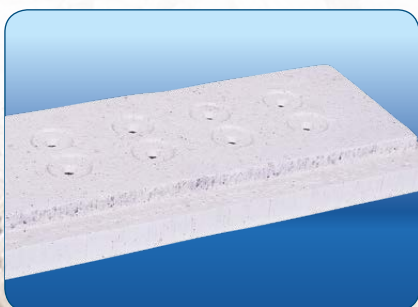




# Innovative products



Quality ...  
All the way from the raw materials  
to the final product!



# Vermiculite and Perlite – for insulation, fire protection and many other areas of application

For more than five decades now Dämmstoff-Fabrik Klein has been your specialist in the manufacture of innovative solutions to meet specific needs for industry, fire protection, gardening and animal husbandry. Among other things, the focus here is on the natural materials vermiculite and Perlite which are used for insulation at a high level and as a basis for infilling and aggregates in construction work, and much more.

For example, Vermiculite panels are ideally suited for thermal and acoustic insulation and Vermiculite shaped parts are used for special areas of application, including separating rings, housings, protective caps, and much more. Our range is optimally rounded out by rolls of fireproof material and fabric plus scattering agents.

## Vermiculite and Perlite:

**Natural materials as the basis for insulating materials, levelling fillers and other areas**

Vermiculite and Perlite are heat-resistant, thermally insulating and acoustically damping, thus forming an optimal basis for the most varied applications. Both Vermiculite and Perlite are ecologically harmless natural products. Vermiculite and Perlite can be used as insulation for levelling fillers

under screed or as dry infill in floors and ceilings. Furthermore, Vermiculite and Perlite are suitable for use as light additional materials for mineral-based plaster or for incorporation into various types of mortar. Use Vermiculite panels to clad the firebox of a stove or for acoustic or thermal insulation.



*The raw material gains its full and ecologically valuable character through our enhancement technology. Its specific use as a natural insulating material is a contribution to preserving the environment and at the same time an ideal tool for producing creative and individual shapes.*



## Mineralogical

Vermiculite is one of the clay minerals. Vermiculite is an aluminium-iron-magnesium silicate that belongs to the group of mica minerals, since it resembles them in both its structure and appearance and also forms flaky crystals just like them. The name of the mineral is derived from the Latin word *vermiculus*: "worm".

## Structure and manufacturing process

Raw Vermiculite consists of thin, flat platelets. The exfoliation (expanding) is done at high temperatures (800 - 1000 °C) without adding any other substances. The steam that is produced as a result (the removal of the water of crystallisation) drives apart the individual layers of the structure. As a result, the volume of the Vermiculite particles increases by roughly 20-fold. Expanded Vermiculite is produced in various grain sizes.

Make use of the options provided by our professional team. We have been producing individual shaped parts since 1985. For example, the electrical industry uses them for switch housings and separating rings. You can find the shaped parts both in ceramic hobs and in night storage heaters.

For fire protection purposes the material is incorporated into fire doors, control dampers, hearth doors and individual facilities for protection against fire: in boiler construction to retain heat, in the production of safes to improve the risk class, and in open hearths as a substitute for refractory bricks. Compared to refractory, the advantages are the low weight and the smooth surface.

The heat-reflecting action of the material increases the combustion temperature and improves the exhaust gas behaviour (fewer emissions).

Vermiculite shaped parts are used as the remaining core parts in cast aluminium pieces such as aluminium rims for cars.

**Quality is writ large as far as we are concerned.**

Constant monitoring of the raw material, the enhancing process and the end products guarantee the top quality that our products stand for.

# Kawalite

## – Panels, bricks and shaped parts made of Vermiculite



## Kawalite – added value for trade and industry

Enhanced Vermiculite can be used for Kawalite panels, blocks and shaped parts for individual, customer-specific shapes. Vermiculite as an enhanced product exhibits properties that have especial advantages for ecological thermal and acoustic insulation and for preventive protection against fire.

- ✓ high volume for a low weight
- ✓ natural clay mineral
- ✓ cannot burn
- ✓ free of harmful pollutants
- ✓ free of fibres
- ✓ temperature-resistant up to 1,150°C



## Vermiculite ... naturally recyclable

Due to the natural character of Vermiculite, the material can be returned to the natural cycle without any problems.

## It has further areas of application in

- Aluminium induction furnaces
- Aluminium melting furnaces
- Automotive industry
- Glass troughs
- Foundries
- Industrial chimneys
- Power station boilers
- Coking plants
- Metal
- Melting
- Metallurgical furnaces
- Waste incineration plants
- Open hearths and tiled ovens
- Production of friction linings
- Shipbuilding
- Forging furnaces
- Steel mills
- Tunnel furnaces / tunnel furnace cars
- Fluidized-bed firing systems
- Sugar factories



We have the following branded products:

- Vermiculite
- Isoperl
- Dustex
- Kleinit
- Tromex
- Kawalite
- Megaverm
- Hapufлам
- Staudt

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We have been producing shaped parts since 1985. Make use of the options provided by our professional team. We can find the right solution and the best form for your task.

All the details correspond to the state of our knowledge as of today and are intended to inform you about our products and the various application options that they have. They therefore do not warrant the importance of certain properties of the products or their suitability for a specific application. Any industrial property rights are to be considered. We offer flawless quality within the scope of our terms and conditions of supply and payment.