



## ХИМИЧЕСКА УСТОЙЧИВОСТ НА МАТЕРИАЛИТЕ CHEMICAL RESISTANCE OF MATERIALS

Това ръководство за химическа устойчивост на материалите се основава на данни от Spirax Sarco, Tedeflex и Saunders и е предназначено само за използване като ръководство. Тъй като много от променливите като температура, налягане, концентрация могат да повлияят едновременно на материала в реални експлоатационни условия, точността не може да бъде гарантирана. Действителния експлоатационен живот може да бъде определен само от потребителя, оценяващ реалните експлоатационни условия.

*This chemical resistance guide is based on data from Spirax Sarco, Tedeflex & Saunders Co. and is intended as a guide only. As many variables, such as temperature, pressure and chemical concentrations, can affect simultaneously the material performance in actual service conditions, the accuracy of the ratings cannot be guaranteed. Actual service life can be determined only by the user evaluating the elastomer in actual service conditions.*

Химикал - Chemical	Концентрация Concentration	Температура - Temperature °C	Неръждаема стомана AISI 304/304L/321/347	Неръждаема стомана - AISI 316/316L/317/317L	Алуминиев бронз - Aluminium bronze	Hastelloy B	Hastelloy C	Лят чугун - Cast iron	Никелиран лят чугун - Nickel plated cast iron	Стомана - Steel	EPDM	Buna N (NITRILE, NBR)	Естествен каучук - Natural rubber	Неопрен - Neoprene	Hypalon	Viton	Силикон - Silicon	PTFE
			304	316	AB	HB	HC	CI	CIN	ST	EP	BN	NR	NE	HY	VI	SI	PT
Acetaldehyde		20	-	A	D	-	A	B	D	B	B	D	C	D	D	-	B	A
Acetic acid	0 - 20%	20	A	A	-	A	A	-	-	-	-	-	-	-	-	-	-	A
Acetic acid		50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Acetic acid		65	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Acetic acid		100	B	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Acetic acid	20 - 60%	20	A	A	-	A	A	-	-	-	-	-	-	-	-	-	-	A
Acetic acid		65	A	-	D	A	A	-	D	-	B	B	D	A	A	D	A	A
Acetic acid		100	B	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Acetic acid	60 - 80%	20	-	A	-	A	A	-	-	-	-	-	-	-	-	-	-	A
Acetic acid		65	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Acetic acid		75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Acetic acid		100	C	A	-	B	A	-	-	-	-	-	-	-	-	-	-	A
Acetic acid	80 - 95%	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Acetic acid		65	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Acetic acid		75	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Acetic acid		100	D	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Acetic acid	95 - 100%	30	A	A	D	-	A	-	D	-	D	D	D	D	B	D	-	A
Acetic anhydride	10%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Acetic anhydride	50%	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Acetic anhydride		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Acetic anhydride	90%	100	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Acetic anhydride	100%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Acetic anhydride		140	C	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Acetone	10 - 50%	20	A	-	A	-	-	-	B	-	A	D	D	-	-	D	-	A
Acetone	50%	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Acetone	100%	200	A	A	-	A	A	-	-	-	-	-	-	-	-	-	-	D
Acetylene (100%)		20	A	A	A	A	A	A	B	A	B	C	B	D	D	B	-	A
Acrylonitrile		20	-	A	A	-	-	B	B	A	D	D	D	D	D	D	-	A
Alcohol amyl	100%	20	-	A	A	-	-	-	C	-	-	C	-	C	B	B	-	A
Alcohol butyl	100%	20	-	A	A	-	A	-	C	-	-	C	-	B	D	-	-	A



## ХИМИЧЕСКА УСТОЙЧИВОСТ НА МАТЕРИАЛИТЕ

### CHEMICAL RESISTANCE OF MATERIALS

Химикал- <i>Chemical</i>	Концентрация <i>Concentration</i>	°C	304	316	AB	HB	HC	CI	CIN	ST	EP	BN	NR	NE	HY	VI	SI	PT
Alcohol ethyl	10%	20	A	A	-	-	-	B	-	B	-	-	-	-	-	-	-	A
Alcohol ethyl		100	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Alcohol ethyl	30%	100	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Alcohol ethyl	40%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Alcohol ethyl	100%	20	A	A	A	A	A	-	D	-	A	B	B	B	B	B	-	D
Alcohol ethyl		80	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Alcohol ethyl		100	B	B	-	A	A	-	-	-	-	-	-	-	-	-	-	D
Alcohol isopropyl	100%	20	-	A	A	-	A	-	C	-	-	B	-	C	A	A	-	A
Alcohol methyl	0-100%	20	B	B	A	A	A	B	D	B	A	B	B	B	B	D	-	A
Alcohol methyl	100%	80	C	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Alcohol methyl		100	C	B	-	A	A	-	-	-	-	-	-	-	-	-	-	A
Alcohol propyl	100%	20	-	A	A	-	-	B	D	B	A	D	-	A	A	A	-	A
Alum	10%	20	B	B	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Alum		bg	B	B	-	C	B	-	-	-	-	-	-	-	-	-	-	-
Alum	100%	bg	C	B	-	C	B	-	-	-	-	-	-	-	-	-	-	-
Aluminium acetate	10%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Aluminium acetate	100%	20	B	B														A
Aluminium acetate		100	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Aluminium chloride	10%	bg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aluminium chloride	10-40%	20	D	D	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Aluminium chloride	25%	bg	D	D	-	B	C	-	-	-	-	-	-	-	-	-	-	-
Aluminium chloride	50-75%	20	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Aluminium chloride	100%	20	D	D	D	-	-	-	D	-	A	A	A	A	A	A	-	A
Aluminium chloride		80	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Aluminium fluoride	5%	20	D	C	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Aluminium fluoride	10-20%	20	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Aluminium fluoride	100%	20	D	B	-	-	-	-	D	-	-	B	-	B	-	B	-	A
Aluminium hydrate	10%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aluminium hydroxide	100%	20	-	B	-	-	-	-	D	B	-	B	-	B	-	B	-	A
Aluminium oxide	100%	20	-	B	B	-	A	-	B	-	A	A	B	C	B	B	-	-
Aluminium sulphate	10%	20	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Aluminium sulphate	10-30%	100	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Aluminium sulphate	40-50%	100	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Aluminium sulphate	100%	20	B	B	D	B	A	-	D	-	-	A	-	A	A	-	A	A
Amines	Amines	20	A	A	-	A	A	-	D	A	-	C	-	-	-	-	-	A
Ammonia	10-30%	80	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ammonia		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ammonia	40-50%	20	A	A	D	-	A	A	C	A	A	B	B	B	B	D	-	-
Ammonia	100%	20	A	A	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Ammonia		100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	vapour	65	D	D	-	-	-	-	D	-	B	-	-	-	D	-	A	A
Ammonia	anhydrous	20	A	D	--	-	-	B	D	A	A	B	-	-	-	D	-	A
Ammonium bicarbonate	0-50%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ammonium bicarbonate	50-90%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonium bicarbonate	100%	100	-	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonium carbonate	1-5%	20	A	A	-	-	-	B	-	B	-	-	-	-	-	-	-	A
Ammonium carbonate	0-50%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ammonium carbonate	50-70%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ammonium carbonate	100%	20	B	B	D	B	B	-	D	-	A	D	B	B	-	-	-	A
Ammonium chloride	1%	20	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ammonium chloride	5%	80	-	B	D	-	A	-	D	-	-	-	-	A	A	-	-	A
Ammonium chloride	10%	20	B	B	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Ammonium chloride		80	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ammonium chloride		100	A	C	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ammonium chloride		bg	C	B	-	D	-	-	-	-	-	-	-	-	-	-	-	A



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**CHEMICAL RESISTANCE OF MATERIALS**

Химикал - Chemical	Концентрация Concentration	°C	304	316	AB	HB	HC	CI	CIN	ST	EP	BN	NR	NE	HY	VI	SI	PT
Ammonium chloride	25%	20	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ammonium chloride		80	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ammonium chloride		100	D	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ammonium chloride		bg	D	C	-	B	C	-	-	-	-	-	-	-	-	-	-	-
Ammonium chloride	50%	100	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ammonium chloride	90%	30	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ammonium hydroxide	100%	20	A	A	D	A	A	-	D	-	A	B	D	A	A	B	-	A
Ammonium nitrate	5%	20	-	A	D	-	A	-	C	-	-	A	-	A	C	-	-	A
Ammonium nitrate	10-50%	20	A	A	-	-	-	-	-	B	-	-	-	-	-	-	-	A
Ammonium nitrate		100	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ammonium nitrate	50-100%	100	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ammonium nitrate	100%	20	B	B	-	D	A	-	-	-	-	-	-	-	-	-	-	A
Ammonium nitrate		bg	B	B	B	B	B	-	-	-	-	-	-	-	-	-	-	A
Ammonium phosphate	100%	20	-	B	D	-	B	-	D	-	A	A	B	A	A	-	-	A
Ammonium sulphate	1-5%	20	A	A	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Ammonium sulphate	10%	20	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ammonium sulphate		100	D	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ammonium sulphate	100%	20	D	B	D	-	B	-	D	-	A	A	-	A	A	A	-	A
Ammonium sulphite	10%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Amyl acetate (100%)		20	A	A	A	A	A	B	C	B	-	D	D	-	C	C	-	A
Aniline	3%	20	A	A	-	A	A	-	-	B	-	-	-	-	-	-	-	A
Aniline	10%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Aniline	90%	20	-	A	C	-	A	-	C	-	B	D	D	D	D	A	-	A
Aniline	100%	20	B	B	-	-	-	-	-	B	-	-	-	-	-	-	-	A
Aromatic hydrocarbons		20	A	A	B	A	A	B	-	A	-	-	-	-	-	-	-	A
Arsenic acid (100%)		20	-	A	-	-	-	-	D	-	A	A	-	A	A	A	A	A
Asphalt		20	A	A	A	-	A	-	A	-	-	D	D	D	D	A	-	A
Barium carbonate	100%	20	B	B	B	-	A	B	D	B	A	A	-	A	-	-	-	A
Barium chloride	5%	20	A	A	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Barium chloride	10%	20	B	B	-	-	-	B	-	B	-	-	-	-	-	-	-	A
Barium chloride		100	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Barium chloride	100%	20	D	C	-	B	B	-	D	-	A	A	A	A	A	A	-	A
Barium chloride		150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Barium hydroxide	100%	20	-	A	D	-	-	-	C	-	-	A	D	A	A	-	-	A
Barium nitrate	10-20%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Barium nitrate	20%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Barium nitrate	100%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Beer		20	A	A	D	A	A	-	D	-	A	-	-	-	-	A	A	A
Benzaldehyde		20	A	A	A	-	-	-	C	-	B	D	D	D	D	D	-	A
Benzene	10-70%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Benzene	100%	20	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Benzene		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Benzoic acid	5%	20	-	A	-	A	A	B	D	B	-	C	-	C	C	A	-	A
Benzoic acid	10 - 50%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	B
Benzoic acid	10 - 100%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	B
Benzoic acid	60%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	B
Benzoic acid	70%	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	B
Benzol	100%	20	-	A	A	-	A	B	C	B	D	D	D	D	D	B	-	A
Benzol		hot	A	A	-	B	B	-	-	-	-	-	-	-	-	-	-	-
Bismuth carbonate (dry)	100%	20	A	A	A	--	-	-	A	-	A	A	-	-	-	-	-	A
Blast furnace gas	100%	20	-	A	A	-	-	-	B	-	D	A	-	-	-	A	-	A
Borax	5%	20	A	A	-	A	A	-	-	B	-	-	-	-	-	-	-	A
Borax	100%	20	-	A	D	-	A	-	D	-	-	B	B	A	A	-	-	-
Boric acid	5%	20	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Boric acid		90	-	A	C	A	A	-	D	-	A	A	-	-	A	-	A	-



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Хџикџ - Chemical	Концентрация Concentration	°C	304	316	AB	HB	HC	CI	CIN	ST	EP	BN	NR	NE	HY	VI	SI	PT
Boric acid	10%	100	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Boric acid	20 - 50%	80	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Boric acid		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Boric acid		150	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Boric acid	100%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Boric acid		200	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromine (dry)		20	D	-	-	B	B	-	D	-	D	D	D	D	D	B	-	A
Butadiene	100%	20	-	A	B	-	-	-	C	-	-	B	-	-	-	B	-	A
Butane	100%	20	-	A	A	-	A	B	B	B	D	B	D	B	B	B	-	A
Butter		20	-	A	D	-	-	-	D	-	D	A	-	-	-	-	A	A
Butyl acetate (100%)		20	A	A	A	A	A	A	B	A	C	D	D	D	D	D	-	A
Butyric acid	5%	20	A	A	-	-	A	-	D	-	D	D	D	D	C	D	-	A
Butyric acid		65	A	A	-	B	A	-	-	-	-	-	-	-	-	-	-	A
Butyric acid	10%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Butyric acid	20%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Butyric acid	20 - 80%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Butyric acid	20 - 100%	50	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Butyric acid	30 - 50%	100	C	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Butyric acid	60 - 100%	100	D	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Calcium bisulphite	100%	20	C	B	-	C	B	-	-	-	-	-	-	-	-	-	-	A
Calcium carbonate	10%	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Calcium carbonate	100%	20	B	B	-	B	B	B	C	B	A	A	A	A	A	A	-	A
Calcium chlorate	10%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Calcium chlorate		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Calcium chlorate	65%	20	-	A	-	-	A	-	-	-	-	-	-	-	-	-	-	A
Calcium chloride	10%	20	C	C	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Calcium chloride	20-70%	100	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Calcium chloride	25%	20	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Calcium chloride		50	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Calcium chloride	35%	50	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Calcium chloride	30-70%	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Calcium chloride	100%	20	C	C	C	B	A	-	C	-	A	A	B	A	A	A	-	A
Calcium chloride		50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Calcium chloride		100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Calcium hydrate	10%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium hydrate	20%	100	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium hydrate	50%	100	C	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium hydrate	100%	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium hydroxide	5%	20	B	B	-	A	B	-	-	B	-	-	-	-	-	-	-	A
Calcium hydroxide	10%	bg	B	B	-	B	A	-	-	-	-	-	-	-	-	-	-	-
Calcium hydroxide	20%	bg	B	B	-	B	A	-	-	-	-	-	-	-	-	-	-	-
Calcium hydroxide	50%	10	-	A	D	-	A	-	C	-	A	A	A	A	A	A	-	A
Calcium hydroxide		bg	D	B	-	A	A	-	-	-	-	-	-	-	-	-	-	-
Calcium hypochlorite	2%	20	B	A	-	C	B	-	-	-	-	-	-	-	-	-	-	A
Calcium hypochlorite	10%	20	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Calcium hypochlorite	100%	20	D	-	-	-	-	-	-	-	A	C	-	B	A	A	-	A
Calcium sulphate	10%	20	-	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Calcium sulphate	100%	20	B	A	A	-	-	-	C	-	A	A	A	A	A	A	A	-
Carbon dioxide		20	-	A	A	-	-	B	C	A	B	B	B	B	A	A	A	A
Carbon disulphide	100%	20	B	B	-	B	B	-	-	B	-	-	-	-	-	-	-	A
Carbon tetrachoride	10%	20	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Carbon tetrachoride	100%	20	B	B	B	B	A	B	D	B	D	D	D	D	D	A	-	A
Carbon tetrachoride		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Carbonic acid	10%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Carbonic acid	100%	20	-	-	-	A	A	-	D	-	A	A	B	B	-	A	A	A

**ХИМИЧЕСКА УСТОЙЧИВОСТ НА МАТЕРИАЛИТЕ**  
**CHEMICAL RESISTANCE OF MATERIALS**

Химикал - Chemical	Концентрация Concentration	°C	304	316	AB	HB	HC	CI	CIN	ST	EP	BN	NR	NE	HY	VI	SI	PT
Carbonic acid		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Castor oil		20	-	A	A	-	-	B	D	B	D	A	A	-	-	A	A	A
Caustic lime	100%	20	-	B	A	-	-	-	D	-	A	C	-	-	-	-	-	A
Chlorine (gas)	90%	20	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorine (gas)	100% (dry)	20	D	C	-	B	A	B	-	B	-	-	-	-	-	-	-	A
Chlorine (gas)		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Chlorine (gas)		200	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorine (gas)		260	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorine (gas)	100% (wet)	100	D	D	-	D	D	-	-	-	-	-	-	-	-	-	-	A
Chloroacetic acid	10 - 100%	20	D	-	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Chlorobenzene	90%	20	-	A	A	-	-	-	C	-	D	D	-	D	D	B	-	A
Chlorobenzol	concentrated	20	A	A	-	A	A	-	-	A	-	-	-	-	-	-	-	A
Chloroform	100%	20	A	A	B	B	B	-	D	A	D	D	D	D	D	A	D	A
Chloroform		60	A	A	-	-	-	B	-	B	-	-	-	-	-	-	-	A
Chromic acid	5%	20	A	A	D	D	C	B	D	B	D	D	-	D	A	A	-	A
Chromic acid	10%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Chromic acid		bg-	B	B	-	D	B	-	-	-	-	-	-	-	-	-	-	-
Chromic acid	25%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Chromic acid		50	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Chromic acid	30%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Chromic acid		50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Chromic acid	50%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Chromic acid		50	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Chromic acid		100	D	C	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Chromic acid		bg	D	D	-	D	B	-	-	-	-	-	-	-	-	-	-	-
Chromic acid	70%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Chromium plating soln		20	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Citric acid	5%	20	A	A	-	A	A	-	-	-	-	-	-	-	-	-	-	A
Citric acid		60	A	A	C	A	A	-	D	-	A	B	D	A	-	A	A	A
Citric acid	10%	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Citric acid		50	B	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Citric acid		80	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Citric acid		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Citric acid	15%	20	A	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Citric acid		bg	A	B	A	--	A	-	C	-	-	-	-	-	-	-	-	-
Citric acid	20 - 50%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Citric acid		50	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Citric acid		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Citric acid	100%	50	D	B	-	--	--	-	-	-	-	-	-	-	-	-	-	A
Citric acid		100	D	B	-	--	--	-	-	-	-	-	-	-	-	-	-	A
Citric acid	concentrated	bg	-	D	B	--	A	-	B	-	-	-	-	-	-	-	-	-
Coconut oil		20	-	A	A	-	-	-	D	-	B	A	-	-	-	-	A	A
Cod liver oil		20	-	A	D	-	-	-	D	-	D	A	-	-	-	-	A	A
Coffee		20	-	A	D	-	-	-	D	-	A	D	A	A	A	A	-	A
Coke gas	100%	20	-	A	D	-	-	-	B	-	D	B	D	D	D	A	-	A
Copper acetate	10%	20	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Copper acetate		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper acetate	100%	20	B	B	-	A	A	-	D	-	-	-	-	-	-	-	-	-
Copper carbonate	10%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper carbonate	100%	20	A	A	-	A	A	-	-	-	-	-	-	-	-	-	-	-
Copper chloride	1%	20	B	A	-	C	B	-	-	-	-	-	-	-	-	-	-	A
Copper chloride	5%	20	C	B	-	C	B	-	-	-	-	-	-	-	-	-	-	-
Copper chloride	5% (aerated)	20	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper chloride	10-40%	20	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper chloride	100% (dry)	20	-	C	D	-	-	-	D	-	A	B	-	B	B	A	A	-



**ХИМИЧЕСКА УСТОЙЧИВОСТ НА МАТЕРИАЛИТЕ**  
**CHEMICAL RESISTANCE OF MATERIALS**

Химикал - Chemical	Концентрация Concentration	°C	304	316	AB	HB	HC	CI	CIN	ST	EP	BN	NR	NE	HY	VI	SI	PT
Copper cyanide	10%	80	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper cyanide		100	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper cyanide	20%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper cyanide	50%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Copper cyanide	100%	100	B	B	-	B	B	-	-	-	-	-	-	-	-	-	-	-
Copper nitrate	1%	20	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Copper nitrate	5%	20	A	A	-	D	B	-	-	-	-	-	-	-	-	-	-	-
Copper nitrate	10%	100	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper nitrate	20-80%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper nitrate	50%	hot	B	B	-	D	B	-	-	-	-	-	-	-	-	-	-	-
Copper nitrate	90%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper nitrate	100%	100	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper sulphate	5%	20	A	A	-	D	B	-	-	-	-	-	-	-	-	-	-	A
Copper sulphate	10%	100	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Copper sulphate	20-30%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Copper sulphate	60-70%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Creosote	90%	100	B	B	-	-	-	-	-	B	-	-	-	-	-	-	-	A
Creosote	100%	100	B	B	-	-	-	-	-	B	-	-	-	-	-	-	-	A
Crude oil		20	A	A	C	A	A	-	D	-	D	A	D	B	B	A	-	A
Cyanogen	100%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Cyclohexane	100%	20	A	A	A	-	-	-	C	-	D	A	D	D	D	A	-	A
Detergents		20	-	A	B	-	-	-	D	-	A	B	-	-	-	-	-	A
Dextrose	100%	20	-	A	-	-	-	-	D	-	-	A	-	-	-	-	-	A
Diacetone	100%	20	-	-	A	-	-	-	D	-	A	D	D	D	D	D	A	A
Dichloroethane	100%	20	-	C	-	-	-	-	D	-	D	D	D	D	D	B	-	A
Dichloroethane	100%	bg	B	B	-	B	B	-	-	-	-	-	-	-	-	-	-	-
Diesel oil		20	A	A	B	A	A	-	C	-	D	A	-	-	-	A	-	A
Diethylamine	100%	20	-	A	A	-	-	A	C	A	C	D	C	D	D	D	-	A
Dowtherm		hot	A	A	A	A	A	-	B	A	D	D	D	B	B	A	-	A
Ethyl acetate (100%)		20	B	B	-	-	A	-	C	A	D	C	D	D	D	D	D	A
Ethyl chloride	5%	20	-	A	A	-	A	-	C	-	A	A	C	C	D	A	-	A
Ethyl chloride	100% (dry)	20	A	A	-	B	B	-	-	A	-	-	-	-	-	-	-	-
Ethyl chloride		315	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl ether	100%	20	A	A	A	B	B	B	D	A	D	D	D	D	D	-	-	A
Ethylene chloride	100%	20	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ethylene glycol	100%	20	A	A	A	A	A	B	B	B	A	A	B	B	A	A	-	A
Fatty acids		bg	B	B	-	B	A	-	-	-	-	-	-	-	-	-	-	B
Ferric chloride	1%	20	B	A	-	D	B	-	-	-	-	-	-	-	-	-	-	A
Ferric chloride		bg	D	D	-	D	C	-	-	-	-	-	-	-	-	-	-	-
Ferric chloride	5%	20	D	D	-	D	B	-	-	-	-	-	-	-	-	-	-	-
Ferric chloride	10-40%	20	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ferric chloride	100%	20	-	-	D	-	D	-	D	-	B	B	B	B	B	A	A	-
Ferric hydrate	100%	20	A	A	-	A	A	-	-	-	-	-	-	-	-	-	-	-
Ferric sulphate	1-5%	20	A	A	D	D	B	-	D	-	A	A	A	A	A	A	A	A
Ferric sulphate	5%	bg	B	B	-	D	B	-	-	-	-	-	-	-	-	-	-	A
Ferric sulphate	10%	100	C	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ferric sulphate	100%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ferrous chloride	10-20%	20	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ferrous chloride	30%	20	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ferrous chloride	40-50%	20	-	D	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ferrous sulphate	10%	20	B	B	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Ferrous sulphate	20-40%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Ferrous sulphate	100%	20	B	B	D	B	B	-	C	-	B	A	B	B	B	B	-	A
Fluorine	100%	20	A	A	D	B	B	-	D	-	-	B	-	C	B	-	-	A
Fluorine	100%	200	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-



## ХИМИЧЕСКА УСТОЙЧИВОСТ НА МАТЕРИАЛИТЕ

### CHEMICAL RESISTANCE OF MATERIALS

Химикал - Chemical	Концентрация Concentration	°C	304	316	AB	HB	HC	CI	CIN	ST	EP	BN	NR	NE	HY	VI	SI	PT
Fluosilicic acid (100%)		20	D	D	-	A	B	-	D	-	-	A	-	B	A	-	-	-
Formaldehyde	10-20%	100	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Formaldehyde	30-40%	100	A	A	-	-	-	B	-	A	-	-	-	-	-	-	-	A
Formaldehyde	70%	50	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Formaldehyde	80%	50	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Formaldehyde	100%	20	A	A	A	B	B	-	D	-	A	B	-	A	A	A	-	A
Freon 12	100% (dry)	20	A	A	B	A	A	-	D	A	D	A	-	B	-	-	-	A
Freon 12	100% (wet)	20	C	C	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Fruit juices		20	A	A	D	A	A	-	D	-	B	B	-	B	-	-	-	A
Fruit juices		hot	B	A	-	B	A	-	-	-	-	-	-	-	-	-	-	-
Furfurol	30%	100	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Furfurol	40%	20	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Furfurol	60%	20	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Furfurol	80%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Furfurol	90%	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Furfurol	100%	20	B	B	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Furfurol		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Gallic acid	5%	20	A	A	-	B	B	-	D	-	-	B	-	B	C	B	-	A
Gallic acid		65	A	A	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Gallic acid	10 - 30%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Gallic acid	40 - 100%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Glucose	100%	20	B	B	B	-	A	B	D	B	A	A	-	A	-	A	-	A
Glycerine	10%	50	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Glycerine	100%	20	B	B	B	A	A	B	C	B	-	A	-	A	A	A	-	A
Helium	100%	20	-	A	B	-	-	-	D	-	A	A	-	-	-	-	-	A
Heptane	100%	20	-	A	A	-	-	B	C	B	D	A	D	B	B	A	-	A
Hexane	100%	20	-	A	A	-	-	-	C	-	D	B	D	B	B	A	-	A
Hydrobromic acid (90%)		20	D	D	-	B	C	-	D	-	D	D	D	D	D	D	-	A
Hydrochloric acid	all	20	D	D	D	A	-	-	D	-	-	-	-	-	-	-	-	A
Hydrochloric acid	15%	20	-	-	-	-	B	-	-	-	B	B	-	D	A	A	-	A
Hydrochloric acid	37%	20	-	-	-	-	B	-	-	-	D	D	-	D	A	A	-	A
Hydrofluoric acid	20%	20	-	D	D	-	A	-	D	-	-	D	D	B	C	A	-	A
Hydrofluoric acid		60	-	D	D	-	A	-	D	-	-	D	D	D	D	A	-	A
Hydrofluoric acid	concentrated	20	D	D	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Hydrofluoric acid		80	D	D	-	B	B	-	-	-	-	-	-	-	-	-	-	-
Hydroformic acid	5%	20	B	A	-	C	A	-	-	-	-	-	-	-	-	-	-	-
Hydroformic acid		65	B	B	A	C	A	-	D	-	-	D	D	A	B	D	-	-
Hydroformic acid	10 - 75%	20	B	B	-	C	A	-	-	-	-	-	-	-	-	-	-	-
Hydroformic acid		50	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydroformic acid		bg	D	D	-	C	B	-	-	-	-	-	-	-	-	-	-	-
Hydroformic acid	10%	80	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydroformic acid		100	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydroformic acid	20 - 80%	100	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydroformic acid	90%	100	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydroformic acid	100%	20	A	A	-	B	A	-	-	-	-	-	-	-	-	-	-	-
Hydrogen		20	A	A	C	-	-	B	C	B	A	A	A	A	A	A	-	A
Hydrogen peroxide	10-30%	20	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Hydrogen peroxide		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Hydrogen peroxide	40%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Hydrogen peroxide	90%	20	A	A	D	-	A	-	D	-	-	D	D	D	A	B	-	A
Hydrogen peroxide		50	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Hydrogen peroxide	100%	20	B	B	-	B	A	-	-	-	-	-	-	-	-	-	-	A
Hydrogen peroxide		100	C	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Hydrogen sulphide	100%	20	-	B	C	-	-	-	C	-	A	D	D	B	C	D	-	A
Ink	Ink	20	-	A	C	-	-	-	D	-	A	D	-	A	C	A	-	A



## ХИМИЧЕСКА УСТОЙЧИВОСТ НА МАТЕРИАЛИТЕ

### CHEMICAL RESISTANCE OF MATERIALS

Химикал - Chemical	Концентрация Concentration	°C	304	316	AB	HB	HC	CI	CIN	ST	EP	BN	NR	NE	HY	VI	SI	PT
Iodine	20-80%	20	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Iodine	100% (dry)	20	D	D	-	C	B	-	-	-	-	-	-	-	-	-	-	A
Iodine	100% (wet)	20	D	D	-	D	B	-	-	-	-	-	-	-	-	-	-	A
Isopropyl ether	100%	20	-	A	A	-	A	B	C	A	D	A	D	C	B	A	-	A
Lactic acid	5%	20	A	A	D	B	B	-	D	-	-	C	-	A	A	-	A	A
Lactic acid		65	B	A	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Lactic acid	10%	20	B	B	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Lactic acid		50	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Lactic acid		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	C
Lactic acid	20%	50	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Lactic acid		100	D	B	-	-	-	-	-	-	-	-	-	-	-	-	-	C
Lactic acid	30 - 40%	20	B	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Lactic acid		50	B	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Lactic acid	50%	50	B	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Lactic acid		100	D	B	-	-	-	-	-	-	-	-	-	-	-	-	-	C
Lactic acid	60%	20	B	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Lactic acid		50	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Lactic acid	70%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Lactic acid	80%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Lactic acid	100%	100	C	B	-	-	-	-	-	-	-	-	-	-	-	-	-	C
Latex	Latex	20	A	A	-	A	A	B	-	B	-	-	-	-	-	-	-	A
Lead acetate (100%)		20	-	A	-	B	B	-	D	-	A	B	B	-	-	-	-	A
Linseed oil		20	A	A	-	-	-	A	-	A	-	-	-	-	-	-	-	A
Lubricating oil		20	A	A	A	-	A	A	A	A	D	A	D	B	B	A	-	A
Magnesium carbonate	100%	20	B	B	D	B	B	-	D	-	A	B	-	A	A	A	-	A
Magnesium chloride	1-5%	20	A	A	C	A	A	-	C	-	A	A	A	A	A	A	-	A
Magnesium chloride	5%	hot	D	D	-	A	B	-	-	-	-	-	-	-	-	-	-	-
Magnesium chloride	10%	20	C	B	-	A	A	-	-	-	-	-	-	-	-	-	-	A
Magnesium chloride		50	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium chloride	20%	50	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium chloride	30%	20	B	B	-	A	A	-	-	-	-	-	-	-	-	-	-	-
Magnesium chloride	50%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium chloride		100	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium chloride	100%	20	C	B	-	A	A	-	-	-	-	-	-	-	-	-	-	-
Magnesium hydroxide	100%	20	-	A	B	-	-	-	C	-	A	B	B	A	A	A	-	A
Magnesium nitrate	100%	20	-	B	B	-	-	-	D	-	A	A	A	A	A	A	-	A
Magnesium oxide	100%	20	A	A	D	-	-	-	B	-	A	B	-	B	A	A	-	A
Magnesium sulphate	10-30%	20	A	A	-	-	-	B	-	B	-	-	-	-	-	-	-	A
Magnesium sulphate		100	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium sulphate	40%	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium sulphate	50%	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium sulphate	100%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize oil	Maize oil	20	-	A	A	-	-	-	D	-	D	A	-	-	-	-	A	A
Maleic acid	10%	20	-	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Maleic acid		100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Maleic acid	20%	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Maleic acid	50%	100	-	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Maleic acid	100%	20	-	B	D	-	-	-	D	-	D	D	D	D	A	A	-	A
Maleic acid		100	-	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Mercury bichloride 2%		20	D	D	-	D	B	-	-	-	-	-	-	-	-	-	-	A
Mercury chloride	10%	20	D	D	-	-	-	-	-	-	-	-	D	-	D	A	-	A
Mercury chloride	100%	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury cyanide		20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methane	100%	20	A	A	A	-	-	-	B	-	D	A	D	B	B	A	-	A
Methyl acetate (100%)		20	-	A	-	-	A	B	C	B	C	D	D	D	-	-	-	A





## ХИМИЧЕСКА УСТОЙЧИВОСТ НА МАТЕРИАЛИТЕ

### CHEMICAL RESISTANCE OF MATERIALS

Химикал - Chemical	Концентрация Concentration	°C	304	316	AB	HB	HC	CI	CIN	ST	EP	BN	NR	NE	HY	VI	SI	PT
Methyl chloride	100% (dry)	20	B	B	A	B	B	-	-	-	-	-	-	-	-	-	-	A
Milk		20	A	A	-	A	A	-	D	-	A	A	A	A	A	A	-	A
Mineral oil		20	A	A	-	-	A	B	C	B	D	A	D	B	B	A	-	A
Naphta		20	A	A	A	B	A	B	C	B	D	C	D	C	D	A	-	A
Naphthalene	100%	20	A	A	A	-	-	-	C	-	D	D	D	-	-	B	-	A
Natural gas	100%	20	A	A	A	-	-	-	B	-	D	A	D	D	A	A	-	A
Nickel chloride	10-30%	20	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Nickel chloride	100%	20	B	B	-	A	A	-	D	-	-	A	-	A	-	-	-	A
Nitric acid	0 - 10%	20	A	A	D	D	B	-	D	-	A	D	D	D	-	C	-	A
Nitric acid		80	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Nitric acid		bg	A	A	-	D	C	-	-	-	-	-	-	-	-	-	-	A
Nitric acid	20%	20	A	A	D	D	B	-	D	-	A	D	D	D	-	C	-	A
Nitric acid		50	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Nitric acid		bg	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Nitric acid		150	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Nitric acid	30%	20	A	A	D	-	B	-	D	-	A	D	D	D	-	C	-	A
Nitric acid		50	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Nitric acid		bg	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Nitric acid	40%	20	-	-	D	-	B	-	D	-	A	D	D	D	-	C	-	A
Nitric acid		50	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Nitric acid		80	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Nitric acid		bg	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Nitric acid	50%	20	A	A	D	D	B	-	D	-	-	-	-	-	-	-	-	A
Nitric acid		50	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Nitric acid		80	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitric acid		bg	A	A	D	D	D	-	-	-	-	-	-	-	-	-	-	D
Nitric acid	60%	20	A	A	D	D	B	-	D	-	A	D	D	D	A	A	-	A
Nitric acid		50	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Nitric acid		80	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Nitric acid		90	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Nitric acid		bg	B	B	D	D	D	-	-	-	-	-	-	-	-	-	-	D
Nitric acid	70%	20	A	A	D	D	B	-	D	-	A	D	D	D	A	A	-	A
Nitric acid		50	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Nitric acid		80	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Nitric acid		90	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Nitric acid		bg	C	C	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Nitric acid	80%	20	A	A	D	D	B	B	D	B	A	D	D	D	A	A	-	A
Nitric acid		50	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Nitric acid		80	B	B	-	D	D	-	-	-	-	-	-	-	-	-	-	D
Nitric acid		90	C	C	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Nitric acid		bg	C	C	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Nitric acid	90%	20	A	A	D	D	B	B	D	B	A	D	D	D	A	A	-	A
Nitric acid		50	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Nitric acid		80	C	C	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Nitric acid		bg	D	A	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Nitric acid	100%	20	B	B	D	D	B	A	D	A	A	D	D	D	A	A	-	A
Nitric acid		50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Nitric acid		100	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Nitrogen		20	A	A	B	-	-	-	B	-	A	B	-	-	-	-	-	A
Oleic acid	10 - 100%	20	B	B	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Oleic acid	100%	38	B	B	B	B	B	-	D	-	B	D	B	B	B	A	-	A
Oleic acid		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Oleic acid		150	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Oleum (fuming)		20	C	B	-	B	B	-	D	B	D	D	D	D	D	A	-	A
Oleum (fuming)		50	B	B	-	C	B	-	-	-	-	-	-	-	-	-	-	A



## ХИМИЧЕСКА УСТОЙЧИВОСТ НА МАТЕРИАЛИТЕ

### CHEMICAL RESISTANCE OF MATERIALS

Химикал - Chemical	Концентрация Concentration	°C	304	316	AB	HB	HC	CI	CIN	ST	EP	BN	NR	NE	HY	VI	SI	PT
Oleum (fuming)		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Oleum (fuming)		150	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Olive oil		20	-	A	-	-	-	B	-	B	B	A	D	B	B	A	-	A
Oxalic acid	5%	100	A	A	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Oxalic acid	10%	20	-	B	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Oxalic acid		bg	D	D	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Oxalic acid	10-60%	100	-	D	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Oxalic acid	20%	20	-	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Oxalic acid	25%	20	-	B	D	-	B	-	D	-	B	D	B	B	B	A	-	A
Oxalic acid	25-50%	100	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Oxalic acid	30-50%	20	-	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Oxalic acid	50%	bg	D	D	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Oxalic acid	100%	20	-	D	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Oxalic acid		bg	D	D	-	B	B	-	-	-	-	-	-	-	-	-	-	C
Paint solvents		20	A	A	A	-	-	-	D	-	D	D	D	D	D	D	-	A
Palmitic acid (100%)		20	B	B	B	B	B	-	D	-	-	A	B	A	D	A	-	A
Paraffin		20	A	A	A	A	A	B	A	A	D	A	D	D	C	A	-	A
Petrol		20	A	A	B	A	A	B	C	A	D	A	D	C	D	A	-	A
Phenic acid (100%)		20	B	B	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Phenol	10%	100	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Phenol	20%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Phenol	100%	20	-	B	-	-	A	-	D	-	D	D	D	D	D	A	-	A
Phenol		35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Phenol		135	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Phenol		150	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Phenol		bg	B	B	-	B	B	-	-	-	-	-	-	-	-	-	-	-
Phosphoric acid	1%	20	A	A	-	A	A	-	-	-	-	-	-	-	-	-	-	A
Phosphoric acid		bg	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphoric acid	10%	20	C	A	D	A	A	-	D	-	B	B	C	B	A	A	-	A
Phosphoric acid		bg	B	A	-	A	A	-	-	-	-	-	-	-	-	-	-	-
Phosphoric acid	25%	bg	D	C	-	A	B	-	-	-	-	-	-	-	-	-	-	-
Phosphoric acid	50%	20	A	A	-	A	A	-	-	-	-	-	-	-	-	-	-	A
Phosphoric acid		bg	B	B	-	A	B	-	-	-	-	-	-	-	-	-	-	-
Phosphoric acid	80%	20	B	A	-	A	A	-	-	-	-	-	-	-	-	-	-	A
Phosphoric acid		bg	C	C	-	A	D	-	-	-	-	-	-	-	-	-	-	-
Phosphoric acid	concentrated	20	B	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Phosphoric acid		bg	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Picric acid	10 - 100%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Picric acid	80%	20	-	A	-	-	A	-	D	-	D	-	-	B	A	A	-	A
Picric acid	100%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Potassium acetate	100%	20	-	A	-	-	-	-	-	-	A	-	-	-	-	-	-	A
Potassium bicarbonate	20%	20	-	A	D	-	-	-	D	-	A	D	D	-	-	A	A	A
Potassium bichromate	10-20%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Potassium bichromate		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium bichromate	30%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium bichromate		100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium bichromate	100%	20	B	B	-	C	B	-	-	-	-	-	-	-	-	-	-	-
Potassium borate	100%	20	-	A	D	-	-	-	D	-	A	B	-	-	-	-	-	A
Potassium bromide	10-40%	100	-	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Potassium bromide	50-60%	100	-	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Potassium bromide	100%	20	C	B	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Potassium carbonate	10-50%	100	B	B	-	-	-	B	-	B	-	-	-	-	-	-	-	D
Potassium carbonate	60-70%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Potassium carbonate	100%	20	B	B	A	-	-	-	D	-	A	D	-	-	-	-	-	A
Potassium chlorate	10%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A



# ХИМИЧЕСКА УСТОЙЧИВОСТ НА МАТЕРИАЛИТЕ

## CHEMICAL RESISTANCE OF MATERIALS

КРИСМЕТАЛ ООД

Химикал - Chemical	Концентрация Concentration	°C	304	316	AB	HB	HC	CI	CIN	ST	EP	BN	NR	NE	HY	VI	SI	PT
Potassium chlorate	20-30%	100	B	B	-	-	-	B	-	B	-	-	-	-	-	-	-	A
Potassium chlorate	100%	206	B	B	D	C	B	-	D	-	A	C	A	B	A	A	-	D
Potassium chloride	1-5%	20	A	A	-	B	A	-	-	-	-	-	-	-	-	-	-	A
Potassium chloride		bg-	D	D	-	B	B	-	-	-	-	-	-	-	-	-	-	-
Potassium chloride	10%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium chloride		100	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium chloride	20%	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium chloride		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium chloride	25%	60	-	B	B	-	-	-	D	-	A	B	B	B	A	A	A	-
Potassium chloride	30%	75	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium chloride		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium chromate	100%	20	-	A	D	-	-	-	D	-	A	C	-	-	-	-	-	-
Potassium cyanide		20	B	B	D	B	B	-	-	B	-	-	-	-	-	-	-	-
Potassium ferrocyanide	5%	20	A	A	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Potassium ferrocyanide	10%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Potassium ferrocyanide		75	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Potassium ferrocyanide	10-30%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Potassium ferrocyanide	40-60%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Potassium hydrate	5%	20	A	A	-	B	B	-	-	B	-	-	-	-	-	-	-	A
Potassium hydrate	10-40%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium hydrate	25%	bg	B	B	-	B	B	-	-	-	-	-	-	-	-	-	-	-
Potassium hydrate	50%	80	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium hydrate		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium hydrate		bg	B	B	-	B	B	-	-	-	-	-	-	-	-	-	-	-
Potassium hydrate	60-70%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium hydrate	100%	20	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium hydrate		260	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium hydroxide	5%	20	-	A	D	-	A	-	C	-	A	A	B	A	A	A	-	A
Potassium hypochlorite	5%	20	-	B	D	-	A	-	-	-	B	D	D	B	B	A	-	A
Potassium hypochlorite	10%	20	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Potassium hypochlorite	100%	20	D	C	-	D	B	-	-	-	-	-	-	-	-	-	-	A
Potassium nitrate	1-5%	20	B	B	-	C	B	-	-	B	-	-	-	-	-	-	-	A
Potassium nitrate	10%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium nitrate	10-20%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium nitrate	30-50%	100	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium nitrate	60-80%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium nitrate	100%	20	B	B	C	-	A	-	C	-	A	A	A	A	A	A	A	A
Potassium nitrate		280	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Potassium phosphate	100%	20	-	B	-	-	-	-	D	-	-	A	-	A	-	A	-	A
Potassium sulphate	1-5%	20	A	A	-	B	B	-	-	B	-	-	-	-	-	-	-	A
Potassium sulphate	10%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium sulphate	100%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium sulphide	10%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Potassium sulphide	100%	20	B	B	-	B	B	-	D	-	-	A	-	-	-	-	-	-
Potassium sulphite	100%	20	-	A	-	-	-	-	D	-	B	C	-	B	B	-	-	A
Propane		20	B	A	A	-	-	B	C	B	D	A	D	A	A	A	-	A
Sewage		20	A	A	-	-	-	-	D	-	A	B	-	-	-	-	-	A
Silver bromide	10%	20	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver bromide	100%	20	C	B	-	B	B	-	-	-	-	-	-	-	-	-	-	-
Silver chloride	10%	20	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver chloride	100%	20	D	D	-	D	B	-	-	-	-	-	-	-	-	-	-	-
Silver nitrate	10-60%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Silver nitrate	70-90%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Silver nitrate	100%	20	B	B	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Silver nitrate		300	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	D



## ХИМИЧЕСКА УСТОЙЧИВОСТ НА МАТЕРИАЛИТЕ

### CHEMICAL RESISTANCE OF MATERIALS

Химикал - Chemical	Концентрация Concentration	°C	304	316	AB	HB	HC	CI	CIN	ST	EP	BN	NR	NE	HY	VI	SI	PT
Sodium acetate	5%	20	-	A	A	-	A	-	D	-	A	B	B	-	D	-	-	A
Sodium acetate	10 - 60%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sodium acetate	100%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sodium bicarbonate	all	20	A	A	D	B	B	-	D	-	A	B	B	B	A	A	A	A
Sodium bicarbonate	5%	70	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sodium bichromate	100%	20	-	A	D	-	-	-	D	-	A	D	-	-	-	A	A	A
Sodium carbonate	5%	20	A	A	-	B	B	-	-	B	-	-	-	-	-	-	-	A
Sodium carbonate		65	A	A	-	B	B	-	-	B	-	-	-	-	-	-	-	A
Sodium carbonate	10-30%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sodium carbonate	100%	20	B	B	B	-	A	-	D	-	A	A	A	-	A	A	-	A
Sodium chlorate	10%	20	B	B	D	-	B	-	-	-	-	-	-	-	-	-	-	A
Sodium chlorate	25%	20	B	B	D	-	B	-	-	-	-	-	-	-	-	-	-	A
Sodium chlorate	100%	20	-	A	D	-	-	-	D	-	A	C	-	-	-	-	-	A
Sodium chloride	5%	20	A	A	-	B	B	-	-	-	-	-	-	-	-	-	-	B
Sodium chloride		65	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	B
Sodium chloride	10%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	B
Sodium chloride		50	D	B	-	-	-	-	-	-	-	-	-	-	-	-	-	B
Sodium chloride	20%	20	B	B	-	B	B	-	-	-	-	-	-	-	-	-	-	B
Sodium chloride		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	B
Sodium chloride	30%	80	-	A	A	-	A	-	D	-	A	A	A	A	A	A	A	B
Sodium chloride		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	B
Sodium chloride	saturated	20	B	B	-	B	B	-	-	-	-	-	-	-	-	-	-	B
Sodium chromate	100%	20	-	A	D	-	-	-	D	-	A	C	-	-	-	-	-	A
Sodium cyanide	100%	20	B	B	D	B	B	-	D	B	A	A	A	-	-	-	-	A
Sodium fluoride	5%	20	B	B	C	B	B	-	D	-	-	-	-	-	-	A	-	A
Sodium fluoride	10%	20	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sodium fluoride		100	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sodium hydrate	10-20%	100	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sodium hydrate	10-30%	50	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium hydrate	10-50%	150	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium hydrate	30%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium hydrate	40%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium hydrate	50%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium hydrate	70-90%	100	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium hydroxide	5%	20	B	B	-	A	B	-	-	-	-	-	-	-	-	-	-	A
Sodium hydroxide	20%	bg	B	B	-	A	B	-	-	-	-	-	-	-	-	-	-	-
Sodium hydroxide	50%	50	-	B	D	-	A	-	D	-	A	B	B	B	A	D	-	A
Sodium hydroxide		80	-	B	D	-	A	-	D	-	A	B	D	-	B	D	-	A
Sodium hydroxide		bg	B	B	-	A	B	-	-	-	-	-	-	-	-	-	-	-
Sodium hydroxide	75%	bg	D	C	-	B	B	-	-	-	-	-	-	-	-	-	-	-
Sodium nitrate	10-40%	20	A	A	-	-	-	-	-	B	-	-	-	-	-	-	-	A
Sodium nitrate		100	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium nitrate	50%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium nitrate	50-70%	100	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium nitrate	100%	20	B	B	B	D	B	-	D	-	A	B	B	A	A	-	-	A
Sodium nitrate		80	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sodium phosphate	5%	20	-	A	-	-	A	-	D	-	A	A	A	A	A	A	A	A
Sodium sulphate	5%	20	A	A	-	-	-	-	-	B	-	-	-	-	-	-	-	A
Sodium sulphate	10%	50	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sodium sulphate	20-30%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sodium sulphate	100%	20	A	A	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Sodium sulphide	10%	20	B	B	-	-	-	B	-	B	-	-	-	-	-	-	-	A
Sodium sulphide	20-50%	100	-	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sodium sulphide	70%	20	-	B	D	-	A	-	D	-	-	-	-	-	-	A	-	A
Sodium sulphide	100%	20	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A



## ХИМИЧЕСКА УСТОЙЧИВОСТ НА МАТЕРИАЛИТЕ CHEMICAL RESISTANCE OF MATERIALS

Химикал - Chemical	Концентрация Concentration	°C	304	316	AB	HB	HC	CI	CIN	ST	EP	BN	NR	NE	HY	VI	SI	PT
Sodium sulphite	5%	20	A	A	-	D	B	-	-	B	-	-	-	-	-	-	-	A
Sodium sulphite	10%	65	A	A	-	D	B	-	-	B	-	-	-	-	-	-	-	A
Sodium sulphite	20%	100	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sodium sulphite	100%	20	-	B	D	-	A	-	D	-	B	A	B	B	B	A	-	A
Stannic chloride	5%	20	D	C	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Stannic chloride		bg	D	D	-	C	B	-	-	-	-	-	-	-	-	-	-	-
Stannic chloride	10-40%	20	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stannic chloride	100%	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stannic chloride		80	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stannous chloride	10%	20	D	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Stannous chloride		100	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Stannous chloride	20-40%	20	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Stannous chloride	100%	20	C	C	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Starch	Starch	20	-	A	B	-	-	-	B	-	A	A	-	A	A	A	-	A
Stearic acid	100%	20	B	B	-	A	A	-	-	-	-	-	-	-	-	-	-	A
Stearic acid		100	B	B	C	-	A	-	D	-	-	B	-	B	B	-	B	A
Stearic acid		150	D	B	-	-	-	-	-	-	-	-	-	-	-	-	-	B
Stearic acid		200	D	B	-	-	-	-	-	-	-	-	-	-	-	-	-	C
Sugar solution		20	A	A	D	-	-	B	D	B	-	A	-	A	B	-	-	A
Sulphur	melted (dry)	20	B	B	D	B	B	B	D	B	A	-	-	A	A	-	-	A
Sulphur	melted (wet)	20	C	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sulphur chloride	100%	20	C	B	-	D	B	-	-	-	-	-	-	-	-	-	-	A
Sulphur dioxide	90%	20	D	B	-	-	-	-	-	-	-	-	-	-	-	-	-	B
Sulphur dioxide		150	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Sulphur dioxide	100%	20	-	A	C	-	A	-	D	-	B	D	D	D	C	A	-	B
Sulphur dioxide		370	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Sulphur dioxide		650	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Sulphur dioxide	dry vapour	260	B	B	-	C	B	-	-	-	-	-	-	-	-	-	-	D
Sulphur dioxide	wet vapour	20	D	A	-	C	B	-	-	-	-	-	-	-	-	-	-	A
Sulphur trioxide	100%	20	-	A	-	-	A	-	D	-	-	D	D	D	D	A	-	A
Sulphuric acid (aerated)	5%	20	D	B	-	A	A	-	-	-	-	-	-	-	-	-	-	A
Sulphuric acid (aerated)		bg	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	C
Sulphuric acid (aerated)	10%	20	D	B	D	-	-	-	D	-	B	B	C	-	A	A	-	A
Sulphuric acid (aerated)		100	-	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sulphuric acid (aerated)	20-70%	20	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sulphuric acid (aerated)	80%	20	-	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sulphuric acid (aerated)		50	-	C	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sulphuric acid (aerated)		80	-	D	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sulphuric acid (aerated)	100%	20	-	B	D	-	D	-	D	-	D	D	D	D	B	B	D	A
Sulphuric acid (aerated)		80	-	D	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sulphuric acid (aerated)		100	-	C	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sulphuric acid (not aerated)	5%	20	C	B	-	A	A	-	-	-	-	-	-	-	-	-	-	A
Sulphuric acid (not aerated)		bg	D	C	-	B	C	-	-	-	-	-	-	-	-	-	-	C
Sulphuric acid (not aerated)	10%	20	-	D	D	A	A	-	D	-	B	B	C	-	A	A	-	A
Sulphuric acid (not aerated)		bg	D	D	-	B	C	-	-	-	-	-	-	-	-	-	-	C
Sulphuric acid (not aerated)	20-80%	20	D	D	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sulphuric acid (not aerated)	50%	20	D	D	D	A	B	-	D	-	D	D	D	-	A	A	-	A
Sulphuric acid (not aerated)		bg	D	D	-	A	D	-	-	-	-	-	-	-	-	-	-	B
Sulphuric acid (not aerated)	90%	20	-	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sulphuric acid (not aerated)		50	-	D	D	-	D	-	D	-	D	D	D	D	B	A	-	A
Sulphuric acid (not aerated)		100	D	D	D	-	D	-	D	-	D	D	D	D	B	B	D	A
Sulphuric acid (not aerated)	100%	20	C	B	-	-	-	B	-	B	-	-	-	-	-	-	-	A
Sulphuric acid (not aerated)		50	-	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sulphurous acid	10%	20	D	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sulphurous acid	20%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A



**ХИМИЧЕСКА УСТОЙЧИВОСТ НА МАТЕРИАЛИТЕ**  
**CHEMICAL RESISTANCE OF MATERIALS**

Химикал - Chemical	Концентрация Concentration	°C	304	316	AB	HB	HC	CI	CIN	ST	EP	BN	NR	NE	HY	VI	SI	PT
Sulphurous acid	80%	38	-	D	D	-	A	-	D	-	D	D	D	-	B	A	-	A
Sulphurous acid	100%	20	B	B	-	D	B	-	-	-	-	-	-	-	-	-	-	A
Sulphurous acid		50	D	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sulphurous acid		80	D	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sulphurous acid		100	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Sulphydic acid	10%	20	D	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphydic acid	90%	20	D	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphydic acid		50	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphydic acid	100%	20	C	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulphydic acid		315	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tannic acid	10%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Tannic acid		50	D	-	B	-	A	-	D	-	-	D	C	B	B	A	-	-
Tannic acid		100	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tannic acid	30%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tannic acid	50%	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tannic acid	70%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tannic acid	90%	20	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tannic acid	100%	20	B	B	-	B	B	-	-	-	-	-	-	-	-	-	-	-
Tannic acid		50	B	B	-	B	B	-	-	-	-	-	-	-	-	-	-	-
Tannic acid		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tar	Tar	hot	A	A	A	A	A	-	C	-	D	D	D	D	D	B	-	A
Tartaric acid	10%	20	A	A	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Tartaric acid		100	A	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tartaric acid	20-40%	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tartaric acid	30%	50	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tartaric acid	50%	80	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tartaric acid		100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	100%	20	A	A	A	-	-	A	D	A	D	D	D	D	D	B	-	A
Town gas	100%	20	-	A	A	-	-	A	B	A	D	A	D	B	D	A	-	A
Trichloroethylene	100% (dry)	20	B	B	A	B	A	B	D	B	D	D	D	D	D	A	-	A
Trichloroethylene	100% (wet)	100	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trisodium phosphate	100%	20	B	B	B	B	B	-	B	B	A	B	B	B	B	A	-	A
Turpentine	100%	20	A	A	B	A	A	B	D	B	D	D	D	D	D	A	-	A
Urea	100%	20	-	A	-	-	-	-	D	-	B	B	-	A	-	D	D	A
Vegetable oil		20	-	A	D	-	-	B	D	B	D	A	-	-	-	-	A	A
Vinegar		20	A	A	-	A	A	-	D	-	B	A	-	B	B	A	A	A
Water bromine		20	D	D	-	D	B	-	-	-	-	-	-	-	-	-	-	-
Water chlorinated (sat.)		20	C	B	B	D	B	B	D	B	A	A	-	-	B	-	-	-
Water demineralised		20	-	A	A	-	-	-	D	-	A	B	B	A	B	-	-	A
Water distilled		20	A	A	D	A	A	-	-	-	-	-	-	-	-	-	-	A
Water fresh		20	A	A	A	-	A	-	C	-	A	B	A	A	B	-	-	A
Water mineral		20	A	A	A	-	A	B	C	B	A	B	-	-	C	-	-	A
Water sea		20	A	A	B	A	A	-	D	-	A	B	-	A	B	A	-	A
Water waste		20	A	A	A	-	A	-	D	-	A	B	-	-	B	-	-	A
Xylene	100%	20	-	A	A	-	-	-	C	B	D	D	D	D	D	D	-	A
Zinc chloride	5%	20	C	B	-	B	B	-	-	-	-	-	-	-	-	-	-	A
Zinc chloride		70	-	C	D	D	-	-	B	-	D	A	B	A	A	A	A	-
Zinc chloride		bg	D	C	-	B	C	-	-	-	-	-	-	-	-	-	-	-
Zinc chloride	10%	100	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc chloride	20%	20	D	B	-	B	B	-	-	-	-	-	-	-	-	-	-	-
Zinc chloride		bg	D	C	-	B	C	-	-	-	-	-	-	-	-	-	-	-
Zinc chloride	50%	20	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc chloride		80	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc chloride		bg	B	B	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc chloride	80%	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc chloride	100%	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc sulphate	5%	20	A	A	-	B	B	-	-	B	-	-	-	-	-	-	-	A
Zinc sulphate	10%	100	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Zinc sulphate	25%	80	A	A	A	B	B	-	D	-	A	A	B	A	A	-	A	A
Zinc sulphate	100%	20	B	A	-	B	B	-	-	B	-	-	-	-	-	-	-	A



**ANSI СТОЙНОСТИ НА ТЕМПЕРАТУРА И НАЛЯГАНЕ ПРИ  
ВЕНТИЛИ КЛАС В16.34 - 1996**  
**ANSI PRESSURE TEMPERATURE RATINGS OF VALVES  
STANDARD CLASS B16.34 - 1996**

Максимално налягане без удари (kPa) Maximum non-shock working pressure (kPa)									
Class	ASTM A216 GR.WCB			ASTM A217 GR.C5			ASTM A351 GR.CF8M		
	150 (PN20)	300 (PN50)	600 (PN100)	150 (PN20)	300 (PN50)	600 (PN100)	150 (PN20)	300 (PN50)	600 (PN100)
-29 ÷ 38	1965	5102	10204	1999	5171	10342	1896	4964	9928
93	1793	4654	9308	1793	5137	10273	1620	4275	8549
149	1586	4516	9066	1586	4930	9859	1482	3861	7722
204	1379	4378	8756	1379	4861	9721	1344	3551	7067
260	1172	4137	8274	1172	4585	9170	1172	3309	6584
316	965	3792	7550	965	4171	8343	965	3103	6205
343	862	3689	7412	862	4068	8101	862	3068	6136
371	758	3689	7343	758	3930	7825	758	2965	5998
399	655	3482	6964	655	3654	7274	655	2930	5895
427	552	2827	5688	552	3516	6998	552	2896	5826
454	-	-	-	448	3344	6653	448	2896	5757
482	-	-	-	345	2551	5102	345	2861	5723
510	-	-	-	241	1896	3792	241	2654	5343
538	-	-	-	138	1379	2758	138	2413	4826
566	-	-	-	138 <sup>(1)</sup>	1000	1999	138 <sup>(1)</sup>	2379	4723
593	-	-	-	138 <sup>(1)</sup>	689	1379	138 <sup>(1)</sup>	2103	4206
621	-	-	-	138 <sup>(1)</sup>	414	862	138 <sup>(1)</sup>	1620	3275
649	-	-	-	138 <sup>(1)</sup>	241	483	138 <sup>(1)</sup>	1276	2551
677	-	-	-	-	-	-	138 <sup>(1)</sup>	1000	2034
704	-	-	-	-	-	-	138 <sup>(1)</sup>	793	1620
732	-	-	-	-	-	-	138 <sup>(1)</sup>	655	1310
760	-	-	-	-	-	-	138 <sup>(1)</sup>	517	1034
788	-	-	-	-	-	-	138 <sup>(1)</sup>	414	793
816	-	-	-	-	-	-	138 <sup>(1)</sup>	276	586

<sup>(1)</sup> За кранове на заварка. За кранове на фланци е определена 538°C

<sup>(1)</sup> For weld end valves only. Flanged end ratings terminate at 538°C



**ТАБЛИЦА ЗА ПРЕВРЪЩАНЕ НА МЕРНИ ЕДИНИЦИ**  
**CONVERSION TABLE OF MEASURING UNITS**

Налягане <i>Pressure</i>	inches of water ("w.c)	x	25.4	=	mm H2O
	inches of water ("w.c)	x	0.0361	=	psi
	inches of water ("w.c)	x	0.00249	=	bar
	psi	x	0.06895	=	bar
	psi	x	0.0703	=	Kg/cm <sup>2</sup>
	mbar	x	0.001	=	bar
Площ <i>Surface</i>	sq.ft <sup>2</sup> (ft <sup>2</sup> )	x	0.0929	=	m <sup>2</sup>
Дължина <i>Length</i>	in (")	x	25.4	=	mm
	ft	x	0.3048	=	m
Дебит/Капацитет <i>Capacity</i>	GPM (USA)	x	0.0631	=	lit/sec
	SCFM	x	1.7	=	m <sup>3</sup> /h
	SCFH	x	0.0283	=	m <sup>3</sup> /h
	Btu/h (propane)	:	47540	=	Kg/h
	Btu/h (LPG)	:	47056	=	Kg/h
	Btu/h	x	0.252	=	Kcal/h

**Калоричност**  
**Calorific value**

Природен газ	Kcal/h : 8600 = Nm <sup>3</sup> /h
<i>Natural gas</i>	kW : 10 = Nm <sup>3</sup> /h

Втечен газ LPG	Kcal/h : 11000 = Kg/h
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