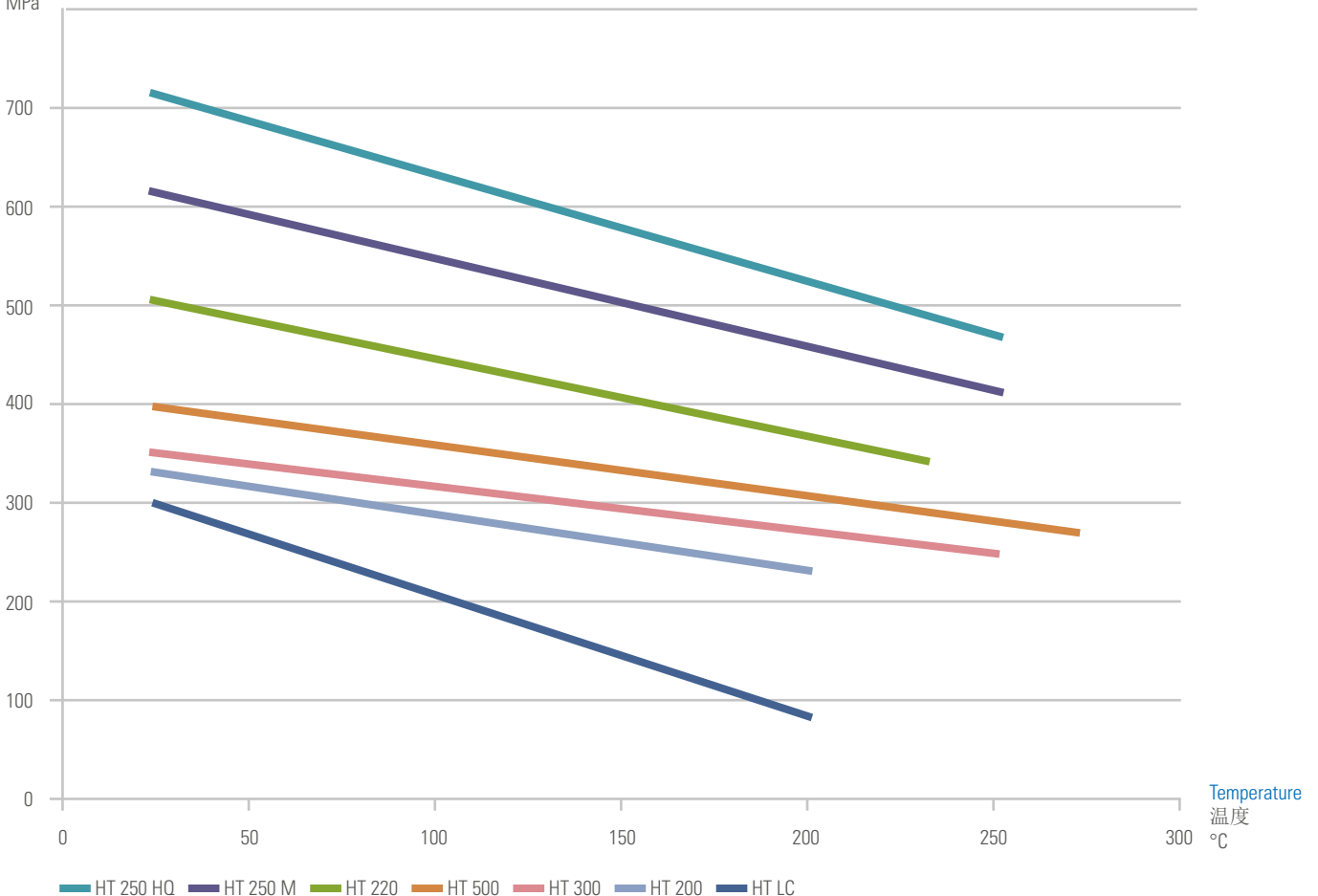
sample size
试样尺寸
20 x 20 x 20 mm

lines of best fit
最优拟合线

Compressive strength

抗压强度

MPa



Competence in industry

行业专长

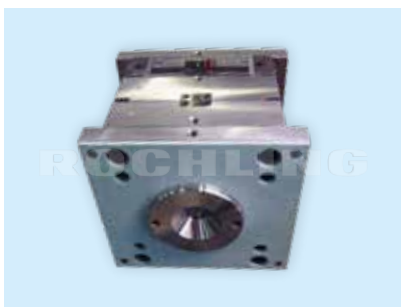


Hydraulic wood and plastic presses

Leading manufacturers of hydraulic wood and plastic presses have been relying on Glastherm® heat insulating materials for decades. They are used in **shortcycle presses** and **continuous presses** as **insulation for plungers, moulding frames and dies**, for example. Thanks to its excellent mechanical stability, Glastherm® can withstand and long endure the high dynamic stress in short-cycle presses. At the same time Glastherm® boasts a particularly high resistance to chemicals which can be given off in the pressing process or which are used as mould release agents.

液压人造板和注塑压机

几十年来，领先的液压人造板和注塑压机制造商得益于 Glastherm® 隔热材料。这些材料在短周期压机和连续压机中使用，例如，作为活塞隔热、压机型框隔热和模具隔热材料使用。Glastherm® 由于其优异的机械稳定性而能持久地承受短周期压机中的高动态负载。同时，Glastherm® 具有特别高的耐化学腐蚀的特性，这些化学物质可能来自压制过程中分解产物或是使用的脱模剂。



Tool and mould construction

Röchling has developed two special heat insulation materials for tool and mould construction: Glastherm® HT 200 and Glastherm® HT LC. They have ideal properties for **outer insulation** and for **force plate and hot runner insulation in injection moulding machines** and **moulding presses**. Their very low thermal conductivity allows a constant operating temperature. They also have the mechanical resistance to withstand heavy-duty load cycles.

工具和模具制造

劳士领集团专门为工具和模具制造开发了隔热材料 Glastherm® HT 200 和 Glastherm® HT LC。它们为注塑设备和模压成型机中的阳模板隔热、外部隔热和热流道隔热材料提供了理想的特性：极低的导热性能能够保持恒定的设备工作温度。由于优异的机械强度，它们能够长期地承受高负荷循环。



Tyre presses and rubber production

Glastherm® heat insulating materials have various uses in **tyre presses** and **rubber processing machines**, such as **outer insulation and rubber mould insulation**. Leading tyre manufacturers all over the world enjoy the benefits of Glastherm®. The highstrength material reduces warm-up times, prevents emission losses and enables an even temperature distribution inside the die and therefore a consistently high product quality.

轮胎硫化机和橡胶加工

另外，Glastherm® 隔热材料还在轮胎硫化机和橡胶加工机械中作为外部隔热材料和橡胶铸模隔热材料使用。世界知名的轮胎制造商充分利用 Glastherm® 的优势：高性能材料缩短了加热时间，避免了热辐射损失，并且能够保持模具中均匀的温度分布，从而使产品保持始终如一的高品质。

Selection criteria and technical advice

Selection criteria

The performance and service life of a heat insulation system are influenced by several factors. The following criteria need to be factored into the choice of heat insulant in order to make the right decision:

- Operating temperature
- Type of mechanical load, e.g. dynamic or static
- Contact with chemicals which are used in the process (e.g. release agents, lubricants or cleaning agents)
- Construction type
- Cycle times
- External factors, such as damp conditions or admission of other media/chemicals from the surroundings or from the process
- One of the key factors affecting the service life of heat insulating materials is thermal oxidation. This is effected by the decomposition of the organic in the air

选择标准和技术咨询

选择标准

隔热材料的性能和寿命是由各种影响因素决定的。要正确地选择隔热材料，必须考虑到这些影响因素。

- 工作温度
- 机械负载类型，例如：动态或静态负载
- 与在工序中使用的化学物质接触（例如脱模剂、润滑剂或清洁剂）
- 结构类型
- 循环周期
- 环境条件，如湿度或其他来自外部或工序的介质/化学物质
- 影响隔热材料寿命的最重要的因素之一是热氧化。这种影响来自于在高温下与空气中的氧接触时有机粘合剂的分解。

Technical advice

Our engineers will be happy to advise you on the selection and design of the right Glastherm® insulating material for your application. We have the expertise to develop the right solution to cater to your specific requirements.

Just ask us!

技术咨询

我们的工程师愿意为您在选择和设计合适的 Glastherm® 隔热材料时提供咨询。我们的专业建议，将为您提供量身定制的解决方案。请与我们联系！

More value for our customers

- Product and materials development
- Modification of existing compositions
- Practical testing facilities
- Cooperation with scientists
- State-of-the-art materials laboratory

为客户提供的增值服务

- 产品和材料开发
- 现有配方的修改
- 实用的试验设备
- 与科学家合作
- 先进的材料实验室



Research and development

Competitive advantages through innovation

At Röchling, our top priority is innovation. This allows us to present the market with product developments that provide our customers with competitive advantages.

We develop new products and manufacturing processes to fit the specific problem definitions of our customers in our excellently outfitted materials laboratory, and in close cooperation with suppliers, scientists and institutes.

Our quality management system is regularly inspected in audits in accordance with DIN EN ISO 9001:2015 ff. and its compliance ensured. Moreover, our products undergo ongoing controls in all phases of the production process.

We actively engage in serving the industries through our collaboration with numerous advisory boards and committees, and thus, help define the quality standards of the future.

研究和开发

通过创新获得竞争优势

在劳士领集团，我们的首要任务是创新。因此，我们投入市场的产品开发可以为我们的客户提供竞争优势。

在我们的设备齐全的材料实验室中，以及通过与供应商、科学家和研究所密切合作，我们针对客户的任务要求开发新的产品和制造工艺。

我公司根据 DIN EN ISO 9001:2015 的质量管理体系定期进行审计检查，并保证严格遵守。此外，我们对生产过程各个阶段的产品进行持续地监控。

通过和多个咨询机构和协会的合作，我们积极地为行业服务并参与制订未来质量标准。



Glastherm® – high strength heat insulation

Glastherm® – 高性能的隔热材料

Glastherm® HT 200

Glastherm® HT 200 is a heat insulation system with a high level of stability which is suitable for processes with a working temperature of up to 200 °C (392 °F).

Glastherm® HT 200 was developed specially for plastic and zinc die-casting moulds. It has good thermal insulation, enabling rapid die heating-up processes and therefore rapid start-up of the machines. Glastherm® HT 200 is free of asbestos and can be easily cut and adapted with standard metal tools.

- Maximum continuous operation temperature: 200 °C (392 °F)
- High compressive strength: 230 MPa (at 200 °C)
- Good thermal insulation

Glastherm® HT 200

Glastherm® HT 200 是很稳定的隔热系统，适用于连续工作温度高达 200°C (392°F) 的工况。Glastherm® HT 200 专门针对塑料模具和镀锌压铸模具开发，由于其良好的隔热性能使设备快速升温，从而快速地启动运转。

Glastherm® HT 200 不含石棉，可以使用常见的金属工具很容易地进行切割和加工。

- 最高连续工作温度：
200 °C (392 °F)
- 高抗压强度：
230 MPa (在 200 °C 时)
- 良好的隔热性能



Glastherm® HT LC

Glastherm® HT LC boasts extremely low thermal conductivity, providing excellent insulation properties even with very thin wall thicknesses. Glastherm® HT LC is free of asbestos and can be easily cut and adapted with standard metal tools.

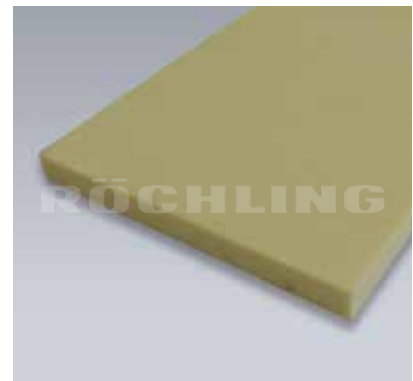
- Maximum continuous operation temperature: 200 °C (392 °F)
- High compressive strength: 300 MPa
- Excellent thermal insulation

Glastherm® HT LC

Glastherm® HT LC 具有极低的导热性，即使在非常薄的壁厚情况下，也拥有非常良好的隔热性能。

Glastherm® HT LC 不含石棉，可以使用常见的金属工具很容易地进行切割和加工。

- 最高连续工作温度：
200 °C (392 °F)
- 高抗压强度：
300 MPa
- 非常好的隔热性能



Glastherm® HT 220

Glastherm® HT 220 is suitable for processes with a continuous operating temperature of up to 220 °C (428 °F) and combines a high level of heat insulation with a very high compressive strength in high temperatures. Glastherm® HT 220 is free of asbestos and can be easily cut and adapted with standard metal tools.

- Maximum continuous operation temperature: 220 °C (428 °F)
- Very high compressive strength: 360 MPa (at 200 °C)
- Good thermal insulation

Glastherm® HT 220

Glastherm® HT 220 适用于连续工作温度高达220°C (428°F) 的工况，具有高隔热性，并且在高温下有很高的抗压强度。

Glastherm® HT 220 不含石棉，可以使用常见的金属工具很容易地进行切割和加工。

- 最高连续工作温度：
220 °C (428 °F)
- 极高的抗压强度：
360 MPa (在 200°C 时)
- 良好的隔热性能



Glastherm® HT 250 M

Glastherm® HT 250 M boasts very high compressive strength and is particularly resistant to heat. The heat insulation system is ideally suited to the thermal insulation of press moulds and enables the conservation of energy during the pressing process. The heat insulation system is mainly used in hydraulic wood, plastic and tyre presses. Glastherm® HT 250 M is free of asbestos and can be easily cut and adapted with standard metal tools. We recommend diamond cutters for relatively large jobs.

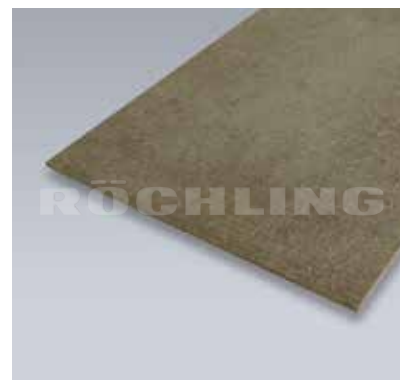
- Maximum continuous operation temperature: 250 °C (482 °F)
- Very high compressive strength: 445 MPa (at 200 °C)
- Good thermal insulation

Glastherm® HT 250 M

Glastherm® HT 250 M 具有极高的抗压强度并且具有极其良好的耐热性。该隔热系统是适合于压模的热绝缘的理想材料并能够在压制过程中节省能源。该隔热系统主要在液压人造板、注塑和轮胎压机中使用。

Glastherm® HT 250 M 不含石棉，可以使用常见的金属工具很容易地进行切割和加工。如果是复杂的加工，我们建议使用金刚石切割工具。

- 最高连续工作温度：
250 °C (482 °F)
- 极高的抗压强度：
445 MPa (在 200°C 时)
- 良好的隔热性能



Glastherm® – high strength heat insulation

Glastherm® – 高性能的隔热材料

Glastherm® HT 250 HQ

Glastherm® HT 250 HQ boasts excellent compressive strength and is particularly resistant to heat. The heat insulation system is ideally suited to the thermal insulation of press moulds and enables the conservation of energy during the pressing process. The heat insulation system is mainly used in hydraulic wood, plastic and tyre presses and boasts a very high dynamic load capacity in high temperatures. Glastherm® HT 250 HQ is free of asbestos and can be easily cut and adapted with standard metal tools. We recommend diamond cutters for relatively large jobs.

- Maximum continuous operation temperature: 250 °C (482 °F)
- Good thermal insulation
- Exceptionally high compressive strength: 510 MPa (at 200 °C)
- Exceptionally high compressive strength at room temperature: 700 MPa

Glastherm® HT 250 HQ

Glastherm® HT 250 HQ 具有优异的抗压强度并且具有极其良好的耐热性。该隔热系统是适合于压模的热绝缘的理想材料并能够在压制过程中节省能源。该隔热系统主要在液压人造板、注塑和轮胎压机中使用，其突出之处在于，在很高的温度下具有承受非常高的动态负载能力。

Glastherm® HT 250 HQ 不含石棉，可以使用常见的金属工具很容易地进行切割和加工。如果是复杂的加工，我们建议使用金刚石切割工具。

- 最高连续工作温度：
250 °C (482 °F)
- 良好的隔热性能
- 极高的抗压强度：
510 MPa (在 200 °C 时)
- 在常温下极高的抗压强度：700 MPa



Glastherm® HT 300

Glastherm® HT 300 is designed for very high continuous operation temperatures over a long period. Its outstanding features include a long service life, very low weight loss and high dimensional stability. Glastherm® HT 300 also boasts excellent strength properties in high temperatures. The material structure is maintained over a very long period. Glastherm® HT 300 is free of asbestos and can be easily cut and adapted with standard metal tools.

- Maximum continuous operation temperature: 300 °C (572 °F)
- Very high compressive strength: 250 MPa (at 200 °C)
- Good thermal insulation

Glastherm® HT 300

Glastherm® HT 300 适用于长时间非常高的连续工作温度的工况，并且其突出之处在于，非常低的重量损失和很高的尺寸稳定性并且具有很长的使用寿命。而且，Glastherm® HT 300 在很高的温度情况下也具有非常好的强度性能。材料结构在非常长的时间内保持不变。

Glastherm® HT 300 不含石棉，可以使用常见的金属工具很容易地进行切割和加工。

- 最高连续工作温度：
300 °C (572 °F)
- 极高的抗压强度：
250 MPa (在 200 °C 时)
- 良好的隔热性能



Glastherm® HT 500

Glastherm® HT 500 boasts an extremely high level of heat resistance, making it suitable for processes with a continuous working temperature of up to 500 °C (932 °F). The material also has an excellent load capacity in high temperatures and a very good level of resistance to thermal shock. Glastherm® HT 500 is incombustible, free of asbestos and can be easily cut and adapted with standard metal tools.

- Maximum continuous operation temperature: 500 °C (932 °F)
- Compressive strength: 250 MPa (at 200 °C)
- Good thermal insulation

Glastherm® HT 500

Glastherm® HT 500 具有特别高的耐热性，适用于连续工作温度高达 500 °C (932 °F) 的工况。这种材料即使在高温下也具有良好的负载能力，而且还具有极其良好的耐热冲击性。

Glastherm® HT 500不可燃，不含石棉，可以使用常见的金属工具很容易地进行切割和加工。

- 最高连续工作温度：
500 °C (932 °F)
- 抗压强度：
250 MPa (在 200°C 时)
- 良好的隔热性能



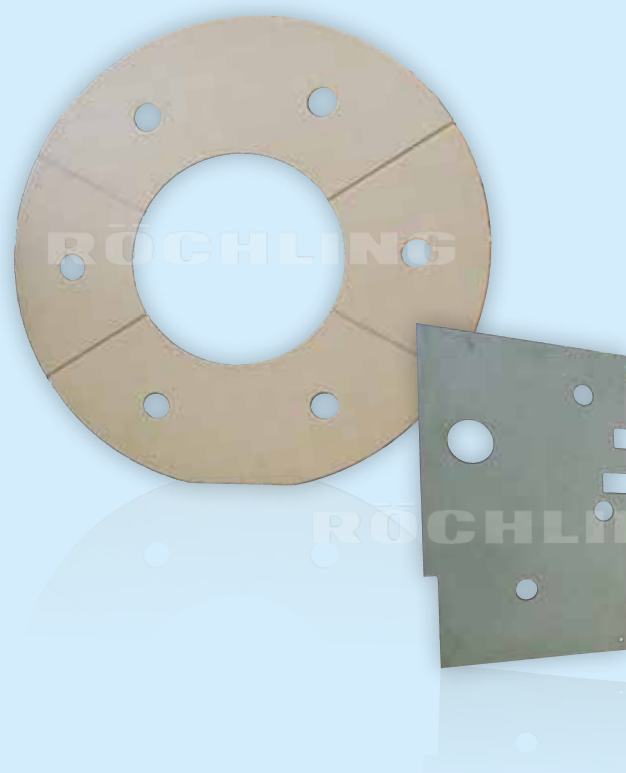
Competence in machining 制造能力

Machined components ready for installation

Besides making Glastherm® insulating sheets, we can also supply machined components made of Glastherm® ready for installation. Working on modern CNC machining centres, we make ready-to-install parts according to customer's drawing with exacting tolerances and an excellent quality of surface finish. Tolerances of ± 0.1 mm to ± 0.05 mm are possible depending on the shape.

机加工成品

除了生产 Glastherm® 隔热板材，我们还向您提供由 Glastherm® 隔热材料制成的机加工成品。在现代化的数控加工中心，我们根据客户图纸制造满足精确的公差要求和高品质的表面处理的成品部件。根据加工形状，可以达到 ± 0.1 mm 至 ± 0.05 mm 的公差。



Dimensions sheets

尺寸范围表

Product range 产品范围	Size 尺寸		Thickness 厚度		Thickness tolerance* 厚度公差*		Colours 颜色
	mm	Inch	mm	Inch	mm	Inch	
Glastherm® HT 200	2.445 x 1.255	96,25 x 49,40	4 – 50	0,157 – 1,968	± 0.1	± 0,00393	green/绿色 white/白色
Glastherm® HT LC	2.440 x 1.220	96,06 x 48,03	4 – 80	0,157 – 3,149	± 0.1	± 0,00393	yellow/黄色
Glastherm® HT 220	2.440 x 1.220	96,06 x 48,03	4 – 50	0,157 – 1,968	± 0.1	± 0,00393	yellow/黄色
	1.900 x 1.000	74,80 x 39,37	4 – 120	0,157 – 4,724			
Glastherm® HT 250 M	2.000 x 1.100	78,74 x 43,30	4 – 80	0,157 – 3,149	± 0.1	± 0,00393	brown/褐色
	3.000 x 1.100	118,11 x 43,30					
Glastherm® HT 250 HQ	2.000 x 1.120	78,74 x 44,09	4 – 80	0,157 – 3,149	± 0.1	± 0,00393	green/绿色
	3.000 x 1.120	118,11 x 44,09					
Glastherm® HT 300	2.150 x 1.130	84,64 x 44,48	4 – 50	0,157 – 1,968	± 0.1	± 0,00393	white/白色
Glastherm® HT 500	1.200 x 1.000	47,24 x 39,37	4 – 50	0,157 – 1,968	± 0.1	± 0,00393	white/白色 beige/米色

* Referring to machined surfaces. Thickness tolerances of ± 0.05 mm/0.0019 inch are possible with smaller sizes

* 基于机械加工面。针对于较小尺寸，可能存在± 0.05 毫米 / 0.0019 英寸的厚度误差

Technical data

技术数据

	Test method 测试方法	Unit 单位	Glastherm®						
			HT 200	HT LC	HT 220	HT 250 M	HT 250 HQ	HT 300	HT 500
Density 密度	ISO 1183	g/cm ³	1.9	1.5	1.85	2	2	1.9	2.15
Max. continuous operating temperature Higher operating temperatures are possible for short durations 最高连续工作温度瞬间内可以承受更高的工作温度。	—	°C	200	200	220	250	250	250	500
		°F	392	392	428	482	482	482	932
Compressive strength room temperature 在常温下的抗压强度	ISO 604 Sample size 试样尺寸 20 x 20 x 20 mm	MPa	320	300	500	600	700	350	400
		Psi	46400	43500	72500	87000	101500	50750	58000
Compressive strength (200 °C) 抗压强度 (200 °C)	ISO 604 Sample size 试样尺寸 20 x 20 x 20 mm	MPa	230	90	360	445	510	250	250
		Psi	33350	13050	52200	64525	73950	36250	36250
Bending strength 弯曲强度	ISO 178	MPa	200	170	360	300	600	140	165
		Psi	29000	24650	52200	43500	87000	20300	23900
Perpendicular thermal conductivity* 垂直导热系数*	⊥	W/(m*K)	ca. 0.30	ca. 0.18	ca. 0.25	ca. 0.23	ca. 0.27	ca. 0.26	ca. 0.25
Water absorption 吸水性	ISO 62	%	< 0.1	< 0.2	< 0.1	< 0.15	< 0.1	< 0.1	< 1
Coefficient of linear expansion 线性膨胀系数	Mettler TMA	10 ⁻⁶ /K	ca. 20	ca. 20	ca. 10 - 15	ca. 10 - 15	ca. 10 - 15	ca. 10 - 15	ca. 10

* Thermal conductivity calculated by means of reference measurements on samples of 300 x 200 x 10 mm

* 通过对试样 (尺寸 300 x 200 x 10 mm) 的测量参考计算导热系数

Remarks: Property variation possible, average – not guaranteed technical values. The data mentioned in this brochure are average values. We cannot accept any responsibility for their accuracy.

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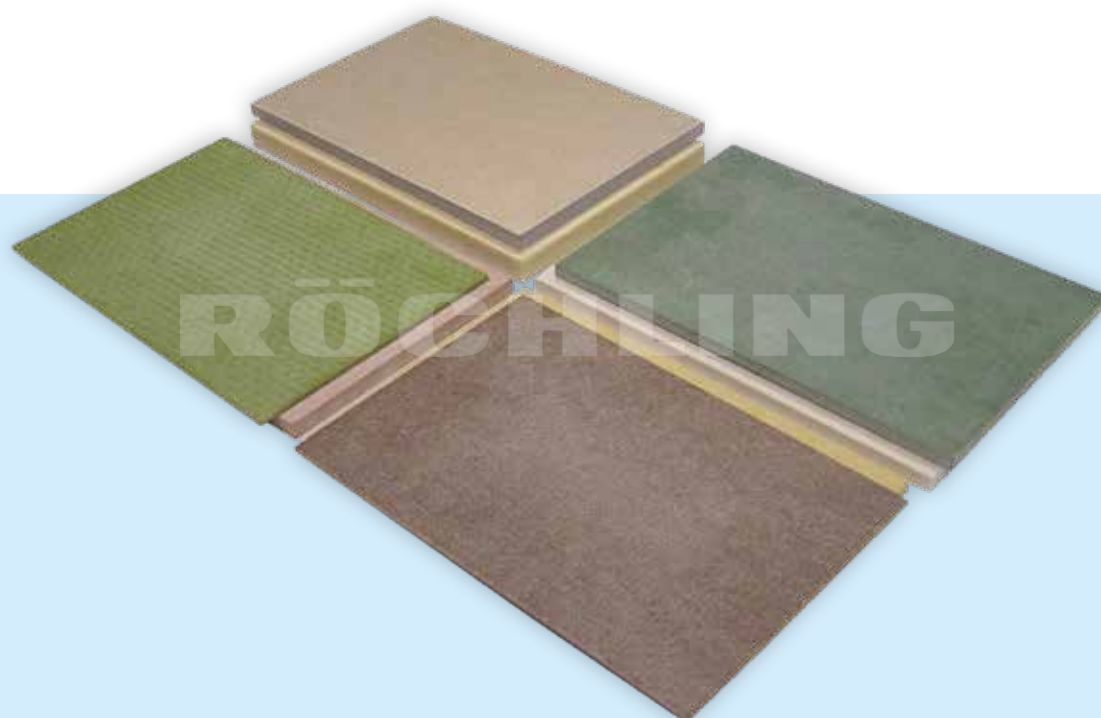
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