

Schwank Burners and Burner Tiles

**Innovative Technologies and
Efficient Heat Generation**



Schwank – Innovator of Clean Combustion and Maximum Efficiency

■ Leading Manufacturer

In 1938 the world's first gas-fired burner tile was invented and patented by Günther Schwank, founder of the Schwank Group. Since then, Schwank has evolved into the world's leading manufacturer of ceramic tiles and burners. Our goal: Achieving maximum performance and efficiency combined with clean combustion.

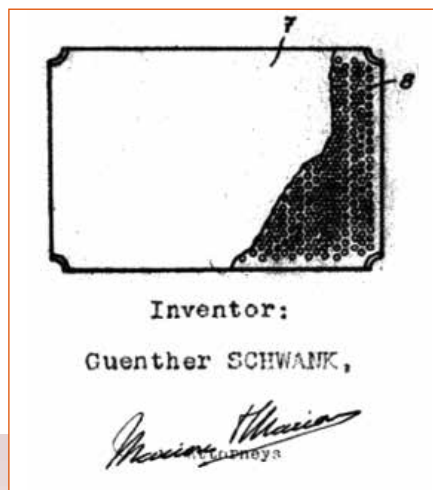
■ Made in Germany

Throughout the world Schwank enjoys an excellent reputation in the field of gas-fired infrared heaters. Extraordinarily high quality, durability and an economical and clean combustion speak for themselves.

Due to the in-house production of our burners and burner tiles and our dedicated R&D, Schwank is able to guarantee the above properties.

■ Properties of Schwank Burners and Tiles

- High mechanical strength [up to 24 kg / 53 lbs]
- Extreme temperature stability and temperature shock resistance
- Minimal linear thermal expansion
- High insulation performance due to high inner porosity
- No mechanical wear and optimised structural stability due to carefully selected materials, comprehensive quality tests
- Special honeycomb structure for an even more efficient combustion



First gas-fired ceramic burner tile, approx. 1938

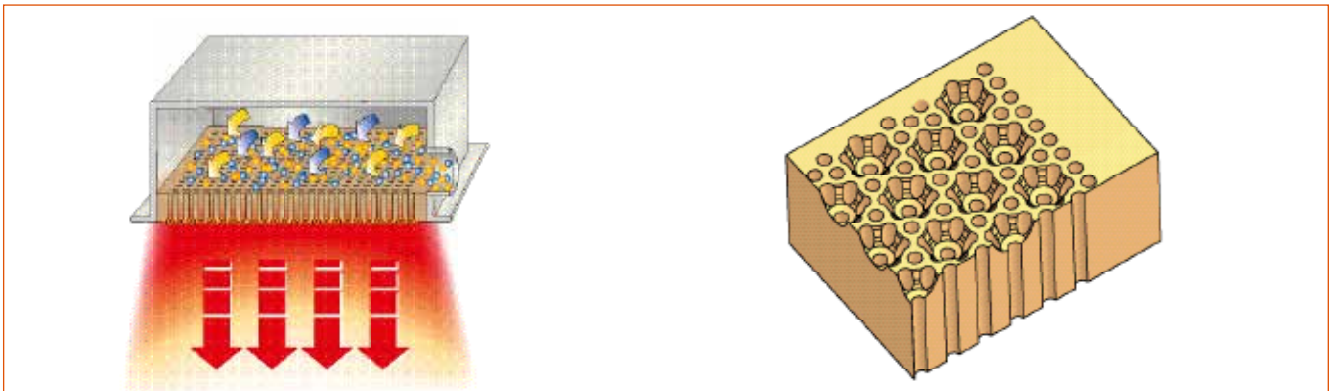
Schwank Burners - The Technology derived from the Sun

Heat Output Demand

The heart of all Schwank burners is the ceramic burner tile. Within its 3,600 concave holes the gas-air mixture combusts homogeneously and cleanly. Due to its special structure the surface, the ceramic tile reaches temperatures of 960°C [$2,100^{\circ}\text{F}$] emitting infrared radiation of 150 W/cm^2 . On the surface of a 120 cm^2 ceramic tile, a heat output of $0.6 - 1.8\text{ kW}$ can be generated.

Patented Infrared Radiation

The radiant efficiency is the determining factor for most thermal engineering applications. In order to positively influence the radiation energy, high quality materials and surface characteristics are of great importance. ceraSchwank features a patented recipe and a special surface with a honeycomb structure providing a higher radiant efficiency than ordinary plane surfaces.



ceraSchwank in operation

Clean Combustion

Gas-fired burners with Schwank ceramic tiles operate in a very ecological way with low emissions. Due to a highly homogeneous combustion, thermal NO_x and CO are reduced to an absolute minimum. Due to its properties ceraSchwank ranks among the most efficient and environmentally friendly ceramic burner tiles in the world.

Operational Lifetime

Another core feature of Schwank ceramic tiles and burners is the practically unlimited durability. The high quality ceramics do not reveal any noticeable wear or corrosion even when being subject to an arbitrary number of hot/cold cycles throughout the burner life-cycle.



ceraSchwank in durability test



Accuracy from up to $\pm 0.1\text{ mm}$

Broad Variety Applications

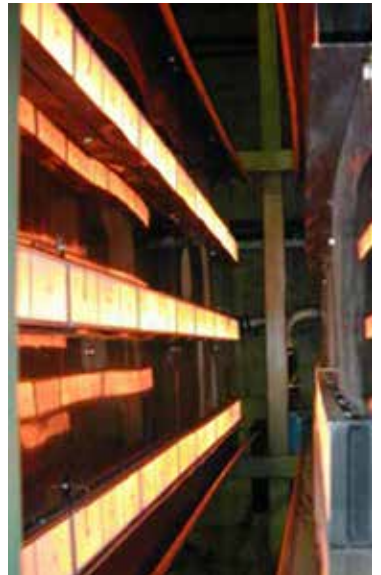
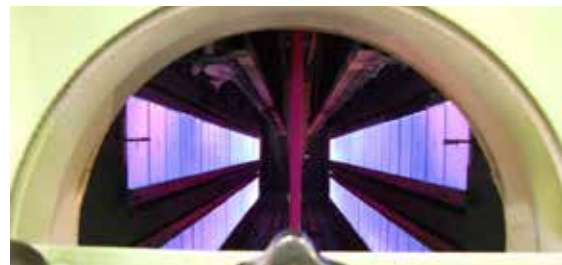
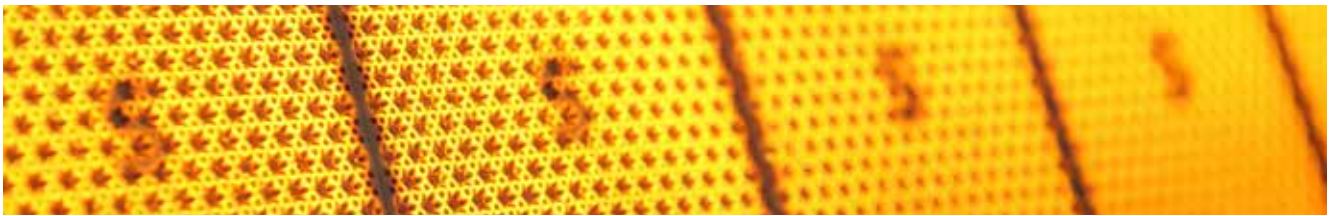
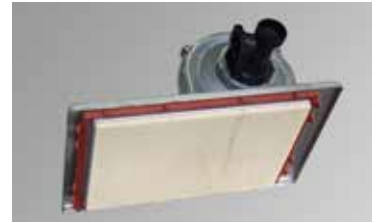
■ Schwank Burners and Burner Tiles are used in a Multitude of Applications

- Luminous / high intensity heaters and tube / low intensity heaters
- High-efficiency condensing and conventional boilers
- Process heat, e.g. for drying paper, textiles, paint or defrost applications
- Broilers, home steak grills and chicken roasters
- Construction site drying systems
- Gas stovetops
- Weed killing applications

Please note that all our ceramics are „Food Safe“ according to EN 1186 and therefore safe for all Food Preparation Processes.



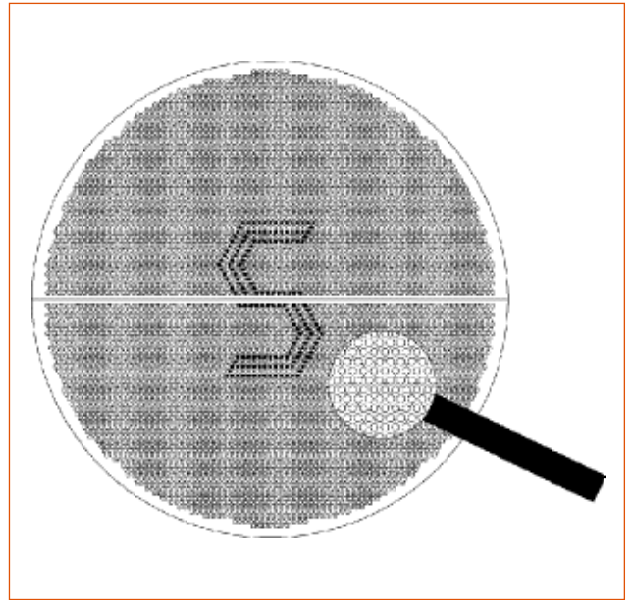
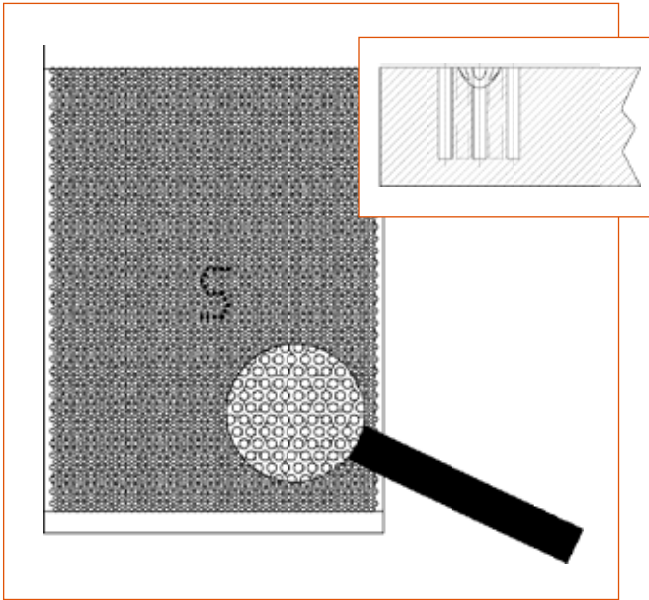
Food Safe according to EN 1186



Ceramic Burner Tiles

■ Technical Data

Ceramic Burner Tiles

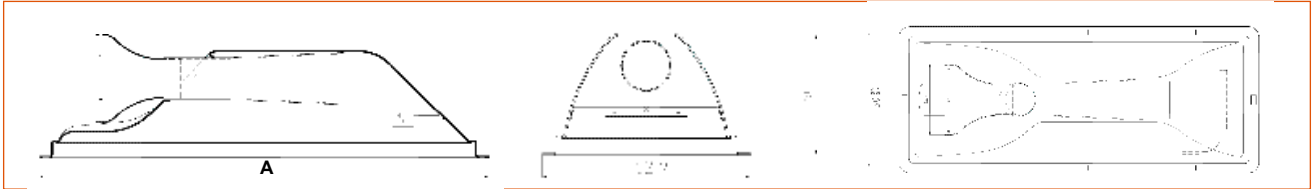


Technical Data	
Max. Size	182 x 80, 140 x 140 or Ø 165 mm
Min. Size	68 x 48 mm
Thickness	6 - 15 mm
Shape	rectangular or circular
Passage Diameter	1.0 - 1.4 mm
Surface	plane or honeycomb structure
Max. Structural Depth	< 2.8 mm
Inner Porosity	40 - 64%
Mechanical Solidity [breaking load]	19 - 24kg / 42 - 53 lbs [with structured surface]
Max. Operational Temperature	< 960° C
Thermal Expansion	-1.8E-6 - 2.5E-6 [K ⁻¹]
Hole Pattern	entire tile or partial
Holes / cm ²	< 30
Finishing [optional]	leveled, ground, cut, grooved

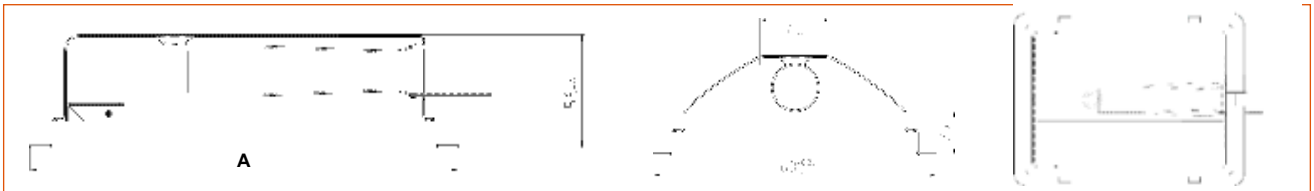
Burners - Product Features

Technical Data

Atmospheric Burners



Type	Output [kW]	Length A [mm]	Number of Ceramic Tiles
16/2	6.5	398	4
24/2	9.8	582	6
32/1	13.0	766	8

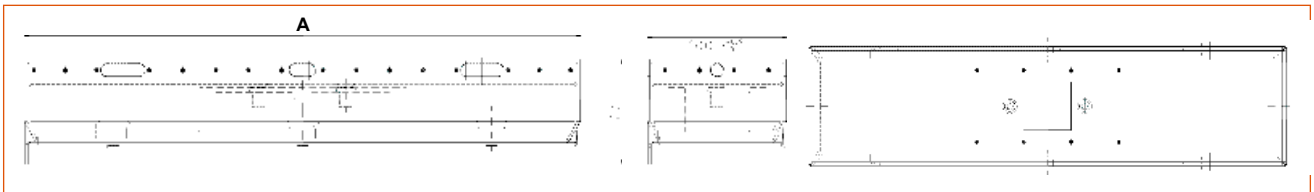


Type	Output [kW]		Length A [mm]	Number of Ceramic Tiles
	From	To		
8/16	3	3.5	230.5	2
Gas	Natural Gas	LPG	Town Gas	Nonstandard Gas
Operating Pressure	17 mbar	50 mbar	6 mbar	Upon Request

- Infrared / Patio Heaters
- Process Heating
- Weed Killing
- Drying Systems
- Road Construction
- Grills / Rotisserie Appliances

Technical Data

Modular Burners for Industrial Applications [Forced Air]



Type	Output [kW]		Length A [mm]	Number of Ceramic Tiles
	From	To		
8/13	1.9	3.2	270	2
12/3	2.9	4.9	402	3
16/3	3.9	6.5	534	4
24/3	5.9	9.8	800	6

Applications:

- Industrial Process Heating, modular burners can be arranged to form surface areas of random geometry

Innovative. Experienced. Competent.

■ Your Advantages at a Glance

- High mechanical strength
- Extreme temperature stability and temperature resistance
- Minimal linear thermal expansion
- Long life-cycles, no mechanical wear
- Food Safe
- Special honeycomb surface structure providing more output at the same size
- Clean combustion and excellent flame stability
- Production accuracy with tolerances of only +/- 0.1 mm
- Made in Germany

■ Experience creates Confidence

For decades, the name Schwank has been synonymous with high-quality and economical heating and climate systems. As market leader for gas infrared heating systems, Schwank has extensive experience. More than 200,000 satisfied customers and more than 2.5 million manufactured units speak for themselves.

As a German manufacturer, we stand by our claim to deliver products and services of the highest quality. Each of our products guarantees an economical, CO₂ & NO_x-minimized operation.



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