Corrosion Resistance of Synthetic Resin-Impregnated Graphite GAB GPX

General Information

- All data refers to the qualities of synthetic resin-impregnated graphite GAB GPX1 / GPX1T resp. GAB GPX2.
- Corrosion resistance depends on several factors including both the application process (e.g. process media, concentrations, temperatures) and the equipment used (e.g. graphite quality, wall temperatures, equipment design).
- Temperatures indicated are maximum admissible values for the graphite wall. The respective process temperature may be significantly higher than the values provided in the chart (e.g. in flue gas quenches up to 2372°F).
- The data given in the following charts reflects the current status of our expertise in application. This data is not guaranteed in all circumstances. It should in now way be used as the basis of any legal claim.
- Based on specific and individual usage data we have been able to gather practical information regarding thermal/corrosion resistance.
- In case of doubt we strongly recommend corrosion resistance tests.

Excellent corrosion resistance against virtually all leaches, acids, solvents and halogens

A maximum temperature range of -76°F to +392°F allows process temperature of up to 2372°C

Chemicals	Concentration max. [%]	Temperature[1] [°F]	Resistance
Acetaldehyde	all	392	●
Acetate of all common metals	all	392	●
Acetic acid	all	392	●
Acetic acid ester	all	392	●
Acetic anhydride	all	392	●
Acetone	all	392	●
Acetonitrile	all	392	●
Aldehydes	all	392	●
Aliphatic hydrocarbones	all	392	●
Alcohols	all	392	●
Allyl chloride	all	392	●
Amidosulphone acid	20	212	●
Amino acids	all	392	●
Ammonia	all	392	●
Ammonia carbonate	saturated	392	●
Aniline	all	392	●
Aniline hydrochloride	all	392	●
Aqua regia			-

Chemicals	Concentration max.	Temperature[1] [°F]	Resistance
Arsenic acid	all		
Benzaldehyde	all	392	●
Benzene	all	392	●
Benzenesulfonic acid	all	392	●
Benzoic acid	all	392	●
Benzyle chloride	all	302	●
Boric acid	all	392	●
Bromine Br_2			-
Butanol	all	392	●
Butyric acid	all	392	●
Calcium bisulphite solution (pulp digesting liquor)	50	392	●
Calcium hypochlorite	all	≤ 122	●
Carbon bi-sulphide	all	392	●
Carbon dioxide	all	392	●

● resistant
○ restricted resistant
- not resistant

[1] Max. admissible graphite wall temperature for GPX1T bzw. GPX2 (GPX1: 356°C)

GAB Neumann GmbH | Alemannenstrasse 29 | D-79689 Maulburg
T +49 (7622) 6751 0 | F +49 (7622) 6751 20 | info@gab-neumann.de

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Material Information (W-2)

Chemicals	Concen-- tration max. [%]	Tem- perature[1] [°F]	Resis- tance
Carbon monoxide	all	392	●
Carbon tetrachloride	all	392	●
Carboxylic acids	all	392	●
Chloroacetic acid (mono-, di, tri-)	all	392	●
Chloral	all	392	●
Chlorides all common metals	all	392	●
Chlorine gas, dry	all	≤ 122	●
Chlorine gas, moist	all	≤ 122	○
Chlorine gas, moist, with HCL		212	●
Chlorine liquid			-
Chlorobenzene	all	392	●
Chlorocyan	all	392	●
Chloroform	all	392	●
Chlorosulphonic acid	20	≤ 68	○
Chlorosulphonic acid	all		-
Chromic acid	< 10	≤ 68	●
Chromic acid	< 20	≤ 68	○
Cresols	all	392	●
Cyanide galvanising baths	all	392	●
Cyclohexane	all	392	●
Dibromoethane	all	392	●
Dichlorobenzene	all	392	●
Dichloroethane	all	392	●
Dichloroethylene	all	392	●
Dimethylacetamide	all	392	●
Dimethylaniline	all	392	●
Dimethylformamide	all	≤ 140	●
Dimethyl sulphoxide	all	≤ 140	●
Dinitrobenzene	all	392	●
Dioxane	all	≤ 140	●
Esters	all	392	●
Ethanol	all	392	●
Ethers	all	392	●
Ethyl chloride	all	392	●
Ethylene chlorohydrin	all	392	●
Fatty acids	all	392	●

Chemicals	Concen- tration max. [%]	Tem- perature[1] [°F]	Resis- tance
Fluoroboric acid	all	392	●
Fluorides	all	392	●
Fluorine gas			-
Formaldehyd	all	392	●
Formic acid	all	392	●
Glycol	all	392	●
Glycerine	all	392	●
Heat transfer fluids (Dowtherm, Diphyl, Mar-lotherm, Syltherm, all	all	392	●
Hydrobromic acid	all	392	●
Hydrochloric acid	all	392	●
Hydrofluoric acid	< 50	320	●
Hydrofluoric acid	< 60	≤ 122	●
Hydrofluoboric acid	all	392	●
Hydrofluosilicic acid	all	392	●
Hydrogen	all	392	●
Hydrogen bromide gas	all	392	●
Hydrogen chloride gas	all	392	
Hydrogen fluoride gas,	all	212	●
Hydrogen peroxide	< 5	≤ 122	○
Hydrogen peroxide	> 5		-
Hydrogen sulphide	all	392	●
Javel water			-
Ketones	all	392	●
Lacitic acid	all	392	●
Methanol	all	392	●
Methylchloroform	all	392	●
Methylene chloride	all	392	●
Methylethylketone	all	392	●
Methylisobuthylketone	all	392	●
n-Methylopyrolidone	all	≤ 140	●
Monochloroacetic acid	all	392	●
Nitraniline	all	212	●

● resistant
○ restricted resistant
- not resistant

[1] Max. admissible graphite wall temperature for GPX1T bzw. GPX2 (GPX1: 356°C)

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Material Information (W-2)

Chemicals	Concen-tration max. [%]	Tem-perature[1] [°F]	Resis-tance
Nitrates of all common metals	all	392	●
Nitric acid	> 20		-
Nitrites of all common metals	all	392	●
Nitrobenzene	all	392	●
Nitrophenol	all	212	●
Nitrous gases, dry	< 20	≤ 140	●
Nitrous gases, moist	< 20	≤ 140	○
Nitrotoluene	all	392	●
Oleum			-
Perchlorethylene	all	392	●
Perchloric acid	all	≤ 212	●
Phenol	all	392	●
Phosgene	all	392	●
Phosphoric acid	all	392	●
Phosphorusoxichloride	all	392	●
Phosphorustrichloride	all	392	●
Photographic solutions	all	392	●
Pickling baths ($HCl + H_2SO_4$)	all	392	●
Plating baths	all	392	●
Potassium hydroxide	< 10	≤ 140	●
Potassium hydroxide	< 30	≤ 68	●
Potassium hypochlorite	all	≤ 86	○
Potassium permanganate	all	392	●
Propanol	all	392	●
Pyridine	all	392	●
Sea water	all	392	●
Sodium carbonate	all	≤ 212	●
Sodium chlorate	all	392	●
Sodium hydroxide	< 10	≤ 140	●

Chemicals	Concen-tration max. [%]	Tem-perature[1] [°F]	Resis-tance
Sodium hydroxide	10 - 20	140 - 68	○
Sodium hydroxide	> 20		-
Sodium hypochlorite	all	≤ 104	○
Sodium hypochlorite		> 104	-
Sodium thiosulphate	all	392	●
Spinning bath solutions (H_2SO_4)	50	392	●
Sulphates of all com-mom metals	all	392	●
Sulphites of all commom metals	all	392	●
Sulphur dioxide, gas	50	392	●
Sulphuric acid	< 65	392	●
Sulphuric acid	65 - 85	392 - 104	○
Sulphuric acid	> 85		-
Sulphuric acid + Nitric acid			-
Sulphurious acid	all	392	●
Sulphuryl chloride	all	392	●
Tetrachloroethane	all	248	●
Tetrachloroethylen	all	392	●
Tetrahydrofurane	all	≤ 140	●
Thionyl chloride	all	392	●
Toluene	all	392	●
Trichloroethylene	all	392	●
Uric acid	all	392	●
Vinyl chloride	all	392	●
Water (distilled as well)		392	●
Water, vapour		392	●
Xylene	all	392	●

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○ restricted resistant
- not resistant

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