

Chemical Resistance of Graphite Laminates - 2018

Resistance	A = resistant	B = conditionally resistant		U = not resistant						
Compatibility of media with	Graphite homogenous	Graphite laminate with insert								
		Aluminum	Hastelloy C 276	Inconel 625	Monel 400	Nickel 200	Steel	Titan Gr. 2	EN no 1.4401	SLF
Acetaldehyde	A	A	A	A	A	A	A	A	A	B
Acetamide	A	A	A	A	A	A	A	A	A	A
Acetic acid	A	B	A	A	B	B	U	B	A	A
Acetic acid amylester	A	A	A	A	A	A	A	A	A	B
Acetic acid anhydride	A	B	A	A	B	B	B	A	A	A
Acetic acid butylester	A	A	A	A	A	A	A	A	A	B
Acetone	A	A	A	A	A	A	A	A	A	B
Acetylene	A	A	A	A	A	A	A	A	A	A
Acrylic acid	A	B	A	A	B	B	U	B	A	A
Acrylic acid esters	A	A	A	A	A	A	A	A	A	B
Acrylonitril	A	A	A	A	A	A	A	A	A	B
Adipic acid	A	B	A	A	B	B	U	B	A	A
Air (< 400 °C)	A	A	A	A	A	A	A	A	A	A
Aluminum acetate	A	A	B	A	A	A	B	A	A	A
Aluminum chlorate	A	A	A	A	B	B	U	A	A	A
Aluminum chloride	A	U	B	B	B	B	U	B	U	A
Aluminum fluoride	A	B	B	B	B	B	U	A	U	A
Aluminum sulfate	A	B	A	B	B	B	U	A	B	A
Amino acids	A	B	A	A	B	B	U	U	B	A
Ammonia (anhydrous)	A	A	A	A	B	B	B	A	A	A
Ammonia (gaseous)	A	A	A	A	B	B	A	A	A	A
Ammonium bifluoride	A	U	A	B	B	B	B	B	B	A
Ammonium bisulfate	A	B	A	B	B	B	U	A	A	A
Ammonium carbonate	A	B	B	A	A	A	B	A	A	A
Ammonium chloride	A	U	A	A	B	B	B	A	B	A
Ammonium dihydrogen phosphate	A	A	A	A	A	A	A	A	A	A
Ammonium fluoride	A	U	A	B	B	B	B	B	B	B
Ammonium hydroxide	A	B	A	A	U	U	A	A	A	A
Ammonium nitrate	B	B	B	B	U	U	U	B	B	B
Ammonium persulfate	A	U	A	A	U	U	U	A	U	A
Ammonium phosphate	A	B	A	A	B	B	U	A	A	A
Ammonium sulfate	A	U	A	A	B	A	A	A	A	A
Ammonium thiocyanate	A	B	A	A	A	A	B	A	A	A
Amyl acetate	A	A	A	A	A	A	B	A	A	B
Aniline	A	B	A	A	B	B	A	A	A	U
Aniline hydrochloride	A	U	A	A	U	U	U	B	U	B
Aqua regia	U	U	U	U	U	U	U	U	U	U
Arsenic acid	A	B	A	A	B	B	U	U	B	B
Arsenic trichloride	A	B	A	A	A	A	U	A	U	A
Barium chloride	A	B	A	A	B	B	B	A	A	A
Beer	A	A	A	A	A	A	A	A	A	A

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		Aluminium	Hastelloy C 276	Inconel 625	Monel 400	Nickel 200	Steel	Titan Gr. 2	EN no 1.4401	SLF
Benzaldehyde	A	A	A	A	A	A	A	A	A	B
Benzene	A	A	A	A	A	A	A	A	A	A
Benzenesulfonic acid	A	U	B	B	U	U	U	U	U	B
Benzoic acid	A	B	A	A	B	B	U	B	A	B
Benzyl chloride	A	B	A	A	A	A	B	A	A	A
Boric acid	A	B	A	A	A	A	B	A	A	A
Bromic acid	B	U	B	B	U	U	U	B	U	B
Bromine (dry)	A	A	A	A	A	A	B	U	A	A
Bromine (wet)	B	U	B	U	B	B	U	B	U	B
Bromine trifluoride	U	U	U	U	U	U	U	U	U	U
Butadiene	A	A	A	A	A	A	A	A	A	A
Butane	A	A	A	A	A	A	A	A	A	A
Butanol	A	A	A	A	A	A	A	A	A	A
Butyl acetate	A	A	A	A	A	A	A	A	A	B
Butyl amine	A	A	A	A	A	A	A	A	A	U
Butyl cellosolve	A	A	A	A	A	A	A	A	A	A
Butyl phenol	A	B	A	A	A	A	A	A	A	A
Butyric acid	A	B	A	A	B	B	U	B	A	A
Calcium carbonate	A	A	A	A	A	A	A	A	A	A
Calcium chloride	A	B	A	A	B	A	B	B	B	A
Calcium hydroxide	A	B	A	A	A	A	A	A	A	A
Calcium hypochlorite	A	U	B	B	B	B	U	A	U	A
Calcium oxide	A	A	A	A	A	A	A	A	A	A
Calcium sulfate	A	A	B	A	A	A	A	A	A	A
Carbolineum	A	B	A	A	A	A	B	A	A	B
Carbon dioxide	A	A	A	A	B	B	B	A	A	A
Carbon disulfide	A	A	A	A	A	A	A	A	A	A
Carbon monoxide	A	A	A	A	B	B	B	A	A	A
Carbon tetrachloride	A	A	A	A	A	A	A	A	A	A
Chloral hydrate	A	A	A	A	A	A	A	A	A	A
Chlorine (dry)	A	A	A	A	A	A	B	U	A	A
Chlorine (wet)	B	U	B	U	B	B	U	B	U	B
Chlorine dioxide	B	B	B	B	U	U	U	B	B	B
Chlorine trifluoride	U	U	U	U	U	U	U	U	U	U
Chloro ethyl benzene	A	A	A	A	A	A	A	A	A	B
Chloroacetic acid	A	B	A	A	B	B	U	B	U	B
Chlorobenzene	A	A	A	A	A	A	A	A	A	A
Chloroform	A	A	A	A	A	A	A	A	A	B
Chloropropionic acid	A	B	A	A	B	B	U	B	A	A
Chromic acid	A	B	B	B	U	U	U	B	B	B
Chromium trioxide (aqueous)	B	B	B	B	U	U	U	B	B	B
Chromosulfuric acid	B	B	B	B	U	U	U	B	U	B
Citric acid	A	B	A	A	B	B	U	B	A	A
Copper acetate	A	U	A	A	B	B	U	A	A	A
Copper chloride	A	U	A	A	U	U	U	A	A	A

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		Aluminium	Hastelloy C 276	Inconel 625	Monel 400	Nickel 200	Steel	Titan Gr. 2	EN no 1.4401	SLF
Copper sulfate	A	U	A	A	B	B	U	A	A	A
Cresol	A	B	A	A	A	A	U	A	A	B
Cyclohexane	A	A	A	A	A	A	A	A	A	A
Cyclohexanol	A	A	A	A	A	A	A	A	A	A
Cyclohexanone	A	A	A	A	A	A	A	A	A	U
Decaline	A	A	A	A	A	A	A	A	A	A
Dibenzylether	A	A	A	A	A	A	A	A	A	U
Dibutyl phthalate	A	A	A	A	A	A	A	A	A	A
Dichlorobenzene	A	A	A	A	A	A	A	A	A	A
Dichloromethane	A	U	A	B	B	B	B	A	A	B
Diethanolamine	A	A	A	A	A	A	A	A	A	B
Diethyl ether	A	A	A	A	A	A	A	A	A	A
Diethylamine	A	A	A	A	A	A	A	A	A	B
Dimethyl formamide	A	A	A	A	A	A	A	A	A	U
Dimethyl sulfoxide	A	A	A	A	A	A	A	A	A	U
Dioxane	A	A	A	A	A	A	A	A	A	B
Diphenyl ether	A	A	A	A	A	A	A	A	A	A
Disulfur dichloride	A	B	A	B	U	U	U	A	A	A
Dowtherm (all types)	A	A	A	A	A	A	A	A	A	A
Epichlorohydrin	A	A	A	A	A	A	B	A	A	A
Ethane	A	A	A	A	A	A	A	A	A	A
Ethanol	A	A	A	A	A	A	B	A	A	A
Ethanolamine	A	A	A	A	A	A	B	A	A	B
Ethyl acetate	A	A	A	A	A	A	A	A	A	B
Ethyl amine	A	A	A	A	A	A	B	A	A	B
Ethyl butyl ester	A	A	A	A	A	A	A	A	A	B
Ethyl chloride	A	B	A	A	B	B	B	A	A	B
Ethyl mercaptane	A	A	A	A	A	A	A	A	A	A
Ethylenchlorohydrin	A	A	A	A	A	A	A	A	A	A
Ethylendiamine	A	A	A	A	A	A	B	A	A	U
Ethylendibromide	A	A	A	A	A	A	A	A	A	U
Ethylendichloride	A	A	A	A	A	A	A	A	A	U
Ethylene	A	A	A	A	A	A	A	A	A	A
Ethylene glycol	A	A	A	A	A	A	A	A	A	A
Ethylene oxide	A	A	A	A	A	A	A	A	A	A
Fatty acids	A	B	A	A	A	A	B	A	A	A
Fatty alcohols	A	A	A	A	A	A	A	A	A	A
Fluorine	U	U	U	U	U	U	U	U	U	U
Fluorobenzene	A	A	A	A	A	A	A	A	A	B
Folic acid	A	B	A	A	B	B	U	B	A	A
Formaldehyde	A	A	A	A	A	A	B	A	A	A
Formamide	A	A	A	A	A	A	A	A	A	A
Formic acid	A	B	A	A	B	B	U	B	B	B

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		Aluminium	Hastelloy C 276	Inconel 625	Monel 400	Nickel 200	Steel	Titan Gr. 2	EN no 1.4401	SLF
Furfural	A	A	A	A	A	A	A	A	A	A
Gasoline	A	A	A	A	A	A	A	A	A	A
Glycerine	A	A	A	A	A	A	A	A	A	A
Glycols	A	A	A	A	A	A	A	A	A	A
Heat transfer oil	A	A	A	A	A	A	A	A	A	A
Heating oil	A	A	A	A	A	A	A	A	A	A
Heptane	A	A	A	A	A	A	A	A	A	A
Hexachloro benzene	A	A	A	A	A	A	A	A	A	A
Hydraulic oils	A	A	A	A	A	A	A	A	A	A
Hydrazine	A	A	A	A	A	A	A	A	A	A
Hydrochloric acid	A	U	B	B	B	B	U	B	U	U
Hydrofluoric acid	A	U	B	B	A	B	U	U	U	U
Hydrogen bromide	A	U	B	B	B	B	U	B	U	U
Hydrogen cyanide	A	A	A	A	A	A	B	A	A	A
Hydrogen peroxide	B	B	B	B	B	B	U	B	B	B
Hydrogen sulfide (aqueous)	A	A	A	A	B	B	U	A	A	U
Iodine	A	B	B	B	B	B	B	B	B	A
Iron(II) chloride	A	U	A	A	U	U	U	A	U	A
Iron(II) sulfate	A	U	A	A	A	A	A	A	A	A
Iron(III) chloride	A	U	A	A	U	U	U	A	U	A
Iron(III) sulfate	A	U	A	A	U	U	U	A	A	A
Isooctane	A	A	A	A	A	A	A	A	A	A
Isopropyl acetate	A	A	A	A	A	A	A	A	A	A
Isopropyl alcohol	A	A	A	A	A	A	A	A	A	A
Isopropyl ether	A	A	A	A	A	A	A	A	A	A
Lactic acid	A	B	A	A	B	B	U	B	B	A
Lauryl alcohol	A	A	A	A	A	A	A	A	A	A
Lead acetate	A	U	A	A	A	A	U	A	A	A
Linseed oil	A	A	A	A	A	A	A	A	A	A
Magnesium carbonate	A	B	B	A	A	A	B	A	A	A
Magnesium chloride	A	U	A	A	A	A	U	A	U	A
Magnesium hydroxide	A	B	A	A	A	A	A	A	A	A
Magnesium nitrate	A	A	A	A	B	B	B	A	A	A
Magnesium sulfate	A	A	B	B	B	B	B	A	A	A
Maleic acid	A	B	A	A	B	B	U	B	A	A
Maleic acid anhydride	A	B	A	A	A	A	A	A	A	A
Manganese carbonate	A	A	A	A	A	A	A	A	A	A
Manganese chloride	A	B	B	A	A	A	U	A	B	A
Manganese sulfate	A	B	A	A	A	A	B	A	A	A
Mannitol	A	A	A	A	A	A	A	A	A	A
Mercaptanes	A	A	A	A	A	A	A	A	A	A

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		Aluminium	Hastelloy C 276	Inconel 625	Monel 400	Nickel 200	Steel	Titan Gr. 2	EN no 1.4401	SLF
Mercuric chloride	A	U	B	B	U	U	U	B	U	A
Mercury	A	U	A	A	B	B	B	A	A	A
Methane	A	A	A	A	A	A	A	A	A	A
Methanol	A	B	A	A	A	A	B	A	A	A
Methyl chloride	A	B	A	A	A	A	A	A	A	B
Methyl ethyl ether	A	A	A	A	A	A	A	A	A	A
Methyl ethyl ketone (MEK)	A	A	A	A	A	A	A	A	A	B
Methyl isobutyl ketone (MIBK)	A	A	A	A	A	A	A	A	A	B
Mineral oil	A	B	A	A	A	A	B	A	A	A
Morpholine	A	A	A	A	A	A	A	A	A	A
Motor oil	A	A	A	A	A	A	A	A	A	A
Nickel sulfate	A	U	B	B	B	U	U	A	B	A
Nickel chloride	A	U	B	B	B	B	U	A	A	A
Nitrating acid	U	U	U	U	U	U	U	U	U	U
Nitric acid	B	B	B	B	U	U	U	B	B	U
Nitrobenzene	A	A	A	A	A	A	A	A	A	U
Nitrogen	A	A	A	A	A	A	A	A	A	A
Nitrous acid	B	B	B	B	U	U	U	B	B	B
Nitrous oxide	A	A	A	A	A	A	B	A	A	A
Octane	A	A	A	A	A	A	A	A	A	A
Octanol	A	A	A	A	A	A	A	A	A	A
Oleic acid	A	A	A	A	A	A	B	A	A	A
Oxalic acid	A	B	A	A	B	B	U	B	B	B
Oxygen (< 300 °C)	A	A	A	A	A	A	B	A	A	A
Palmitic acid	A	B	A	A	A	A	B	A	A	A
Paraffin oil	A	A	A	A	A	A	A	A	A	A
Paraldehyde	A	A	A	A	A	A	A	A	A	A
Pentane	A	A	A	A	A	A	A	A	A	A
Pentanol	A	B	A	A	A	A	A	A	A	A
Perchloric acid	U	U	U	U	U	U	U	U	U	U
Petroleum	A	A	A	A	B	B	A	A	A	A
Petroleum ether	A	A	A	A	A	A	A	A	A	A
Phenol	A	U	A	A	B	A	U	A	A	U
Phenyl acetic acid	A	B	A	A	B	B	U	B	A	A
Phosgene	A	A	A	A	A	A	A	A	A	A
Phosphoric acid	A	U	B	B	B	B	U	U	B	A
Phosphorous trichloride	A	B	A	A	A	A	U	A	B	A
Phthalic acid	A	B	A	A	B	B	U	B	A	A
Picric Acid	A	U	B	B	U	U	U	U	U	B
Potassium (< 350 °C)	A	A	A	A	A	A	A	A	A	A
Potassium acetate	A	A	A	A	A	A	A	A	A	A
Potassium bromide	A	B	A	A	A	A	B	A	A	A
Potassium carbonate	A	U	B	B	A	A	B	A	A	A

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Potassium chlorate	B	B	B	B	U	U	U	B	B	B
Potassium chloride	A	B	A	A	A	A	U	A	U	A
Potassium chromate	B	B	B	B	U	U	B	B	B	B
Potassium cyanide	A	U	A	A	B	B	U	A	A	A
Potassium hydrogensulfate	A	B	A	A	B	B	B	A	A	A
Potassium hydroxide	A	U	B	A	A	A	B	B	A	B
Potassium hypochlorite	A	U	B	B	B	B	U	A	U	A
Potassium iodide	A	B	A	A	A	A	A	A	A	A
Potassium nitrate (melt)	B	B	B	B	U	U	U	B	B	B
Potassium permanganate	A	B	A	A	U	U	U	A	A	A
Potassium silicate	A	B	A	A	A	A	A	A	A	A
Potassium sulfate	A	A	B	A	A	A	B	A	A	A
Propane	A	A	A	A	A	A	A	A	A	A
Propene	A	A	A	A	A	A	A	A	A	A
Pyridine	A	A	A	A	A	A	A	A	A	U
Sea water	A	B	A	A	A	U	U	A	B	A
Silicones	A	A	A	A	A	A	A	A	A	A
Siloxanes	A	A	A	A	A	A	A	A	A	A
Silver nitrate	A	U	B	A	U	U	U	A	A	A
Soap	A	A	A	A	A	A	A	A	A	A
Sodium bicarbonate	A	B	A	A	A	A	B	A	A	A
Sodium bisulfate	A	B	A	A	B	B	U	A	A	A
Sodium borate (aqueous)	A	A	A	A	A	A	A	A	A	A
Sodium bromide	A	U	B	B	B	B	U	A	A	A
Sodium carbonate	A	B	B	B	B	A	U	A	A	A
Sodium chloride	A	B	A	A	A	B	U	A	A	A
Sodium hydroxide	A	B	A	A	A	A	B	B	B	B
Sodium hypochlorite	A	U	B	B	B	B	U	A	U	A
Sodium nitrate	A	A	A	A	B	B	B	A	A	A
Sodium peroxide	B	B	B	B	B	B	U	B	B	B
Sodium phosphate	A	B	A	A	A	A	B	A	A	A
Sodium silicate	A	A	A	A	B	A	A	A	A	A
Sodium sulfate	A	A	A	A	A	A	U	A	A	A
Sodium sulfide	A	B	A	A	B	B	A	A	A	A
Soy bean oil	A	A	A	A	A	A	B	A	A	A
Stannic chloride	A	U	A	A	B	B	U	A	B	B
Starch solution	A	A	A	A	A	A	A	A	A	A
Stearic acid	A	A	A	A	A	A	B	A	A	A
Styrene	A	A	A	A	A	A	A	A	A	A
Sulfonic acids	A	B	A	A	B	B	U	B	A	B
Sulfur chloride	A	U	A	A	B	B	B	A	A	A
Sulfur dioxide	A	B	A	A	B	A	U	A	B	A
Sulfur hexafluoride	A	A	A	A	A	A	A	A	A	A
Sulfur trioxide	B	B	B	B	U	U	U	B	B	B
Sulfuric acid < 70 %	B	B	B	B	U	U	U	B	U	U

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Sulfuric acid > 70%	U	U	U	U	U	U	U	U	U	U
Sulfuric acid fuming	U	U	U	U	U	U	U	U	U	U
Sulfurous acid	A	B	A	A	B	A	U	A	A	B
Sulfur (molten)	A	A	A	A	B	A	A	A	A	A
Tannin	A	A	A	A	A	A	A	A	A	A
Tartaric acid	A	B	A	A	B	B	U	B	A	A
Tetrachlorethylene	A	A	A	A	A	A	A	A	A	B
Tetrachloroethane	A	A	A	A	A	A	A	A	A	B
Tetralin	A	A	A	A	A	A	A	A	A	A
Thionylchloride	A	B	B	B	B	B	U	A	B	A
Toluene	A	A	A	A	A	A	A	A	A	A
Tricalcium phosphate	A	A	A	A	A	A	A	A	A	A
Trichloro acetic acid	A	U	B	B	U	U	U	U	U	B
Trichloroethylene	A	A	A	A	A	A	A	A	A	B
Triethanolamine	A	B	A	A	A	A	B	A	A	B
Urea	A	A	A	A	A	A	A	A	A	A
Vapour	A	A	A	A	B	B	B	A	A	A
Vinyl acetate	A	A	A	A	A	A	A	A	A	A
Wine vinegar	A	B	A	A	A	A	B	A	A	B
Xylene	A	A	A	A	A	A	A	A	A	A
Zinc chloride	A	U	A	A	B	B	B	B	B	B
Zinc sulfate	A	B	A	A	B	B	U	A	A	B

The data of the chemical resistance are based on experiments, experience and arguments by analogy. The data should provide a general indication without any warranty claim. We reserve the right to product changes which serve the purpose of technical progress.