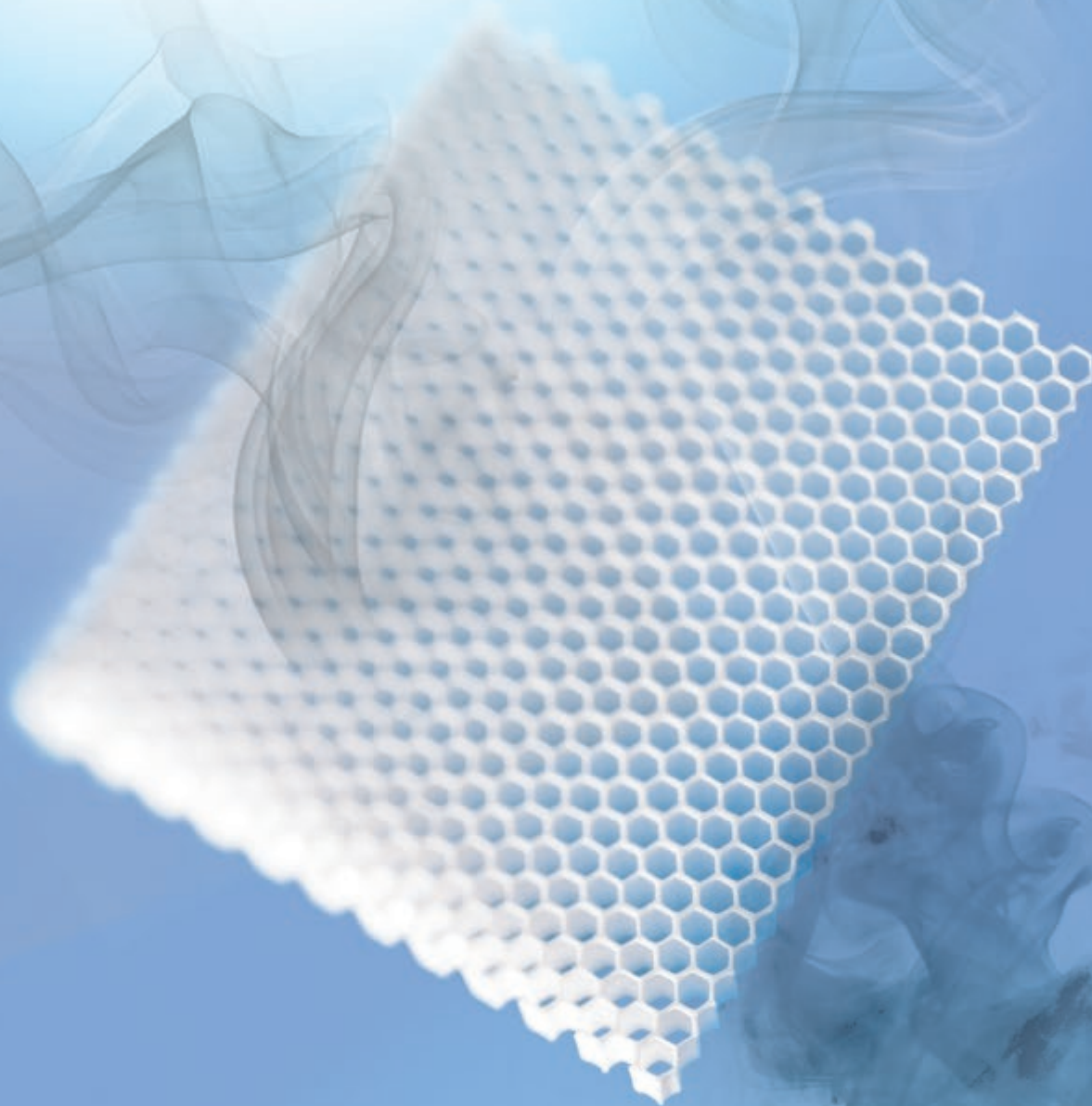


**Hetragon™: PTFE element with
hexagonal flow channels**

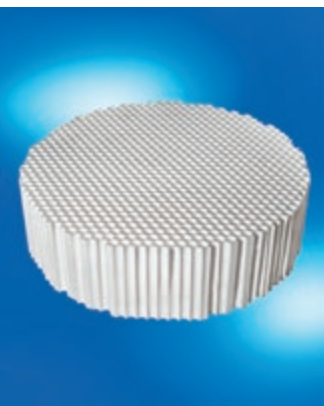


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Hetragon™: PTFE element with hexagonal flow channels for industrial columns



Hetragon™ PTFE elements can be used as structured packs for mass transfer and if necessary, for energy exchange in columns for separation of mixtures of substances which contain a liquid and gaseous component. Hetragon™ PTFE elements have flow channels arranged parallel to one another and thus ensure a homogenous distribution of the material mixture over the entire cross-section. In addition, Hetragon™ PTFE elements can be used as a support plate for packings. The product design is determined according to the application. The Hetragon™ PTFE elements are usually placed on a circumferential carrier ring and are supported by a further internal supporting structure depending on the design.



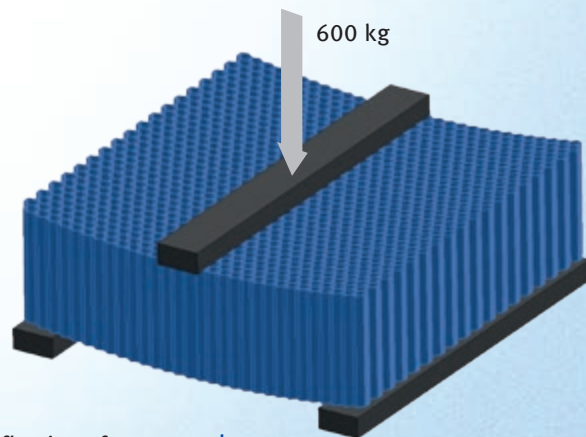
Load analysis

Test conditions:

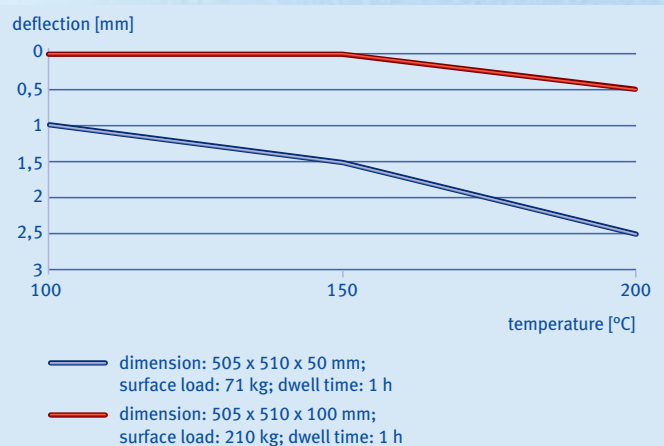
dimension Hetragon™ element: 505 x 510 x 250 mm

temperature: 250°C, dwell time: 8h

width of supporting surface: 50 mm

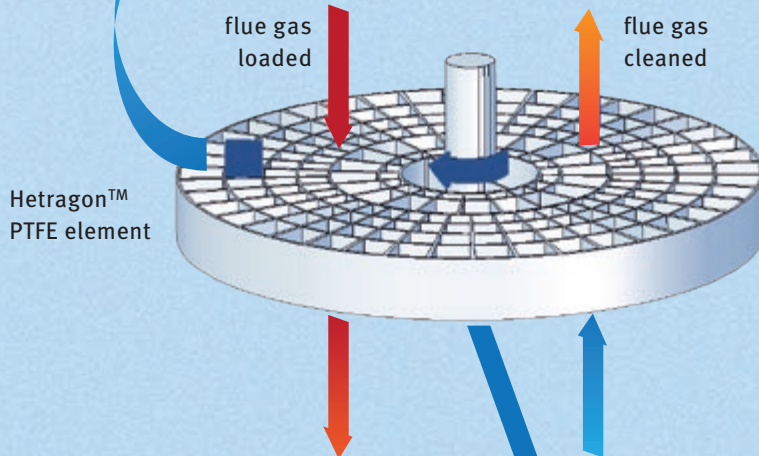


deflection of
Hetragon™ PTFE
element: 19 mm



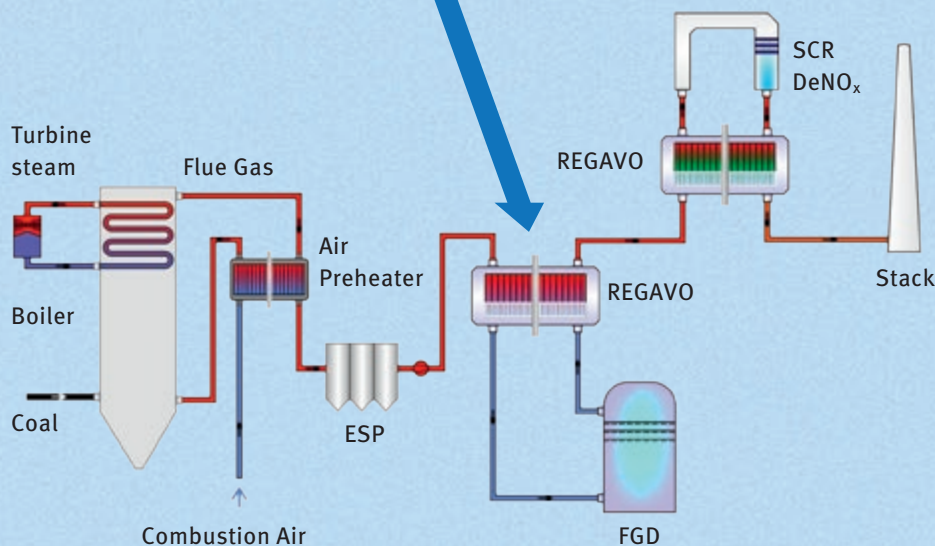
Corrosion-resistant Hetrakon™ PTFE elements for heat exchangers in coal-fired power plants

Hetrakon™ PTFE segment: Cold end heat transfer element for regenerative gas pre-heaters (REGAVO) used in flue gas desulfurization



Located just before the stack, the REGAVO unit recovers heat from the flue gas entering the scrubber and then transfers this heat to the cleaned flue gas leaving the scrubber to provide the gas with buoyancy to rise out of the stack and disperse.

The REGAVO operates in relatively low temperatures and high levels of SO_3 resulting in high potential for sulfuric acid corrosion. Consequently, heat transfer surfaces are either enamel coated or made from corrosion resistant materials such as PTFE.



Hetragon™: PTFE element with hexagonal flow channels for water purification

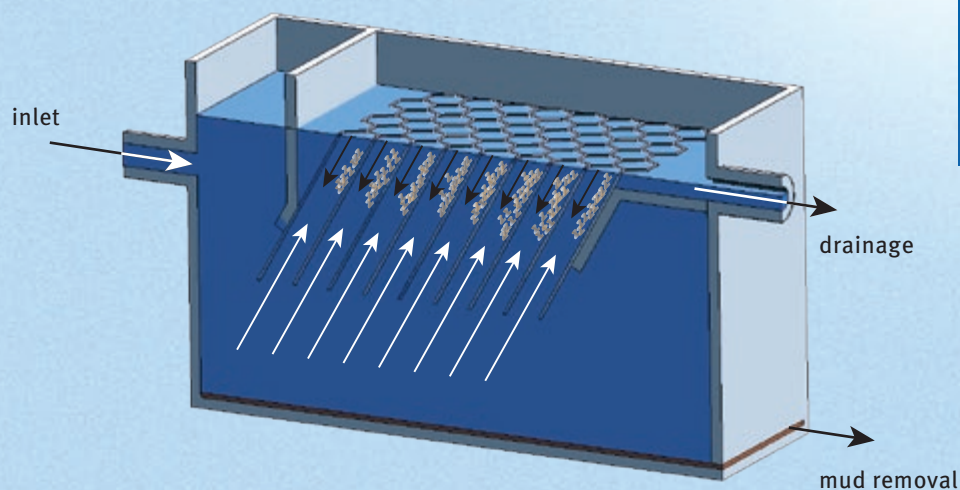


Hetragon™ PTFE elements can be used in water purification. The Hetragon™ PTFE elements comprises of multiple channels

arranged parallel to each other which serve as a sedimentation area. Thus Hetragon™ elements can be used as a carrier

body for a biological reaction medium or for separating solids from fluids.

Separation of fluid sediment

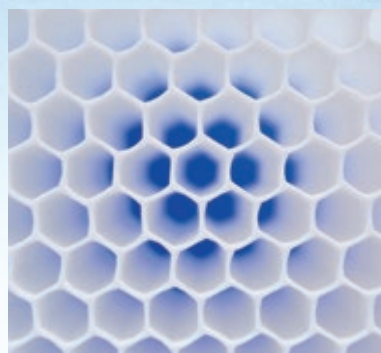


Example: "counter flow principle"

The fluid flows upwards while the solids, due to gravity, settle on the channel wall and slide off towards the sludge funnel

Technical specifications of Hetragon™ PTFE elements

channel geometry	hexagonal
height [mm]	250
distance of channel walls [mm]	14.3
channel area [cm ²]	1.5
wall thickness [mm]	1.2
free cross-section [%]	83
specific surface area [m ² /m ³]	150
specific weight of Hetragon™ "white" [kg/m ³]	360
specific weight of Hetragon™ "black" [kg/m ³]	300



Calorimetric details

material	specific heat capacity [J/g•K]	thermal conductivity [W /m•K]
PTFE unfilled "white"	1.01	0.35
PTFE thermally conductive "black"	1.24	0.43

Advantages of Hetragon™ PTFE elements

- high resistance to corrosive media
- operating temperature up to 250°C
- resistant to permanent temperature changes
- the anti-adhesive surface allows easy cleaning
- Flame class, UL 94: V-0
- Hetragon™ PTFE elements can be completely recycled after their use
- multifunctional applications: good integration into existing and new plants
- tailor-made system solutions
- Hetragon™ PTFE elements can be welded together
- high load carrying capacity — multi-layer construction possible with spacers
- The Hetragon™ PTFE element design is a balanced system with regard to the flow behaviour, the contact surface as well as the cleaning behaviour

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DQS certified according to ISO/TS 16949 (Reg. no. 002504 TS2/003) | DIN EN ISO 14001 (Reg. no. 002504 UM)



DNV-GL certified according to GMP for Equipment with Food Contact Surfaces (Reg.-Nr. 201043-2016-FSMS-ITA-DNV)



DQS MED certified according to EN ISO 13485:2012

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