

Synthetic Resin-Impregnated Graphite GAB GPX

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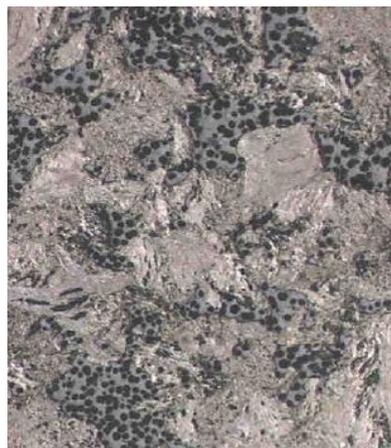
- Synthetic resin-impregnated graphite has excellent chemical corrosion resistance
- It withstands virtually all leaches, acids, solvents, halogens and their respective alloys
- The critical success factors for high quality graphite processing are: a homogeneous texture, a uniform grain structure, a perfect graphite impregnation process and consistent mechanical and thermal processing
- If these conditions are respected, our products meet the most demanding requirements (e.g. cGMP capabilities)

Providing the best corrosion resistance against acids, solvents, chlorides and other halogenated compounds

Crucial quality criteria are the structure of basic material, impregnation resin, and the impregnation process

Impregnation Process

- In our sophisticated impregnation process porous graphite is penetrated with our unique, high performance resin
- The subsequent polymerization step results in a solid final state
- Excellent corrosion resistance and very low permeation are achieved due to its great mechanical strength



Synthetic resin impregnated graphite GAB GPX1 (micrograph at 100X)

Optimal mechanical strength, even at high temperatures

Lowest permeability ensuring smallest risk of cross-contamination

Material Properties

Graphite Quality		GAB GPX1 GAB GPX1T	GAB GPX2
Bulk Density	oz/gal	251 - 256	251 - 256
Porosity, open	%	0 (20) ¹⁾	0 (15) ¹⁾
Max. Grain Size	mil	31,5	31,5
Thermal Conductivity	BTU/hrft°F	≥ 830	≥ 1040
Tensile Strength	psi	≥ 2610	≥ 2900
Max. Temperature	°F	356 (GPX1T: 392)	392

Excellent material properties resulting in top performance in application

¹⁾(...) values before impregnation

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Material Properties

- Tasks as extreme as quenching flue gas at 2370°F can be carried out with graphite, as it is capable of withstanding wall temperatures within the range of -76°F to +392°F
- Diverse processes can be carried out with the large-span pressure envelope full vacuum to 232 psi

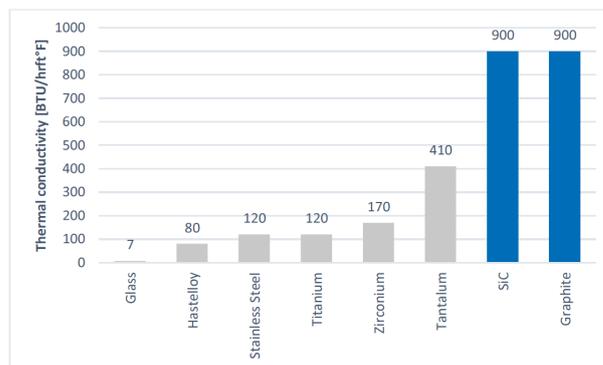
A maximum temperature range of -76°F to +392°F allows for process temperatures of up to 2370°F

A maximum pressure envelope of full vacuum to 232 psi

Thermal Conductivity Properties

- GAB GPX Graphite's thermal conductivity is much greater than that of most comparable corrosion resistant materials

Thermal conductivity comparison of various corrosion-resistant materials used in the chemical processing industry

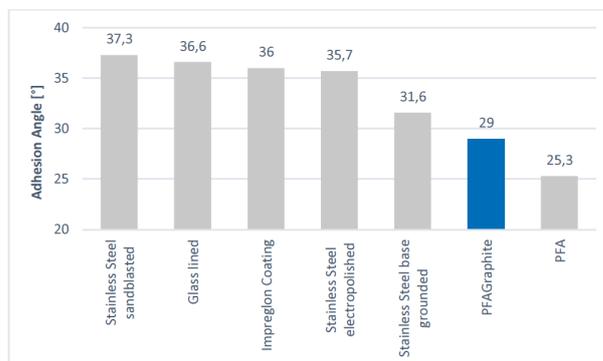


Excellent thermal conductivity

Further Physical Properties

- A very low tendency to foul compliments use and makes the material suitable for use in onerous applications

Comparison of the adhesion angle as an indicator for the adherence tendency of various corrosion resistant materials



Graphite is non-adhesive

Optimized cleaning ability facilitates successful use in multi-purpose plants

Additional information

- For detailed corrosion resistance information please refer to GAB Neumann Material Information W-2
- Further material properties of GAB GPX are provided in GAB Neumann Work Standard WS 1414



Graphite and SiC Heat Exchangers and Process Equipment Graphite and SiC