



TRELLEBORG

CHEMICAL RESISTANCE

The table below is a guidance of the chemical resistance of rubber materials.

This is only a recommendation, which gives no obligation or warranty on account of Trelleborg Pipe Seals B.V.

Grade 1 = No significant effect 2 = Minor effect 3 = Moderate effect 4= Severe effect 0= Not tested	Concentration %	Temperature °C	SBR	EPDM	NBR
Acetaldehyde		23	4	1	4
Acetamide		100	3	1	2
Acetic anhydride		23	2	2	4
Acetone		23	1	1	4
Acetophenone		23	1	1	4
Acetylene			1	1	1
Acrylonitrile		50	4	3	4
Adipic acid		23	0	0	1
Air		70	1	1	1
Air		100	2	1	0
Air		150	3	2	3
Air		200	4	3	4
Allyl alcohol			0	0	1
Ammonia anhydrous		23	0	1	1
Ammonia, gas		cold	1	1	1
Ammonia, gas		hot	3	2	3
Ammonia, liquid		23	1	1	1
Ammonium carbonate		70	1	1	4
Ammonium hydroxide, conc.	10	23	1	1	1
Ammonium hydroxide, conc.	Conc	23	1	1	2
Amyl acetate		23	4	2	4
Amyl alcohol (pentanol)		50	1	1	2
Amyl borate			4	4	1
Amyl chloronaphtalene			4	4	4
Amyl naphtalene			4	4	3
Aniline		23	2	1	4
Aniline		100	4	1	4
Aniline hydrochloride			3	2	2



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Animal oil (bone oil)		50	4	2	1
Antifreeze (ethylene glycol and methanol)			1	1	1
Arsenic acid			1	1	2
Asphalt		100	4	4	2
Barium hydroxide		70	1	0	1
Benzaldehyde		23	4	1	4
Benzene		23	4	4	4
Benzoic acid		23	1	1	1
Benzyl alcohol			2	1	4
Benzyl benzoate		23	4	2	4
Benzyl chloride			3	4	4
Boric acid	10	100	1	1	1
Brake fluid		50	1	1	4
Bromine		23	4	0	4
Bunker oil			4	4	1
Butane liquid		23	4	4	1
Butanediol		23	0	1	4
Butanol		50	1	1	1
Butanol		100	4	0	1
Butene			4	4	1
Butter (water-free)		100	4	3	1
Butyl acetate		23	4	2	4
Butyl acrylate		50	4	4	4
Butyl benzoate			0	1	0
Butyl carbitol		23	2	1	3
Butyl glycol (butyl cellosolve)			2	1	3
Butyl oleate			4	2	0
Butyl phenol		23	0	4	4
Butyl stearate		70	4	3	1
Butylamine		23	4	4	4



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Butylene			4	4	2
Butyraldehyde			3	2	3
Butyric acid			0	2	4
Calcium hydroxid		100	1	0	2
Calcium hypochlorite	15		0	1	3
Cane sugar / Sucrose solution		80	0	1	1
Carbitol			2	2	3
Carbon dioxide			1	1	1
Carbon disulfide		23	4	4	3
Carbon monoxide		hot	2	1	1
Carbon tetrachloride		23	4	4	3
Castor oil		100	1	1	2
Cellosolve		23	3	2	3
Cellosolve acetate		23	3	1	4
Chloral hydrate	98	23	0	3	4
Chloric acid	20	23	0	1	4
Chlorine dioxide			0	3	4
Chlorine trifluoride			0	4	4
Chlorine water		23	4	4	4
Chlorine, gas			3	3	0
Chloro acetic acid		23	3	2	3
Chloroacetone			0	1	4
Chlorobenzene		23 / 50	4	4	4
Chlorobromomethane		23	4	3	4
Chloroform			4	4	4
Chloroprene		23	4	4	4
Chromic acid	40	50	4	3	4
Citric acid		70	1	1	2
Coal tar oil		23	4	4	2
Coconut oil			4	2	1



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Cod liver oil		23	4	2	1
Coke oven gas			2	4	2
Corn oil			4	2	1
Cotton seed oil		23 / 100	4	2	1
Cresylic acid		70	4	2	4
Crotonaldehyde		23	0	1	1
Crude oil		70	4	4	1
Cyclohexane		23	4	4	1
Cyclohexanol			4	4	3
Cyclohexanone		23	4	1	4
Decane			4	0	2
Diacetone alcohol			2	1	4
Dibenzyl sebacate		23	0	2	0
Dibutyl phtalate		23	4	1	4
Dibutyl sebacate			4	1	4
Dichlorobenzene		23	4	4	4
Dichloroethylene		23	4	0	4
Dicyclohexylamine			4	4	2
Diester oil (liquid 101)		100	4	4	1
Diethyl sebacate			0	2	4
Diethylamine		23	4	4	2
Diethylbenzene			4	4	4
Diethylene glycol		100	1	1	1
Diisobutyl ketone			0	2	4
Diisobutylene			0	0	2
Diisopropyl benzene			4	4	4
Dimethyl aniline		23	4	2	4
Dimethyl formamide		23	2	2	2
Dimethyl phthalate			4	2	4
Dimethylamine		23	0	3	4



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Dinitrotoluene			4	4	4
Diocetyl phthalate		100	4	2	3
Diocetyl sebacate		23	4	2	3
Dioxalane		23	4	2	4
Dioxane		23	4	0	4
Dipentene			4	4	2
Diphenyl		70	4	4	4
Diphenyl ether			4	1	4
Epichlorohydrin		50	4	2	4
Ethane			4	4	1
Ethanol		50	1	1	1
Ethanolamine (mono)		23	2	1	4
Ethanolamine (mono)		70	1	1	1
Ether		23	4	3	2
Ether		100	4	3	3
Ethyl acetate		23	3	1	4
Ethyl acetoacetate			3	2	4
Ethyl acrylate		23	0	2	4
Ethyl benzene		23	4	4	4
Ethyl benzoate		23	0	2	0
Ethyl cellulose			1	0	1
Ethyl chloride			2	1	2
Ethyl chloroformate		23	4	0	4
Ethyl formate			4	2	4
Ethyl mercaptan			4	4	4
Ethyl oxalate			1	1	4
Ethyl pentachlorobenzene			4	4	3
Ethyl silicate			2	1	1
Ethylene			0	0	1
Ethylene chlorohydrin			3	0	4



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Ethylene diamine			2	1	2
Ethylene dichloride		23	4	2	4
Ethylene glycol		100	1	1	1
Ethylene oxide			0	3	4
Fluorine, liquid			0	3	0
Fluorobenzene			4	4	4
Fluosilicic acid	50	23	0	2	3
Formaldehyde	40	23	1	0	1
Formaldehyde	40	70	0	0	4
Formamide		23	0	1	1
Formic acid		23	2	2	3
Formic acid		70	2	2	3
Freon 11		23	2	4	1
Freon 112		23	4	4	2
Freon 113		23	2	3	1
Freon 114		23	0	1	1
Freon 114 B2		23	3	4	2
Freon 115		23	1	1	1
Freon 12		23	1	2	1
Freon 13 B1		23	1	1	1
Freon 142 b		23	1	1	1
Freon 152		23	1	1	1
Freon 21		23	4	3	4
Freon 218		23	1	1	1
Freon 22		23	1	1	3
Freon 31		23	2	1	4
Freon 32		23	1	1	1
Freon 502			1	0	2
Freon BF			4	0	2
Freon C 316		23	1	1	1



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Freon MF			2	0	1
Freon TA			1	1	1
Freon TC			2	2	1
Freon TF			2	4	4
Freon TMC			3	2	2
Freon T-P 35			1	1	1
Freon T-WD 602			2	2	2
Fuel B in accordance with ISO 1817 (70% isooctane 30% toluene)		23	4	4	2
Fuel C in accordance with ISO 1817 (50% isooctane 50% toluene)		23	4	4	2
Fumaric acid			1	0	1
Furan (furfuran)		23	4	3	4
Furfural		23	3	2	4
Furfural alcohol		23	0	3	4
Gallic acid			2	2	3
Gas oil		23	4	4	2
Gelatine		40	1	1	1
Glacial acetic acid	10	50	4	3	4
Glacial acetic acid	25	100	4	4	4
Glacial acetic acid	50	50	4	4	3
Glucose		80	1	1	1
Glucose solution		80	1	1	1
Glycerol		100	1	1	1
Glycine	10	23	0	1	1
Glycol		100	1	1	1
Hexachlorobutadiene		23	4	4	1
Hexaldehyde			4	1	4
Hexane		23	4	4	1
Hexanol		23	2	3	2
1-Hexene			4	4	2



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Hydrazin solution		23	0	1	4
Hydrobromic acid	37	23	2	1	4
Hydrochloric acid	10	100	3	4	3
Hydrochloric acid	21	50	2	2	2
Hydrochloric acid	37	23	2	1	3
Hydrocyanic acid	20		3	1	3
Hydrofluoric acid	48	23	3	1	3
Hydrofluoric acid	75	23	3	0	4
Hydrofluosilicic acid			3	2	3
Hydrogen			1	1	1
Hydrogen peroxide	30	23	1	1	1
Hydrogen peroxide	90		4	3	4
Hydrogen sulfide		23	1	1	4
Hydroquinone			2	0	3
Hypochlorous acid			2	3	4
Isobutyl alcohol		23	1	1	2
Isooctane (Fuel A, ISO 1817)		23	3	4	1
Isophorone			0	1	4
Isopropyl acetate			4	2	4
Isopropyl alcohol		40	2	1	2
Isopropyl chloride			4	4	4
Isopropyl ether		23	4	2	4
Kerosene		70	4	0	1
Lactic acid solution	10	70	1	1	1
Lard		70	4	3	1



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Lead sulfamate, aq			2	1	2
Linoleic acid		70	0	4	2
Linseed oil		23	3	2	1
Liquified petroleum gas			4	4	1
Magnesium hydroxide	10		1	1	1
Maleic acid		23	2	3	2
Maleic anhydride			2	3	2
Malic acid			2	4	1
Mercury			1	1	1
Methane		23	4	4	1
Methanol		50	1	1	1
Methyl acetate		23	4	2	4
Methyl acrylate		23	4	2	4
Methyl butyl ketone			4	2	4
Methyl chloride			4	3	4
Methyl ethyl ketone (MEK)		23	3	1	4
Methyl formate			3	2	4
Methyl glycol acetate		50	2	2	4
Methyl isobutyl ketone		23	4	2	4
Methyl methacrylate		23	4	3	4
Methyl oleate			4	2	4
Methyl salicylate			0	2	4
Methylacrylic acid			4	2	0
Methylamine	32	23	0	1	4
Methylene dichloride		23	4	3	4



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Milk		23	1	1	1
Monovinylacetylene		20	2	1	0
Morpholine		23	0	2	4
Mustard gas			0	3	0
Naphta (white spirit)		23	4	4	1
Natural gas			3	4	1
Nitric acid conc.	65	23	4	4	4
Nitric acid deluted	10	50	2	1	2
Nitric acid fuming	100	20	4	4	4
Nitrobenzene		50	4	1	4
Nitroethane			2	2	4
Nitrogen			1	1	1
Nitromethane			1	2	4
1-Nitropropane		23	3	1	4
Octadecane			4	4	1
Octanol			2	1	2
Oil 1 (ASTM No1, ISO 1817)		100	3	4	1
Oil 2 (IRM 902, ISO 1817)		100	4	4	1
Oil 3 (IRM 903, ISO 1817)		100	4	4	1
Oleic acid		23	4	3	1
Olive oil		50	3	3	1
Oxal acid 25%	25	70	1	1	3
Oxygen		23	1	1	1
Ozone (conc. 50pphm)		40	4	1	4
Palmitic acid		70	3	2	2



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Penthanol (Amyl alcohol)		50	1	1	2
Perchlorid acid		23	0	1	4
Perchloroethylene			4	4	3
Phenol		100	4	2	4
Phenyl benzene (diphenyl)		70	4	4	4
Phenyl hydrazine		23	3	2	4
Phorone			4	2	4
Phosgene		23	0	1	2
Phosphate ester (Pydraul F-9)		80	4	2	4
Phosphate ester (Skydrol 500)		70	4	1	4
Phosphate ester (Skydrol 7000)		70	4	1	4
Phosphoric acid	60	50	1	1	3
Phosphorus trichloride			4	1	4
Phthalic acid		23	0	1	4
Picric acid	10	100	2	1	2
Pine oil		70	4	4	2
Piridine		23	4	2	4
Propane liquid			4	4	1
Propanol		50	1	1	2
Propene (propylene)			4	4	3
Propene oxide			4	2	4
Propionic acid		23	0	1	4
Propyl acetate		23	4	2	4
Propyl amine		23	4	3	4
Propyl nitrate		23	0	2	0



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Pyrrrole			3	3	4
Salicylic acid			1	1	1
Salt and salt solution (non-oxidizing)		70	1	1	1
Sea water (brine)			1	1	1
Sewage			1	1	1
Silicate esters			4	4	2
Silicone greases			0	1	1
Silicone oils			0	1	1
Soap solution			1	1	1
Sodium carbonate	20	100	1	1	1
Sodium hydrogen carbonate			1	1	1
Sodium hydroxide	10	100	1	1	1
Sodium hydroxide	25	100	1	1	4
Sodium hypochlorite	10	50	2	1	3
Sodium peroxide			2	1	0
Soybean oil		23	3	3	1
Steam			3	1	1
Steam			3	1	1
Stearic acid		70	3	2	2
Styrene		23	4	4	4
Sulfur			4	1	4
Sulfur dioxide		23	3	1	3
Sulfur hexafluoride			1	1	1
Sulfuric acid	10	100	1	1	3
Sulfuric acid	20	23	1	0	1



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Sulfuric acid	25	100	1	0	4
Sulfuric acid	50	100	1	0	4
Sulfuric acid	60	100	3	0	4
Sulfuric acid	75	100	4	3	4
Sulfuric acid	96	23	4	4	4
Sulfurous acid		23	2	2	2
Sulfuryl chloride			0	2	4
Tannic acid			2	1	1
Tar, butiminous			4	4	2
Tartaric acid	10	100	1	2	1
Terpineol		23	4	3	1
Tetrabutyl titanate			2	1	1
Tetrahydrofuran		23	4	4	4
Tetralin		23	4	4	4
Titanium tetrachloride			4	4	3
Transformer oil			4	4	1
Triacetin			3	1	2
Triaryl phosphate			4	1	4
Tributoxy ethyl phosphate			3	2	4
Tributyl phosphate		100	3	1	4
Trichloroacetic acid		23	0	2	4
Trichloroethan		23	4	4	4
Trichloroethylene		23	4	4	4
Tricresyl phosphate		70	3	1	4
Triethanolamin		23	2	2	3



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Triethyl borane		70	0	3	0
Triethylamine		23	4	4	1
Trinitrotoluene			4	4	4
Trioctyl phosphate			4	1	4
Turpentine		23	4	4	1
Urea solution	30	23	1	1	1
Vegetable oil			4	2	1
Vinyl chloride			0	2	4
Water, deionized or distilled		23	1	1	2
Water, deionized or distilled		100	1	1	2
Xylene		23	4	4	4