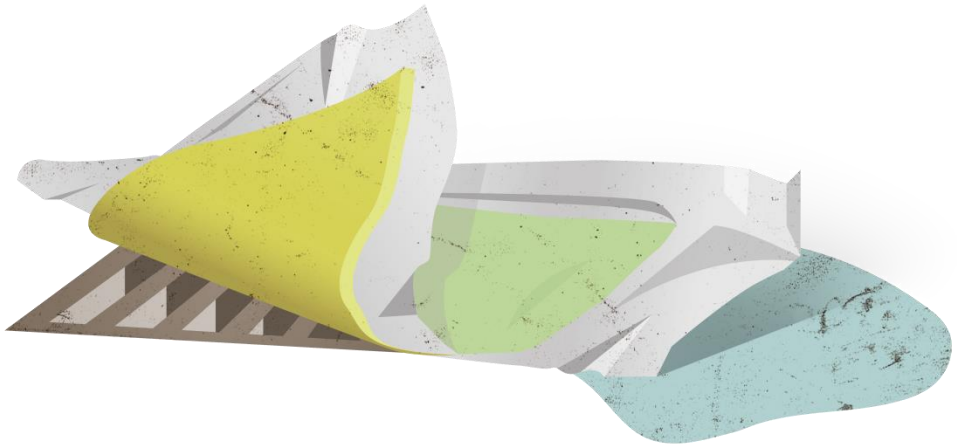
COMPATIBILITY

DRAIN COVERS, CONTAINMENT AND SEALING SYSTEMS



DRAIN PROTECTOR – SPILL BARRIER – DRAIN PLUG – BELLY PATCH

Drain covers, containment and sealing systems offer protection, preventing water pollutants from entering soils and bodies of water. They stop the liquid contaminants from reaching the sewer system through drains, they are a reliable way to confine spills in case of damage, or they quickly seal, e.g., drains, pipes or leaking drums. They are very well suited for keeping substances hazardous to water out of those areas where, according to the water law provisions, no physical constructions or installations for secondary containment (retention ponds, spill containment sumps, etc.) are required.

GENERAL INFORMATION

Drain covers, containment and sealing systems consist of polyurethane and resist most oils and a wide range of water-based industrial chemicals.

The information concerning the compatibility is based on the researched statements about the chemical resistance of polyurethane against the materials mentioned below. *Excellent resistance* means that the product can be used – also for a long period of time – for emergency response. There is the possibility to re-use the product after cleaning. *Good resistance – After long-term exposure change is possible* means that the product can be used for emergency response. It is likely that the product can be re-used after cleaning. Slight changes will possibly occur. *Fair resistance – Only emergency measures, after long-term exposure change is probable* means that the product can be used for short-term emergency measures. It is not likely that the product can be re-used after cleaning. There is the possibility that the product alters or even becomes wholly unusable when used over a long period of time. *Not resistant* means that the product can NOT be used – also for a short period of time – for emergency measures.

The information should only be considered a general guideline. Existing laws and regulations must be observed by the recipients of our product at their own responsibility.

COMPATIBILITY LIST

Substance	Resistance
Acetaldehyde	Good resistance – After long-term exposure change is possible
Acetone	Not resistant
Acetylacetone	Not resistant
Acrylonitrile	Not resistant
Ethanolamine	Not resistant
Diethyl ether	Excellent resistance
Essential oils	Good resistance – After long-term exposure change is possible
Ethyl acetate	Not resistant
Ethanol (denatured = alcohol)	Good resistance – After long-term exposure change is possible
Ethylbenzene	Not resistant
Ethyl bromide	Good resistance – After long-term exposure change is possible
Ethyl chloride	Not resistant
1,2 Dichloroethane (Ethylene chloride)	Not resistant
1,2-Diaminoethane (Ethylenediamine)	Not resistant
Ethane-1,2-diol (Ethylene glycol)	Good resistance – After long-term exposure change is possible
Ethylene oxide, liquid	Not resistant
Ethyl glycol	Not resistant
Ethyl glycol acetate	Not resistant
Ethyl mercaptan	Not resistant
Gasolines, in general applies	Good resistance – After long-term exposure change is possible

Alcohols, in general applies	Good resistance – After long-term exposure change is possible
Allyl chloride	Not resistant
Aluminium chloride, hydrous	Good resistance – After long-term exposure change is possible
Aluminium sulphate, hydrous	Excellent resistance
Formic acid	Not resistant
Ammonia, liquid	Not resistant
Ammonia in water (Ammonia solution)	Not resistant
Ammonium carbonate, hydrous	Not resistant
Ammonium chloride, hydrous (Salmiac)	Excellent resistance
Ammonium diphosphate, hydrous	Excellent resistance
Ammonium metaphosphate	Excellent resistance
Ammonium nitrate, hydrous	Excellent resistance
Ammonium persulphate, hydrous	Good resistance – After long-term exposure change is possible
Ammonium phosphate, hydrous	Excellent resistance
Ammonium sulphate	Excellent resistance
Ammonium thiocyanate	Good resistance – After long-term exposure change is possible
Amyl acetate	Not resistant
Amyl alcohol	Good resistance – After long-term exposure change is possible
Amyl chloride	Not resistant
Aniline (Aminobenzene)	Not resistant
Aniline dyes	Not resistant
Antimony chloride 50%	Good resistance – After long-term exposure change is possible
Malic acid, hydrous	Fair resistance – Only emergency measures, after long-term exposure change is probable
Arsenious acid (Arsenic acid)	Fair resistance – Only emergency measures, after long-term exposure change is probable
Asphalt (Bitumen)	Good resistance – After long-term exposure change is possible
ATE brake fluid	Good resistance – After long-term exposure change is possible
Barium chloride, aqueous	Excellent resistance
Barium hydroxide	Excellent resistance
Barium sulfate (Barite)	Excellent resistance
Barium sulphide	Good resistance – After long-term exposure change is possible
Cottonseed oil	Excellent resistance
Benzaldehyde	Fair resistance – Only emergency measures, after long-term exposure change is probable
Fuel, low aromatic	Good resistance – After long-term exposure change is possible
Fuel, high aromatic	Fair resistance – Only emergency measures, after long-term exposure change is probable
Fuel, aviation	Good resistance – After long-term exposure change is possible
Benzoic acid, hydrous	Not resistant
Benzene	Not resistant
Benzyl alcohol	Not resistant
Benzyl chloride	Not resistant
Mountain blue (Copper hydroxide)	Excellent resistance
Beer1)	Excellent resistance

Bismuth carbonate (Wismut carbonate)	Excellent resistance
Bitumen 20°C (see also Hot bitumen)	Good resistance – After long-term exposure change is possible
Hydrocyanic acid 20%	Good resistance – After long-term exposure change is possible
Hydrocyanic acic 98% (conc.)	Good resistance – After long-term exposure change is possible
Lead acetate, hydrous	Excellent resistance
Lead arsenate, hydrous	Excellent resistance
Lead sulfate, hydrous	Excellent resistance
Boric acid, hydrous	Excellent resistance
Spirits of all sorts	Excellent resistance
Bromine	Not resistant
Bromobenzene	Not resistant
Bromine water	Not resistant
Hydrobromic acid	Fair resistance – Only emergency measures, after long-term exposure change is probable
Butane, liquid	Excellent resistance
Butter	Good resistance – After long-term exposure change is possible
Buttermilk	Excellent resistance
Butyric acid, hydrous	Not resistant
Butyl acetate	Not resistant
Butyl ether	Fair resistance – Only emergency measures, after long-term exposure change is probable
Butyl alcohol	Fair resistance – Only emergency measures, after long-term exposure change is probable
Butylamine	Not resistant
Butyl glycolate	Fair resistance – Only emergency measures, after long-term exposure change is probable
Butyl stearate	Excellent resistance
Calcium bisulfate, hydrous	Excellent resistance
Calcium bisulfite	Fair resistance – Only emergency measures, after long-term exposure change is probable
Calcium carbonate	Excellent resistance
Calcium chloride, hydrous	Excellent resistance
Calcium hydroxide, hydrous (Slaked lime)	Fair resistance – Only emergency measures, after long-term exposure change is probable
Calcium hypochlorite, hydrous	Not resistant
Calcium nitrate	Excellent resistance
Calcium oxide = Burnt lime	Excellent resistance
Calcium sulfate (Gypsum), hydrous	Excellent resistance
Calcium sulfide	Excellent resistance
Carbolineum, hydrous	Not resistant
Cellulose acetate	Excellent resistance
Chlorine, dry	Not resistant
Chlorine, moist	Not resistant
Bromochloromethane	Fair resistance – Only emergency measures, after long-term exposure change is probable
Chlorine dioxide	Not resistant
Chlorinated hydrcarbons, in general applies	Not resistant

Chloroform (Trichloromethane)	Not resistant
Chlorosulfonic acid	Not resistant
Chlorinated water 3%	Fair resistance – Only emergency measures, after long-term exposure change is probable
Chromic acid 10%	Fair resistance – Only emergency measures, after long-term exposure change is probable
Chromic acid 25%	Not resistant
Chromic acid 50%	Not resistant
Citric acid	Excellent resistance
Cyclohexane (Hexahydrobenzene)	Good resistance – After long-term exposure change is possible
Cyclohexanol	Not resistant
Cyclohexanone	Nicht beständig
Vapour up to°C	Not resistant
Decalin (Decahydronaphthalene)	Excellent resistance
Diacetone alcohol	Good resistance – After long-term exposure change is possible
Diethylamine	Fair resistance – Only emergency measures, after long-term exposure change is probable
Diethylbenzene	Not resistant
Diethylene glycol	Fair resistance – Only emergency measures, after long-term exposure change is probable
Dibenzyl ether	Not resistant
Dibutyl phthalate	Fair resistance – Only emergency measures, after long-term exposure change is probable
Dibutyl sebacate	Not resistant
Dichloroethylene	Not resistant
Dichlorobenzene	Not resistant
Dichloroisopropyl ether	Good resistance – After long-term exposure change is possible
Dichloromethane	Not resistant
Diesel oil	Good resistance – After long-term exposure change is possible
Dimethyl ether	Good resistance – After long-term exposure change is possible
Dimethylaniline	Not resistant
Dimethylformamide	Fair resistance – Only emergency measures, after long-term exposure change is probable
Dioctylphthalate	Good resistance – After long-term exposure change is possible
Dioctyl sebacate	Good resistance – After long-term exposure change is possible
Diphenyl	Not resistant
Diphenyl oxide	Not resistant
Iron chloride (Ferri), hydrous	Fair resistance – Only emergency measures, after long-term exposure change is probable
Iron sulfate, Iron vitriol, hydrous	Good resistance – After long-term exposure change is possible
Developer fluids (general)	Good resistance – After long-term exposure change is possible
Epichlorohydrin, liquid	Not resistant
Vinegar (edible vinegar)	Fair resistance – Only emergency measures, after long-term exposure change is probable
Acetic acid 10%	Not resistant
Acetic acid 25%	Not resistant
Acetic acid 50%	Not resistant
Acetic acid 100% (conc.)	Not resistant
Acetic anhydride 50%	Not resistant

Fats in general: see oils and fats	Not resistant
Fatty acids in general	Excellent resistance
Fluoroboric acid 65%	Not resistant
Hydrofluoric acid 10%	Good resistance – After long-term exposure change is possible
Hydrofluoric acid 30%	Good resistance – After long-term exposure change is possible
Hydrofluoric acid 75%	Fair resistance – Only emergency measures, after long-term exposure change is probable
Formaldehyde	Good resistance – After long-term exposure change is possible
Methyl alcohol admixture	Good resistance – After long-term exposure change is possible
Fruit juices	Excellent resistance
Furfuryl alcohol (Furfural)	Not resistant
Gallic acid	Fair resistance – Only emergency measures, after long-term exposure change is probable
Gelatine, hydrous	Excellent resistance
Tannic acid (Tannin)	Fair resistance – Only emergency measures, after long-term exposure change is probable
Glucose	Excellent resistance
Glycerine	Excellent resistance
Glycols, in general applies	Good resistance – After long-term exposure change is possible
Bitumen hot	Not resistant
Tar hot	Not resistant
Fuel oils	Good resistance – After long-term exposure change is possible
Helium	Excellent resistance
Heptane	Good resistance – After long-term exposure change is possible
Hexaldehyde	Fair resistance – Only emergency measures, after long-term exposure change is probable
Hexane	Good resistance – After long-term exposure change is possible
Hexanol = Hexyl alcohol	Not resistant
Wood oil	Good resistance – After long-term exposure change is possible
Isobutanol = Isobutyl alcohol	Not resistant
Isooctane	Good resistance – After long-term exposure change is possible
Isooctanol = Isoctyl alcohol	Fair resistance – Only emergency measures, after long-term exposure change is probable
Isophorone	Not resistant
Isopropanol = Isopropyl alcohol	Fair resistance – Only emergency measures, after long-term exposure change is probable
Isopropyl acetate	Fair resistance – Only emergency measures, after long-term exposure change is probable
Isopropyl ether	Good resistance – After long-term exposure change is possible
Isopropylbenzene	Not resistant
Liquid manure	Excellent resistance
Iodine tincture (5-10% alcohol. Iodine sol.)	Not resistant
Potassium acetate, hydrous	Not resistant
Potassium aluminium sulfate (Alum)	Excellent resistance
Potassium bicarbonate	Good resistance – After long-term exposure change is possible
Potassium borate, hydrous	Excellent resistance
Potassium bromide, hydrous	Excellent resistance
Potassium carbonate (Potash)	Fair resistance – Only emergency measures, after long-term exposure change is probable

Potassium chlorate, hydrous	Good resistance – After long-term exposure change is possible
Potassium chloride	Excellent resistance
Potassium cyanide (Cyanogen potassium)	Fair resistance – Only emergency measures, after long-term exposure change is probable
Potassium dichromate	Good resistance – After long-term exposure change is possible
Potassium hydroxide (Caustic potash, potash lye)	Excellent resistance
Potassium hypochlorite (Javelle water)	Not resistant
Potassium nitrate, hydrous	Excellent resistance
Potassium permanganate 10%, hydrous	Excellent resistance
Potassium phosphate (monobasic and dibasic)	Excellent resistance
Potassium sulphate	Excellent resistance
Potassium sulphite	Excellent resistance
Kerosene (Kerosine)	Good resistance – After long-term exposure change is possible
Ketones, in general applies	Not resistant
Hexafluorosilicic acid, hydrous	Not resistant
Carbon tetrachloride	Fair resistance – Only emergency measures, after long-term exposure change is probable
Coconut fat and oil	Excellent resistance
Aqua regia	Not resistant
Corn oil	Excellent resistance
Creosote	Good resistance – After long-term exposure change is possible
Cresols (Cresylic acid)	Not resistant
Copper chloride, hydrous	Excellent resistance
Copper cyanide	Good resistance – After long-term exposure change is possible
Copper nitrate, hydrous	Fair resistance – Only emergency measures, after long-term exposure change is probable
Copper sulphate, hydrous (Copper vitriol)	Excellent resistance
Lanolin	Excellent resistance
Lyes, in general applies	Good resistance – After long-term exposure change is possible
Col liver (oil)1)	Excellent resistance
Glue, animal	Good resistance – After long-term exposure change is possible
Linseed oil1)	Good resistance – After long-term exposure change is possible
Magnesium chloride, hydrous	Excellent resistance
Magnesium hydroxide	Excellent resistance
Magnesium silicate (Talc)	Excellent resistance
Magnesium sulphate	Excellent resistance
Magnesium sulphite, hydrous	Excellent resistance
Mash1)	Excellent resistance
Maleic acid, hydrous	Not resistant
Margarine fats and oils1)	Excellent resistance
Molasses1)	Excellent resistance
Methane (gas)	Fair resistance – Only emergency measures, after long-term exposure change is probable
Methyl acetate	Not resistant

Methyl ethyl ketone (MEK)	Not resistant
Methyl alcohol	Fair resistance – Only emergency measures, after long-term exposure change is probable
Methyl chloride	Not resistant
Methylglykolacetat	Not resistant
Methyl isobutyl ketone	Not resistant
Milk	Good resistance – After long-term exposure change is possible
Lactic acid, hydrous	Good resistance – After long-term exposure change is possible
Mixed acid (Sulphuric acid/Nitric acid/ Water)	Not resistant
Monochlorobenzene	Fair resistance – Only emergency measures, after long-term exposure change is probable
Monochloroacetic acid	Not resistant
Must, unfermented	Excellent resistance
Naphtha (Petroleum)	Good resistance – After long-term exposure change is possible
Sodium acetate, hydrous	Fair resistance – Only emergency measures, after long-term exposure change is probable
Sodium bicarbonate, hydrous	Good resistance – After long-term exposure change is possible
Sodium bisulphate	Not resistant
Sodium bisulphite, hydrous	Not resistant
Sodium borate (Borax)	Excellent resistance
Sodium carbonate	Not resistant
Sodium chlorate, hydrous	Good resistance – After long-term exposure change is possible
Sodium chloride (Table salt)	Good resistance – After long-term exposure change is possible
Sodium cyanide	Fair resistance – Only emergency measures, after long-term exposure change is probable
Sodium dichromate	Fair resistance – Only emergency measures, after long-term exposure change is probable
Sodium fluoroaluminate10%	Fair resistance – Only emergency measures, after long-term exposure change is probable
Sodium fluoride	Good resistance – After long-term exposure change is possible
Sodium hydroxide (Soda lye, Caustic soda) 25%, 20°C	Good resistance – After long-term exposure change is possible
Sodium hydroxide (Soda lye, Caustic soda) 25%, 100°C	Not resistant
Sodium hypochlorite 10%	Good resistance – After long-term exposure change is possible
Sodium hypochlorite 30%	Fair resistance – Only emergency measures, after long-term exposure change is probable
Sodium nitrate	Excellent resistance
Sodium nitrite	Excellent resistance
Sodium peroxide	Fair resistance – Only emergency measures, after long-term exposure change is probable
Sodium phosphate (see also additionally Trisodium phosphate)	Good resistance – After long-term exposure change is possible
Sodium silicate, hydrous	Fair resistance – Only emergency measures, after long-term exposure change is probable
Sodium sulphate, hydrous	Excellent resistance
Sodium sulphite, hydrous	Excellent resistance
Sodium thiosulphate (Antichlor)	Good resistance – After long-term exposure change is possible
Natural gas, dry	Excellent resistance
Nickel sulphate, hydrous	Good resistance – After long-term exposure change is possible

Nitrobenzene	Not resistant
Nitropropane	Not resistant
Nonyl alcohol (Nonanol)	Not resistant
Fruit pulp1)	Excellent resistance
Fruit wines fermented1)	Excellent resistance
Octan	Excellent resistance
Octanol = Octyl alcohol	Not resistant
Oleic acid	Excellent resistance
Oils and fats - mineral, without additives, at 20°C	Excellent resistance
ASTM oil No. 1 20°C	Excellent resistance
ASTM oil No. 2 20°C	Good resistance – After long-term exposure change is possible
ASTM oil No. 3 20°C	Good resistance – After long-term exposure change is possible
Oils and fats - animal	Excellent resistance
Oils and fats - vegetable	Excellent resistance
Transformer oils (Pyranols)	Good resistance – After long-term exposure change is possible
Oils and fats – silicone-based	Excellent resistance
Diesel oil	Good resistance – After long-term exposure change is possible
Fuel oil	Good resistance – After long-term exposure change is possible
Hydraulic oils mineral oil based	Good resistance – After long-term exposure change is possible
Hydraulic oils glycol-based (Polyalkyl glycols)	Good resistance – After long-term exposure change is possible
Hydraulic oils phosphate ester based	Not resistant
Oleum (Fuming sulphuric acid)	Not resistant
Oleum vapours	Not resistant
Olive oil	Excellent resistance
Oxalic acid, hydrous	Not resistant
Palmitic acid	Excellent resistance
Palm oil	Good resistance – After long-term exposure change is possible
Paraffin, Paraffin oils	Good resistance – After long-term exposure change is possible
Paraformaldehyde	Excellent resistance
Pentachlorophenol	Not resistant
Pentane	Not resistant
Perchloroethylene	Not resistant
Perchloric acid, hydrous	Not resistant
Petrol(eum)	Excellent resistance
Vegetable oils: in general applies	Excellent resistance
Phenol (Carbolic acid), hydrous	Not resistant
Phosphoric acid 50%	Good resistance – After long-term exposure change is possible
Phosphoric acid 85%	Not resistant
Picric acid	Not resistant
Pine oil	Excellent resistance

Propane, liquid	Excellent resistance
Propane gas	Excellent resistance
Propyl alcohol	Fair resistance – Only emergency measures, after long-term exposure change is probable
Propylamine	Not resistant
Propylene oxide	Not resistant
Pyridine	Not resistant
Mercury	Excellent resistance
Mercuric chloride (Sublimate)	Excellent resistance
Mercury nitrate	Excellent resistance
Rape (seed) oil	Good resistance – After long-term exposure change is possible
Castor oil	Excellent resistance
Crude oil, high aromatic	Good resistance – After long-term exposure change is possible
Raw sugarcane juice	Fair resistance – Only emergency measures, after long-term exposure change is probable
Nitric acid 10%	Not resistant
Nitric acid 25%	Not resistant
Nitric acid 40%	Not resistant
Nitric acid 60%	Not resistant
Hydrochloric acid 15%	Good resistance – After long-term exposure change is possible
Hydrochloric acid 38% (conc.)	Not resistant
Hydrochloric acid gas	Good resistance – After long-term exposure change is possible
Acids, in general applies	Fair resistance – Only emergency measures, after long-term exposure change is probable
Sulphur, liquefied, 90°C	Good resistance – After long-term exposure change is possible
Carbon disulphide	Good resistance – After long-term exposure change is possible
Sulphuric acid 10%	Good resistance – After long-term exposure change is possible
Sulphuric acid 30%	Good resistance – After long-term exposure change is possible
Sulphuric acid 50%	Good resistance – After long-term exposure change is possible
Sulphuric acid 75%	Not resistant
Sulphuric acid 90%	Not resistant
Sulphuric acid conc.(Oleum, Fuming sulph. acid)	Not resistant
Sulphur trioxide	Good resistance – After long-term exposure change is possible
Sulphurous acid 10%, moist	Good resistance – After long-term exposure change is possible
Sulphurous acid 75%, moist	Not resistant
Soap solution	Good resistance – After long-term exposure change is possible
Silicone oils and fats	Excellent resistance
Silicon dioxide (Silicic acid)	Excellent resistance
Soybean oil	Good resistance – After long-term exposure change is possible
Sole (Saline solution)	Excellent resistance
Starch, hydrous	Excellent resistance
Starch syrup	Excellent resistance
Stearin (acid)	Excellent resistance

Rock oil (Naphthalene)	Good resistance – After long-term exposure change is possible
Coal tar (see also Tar, hot)	Not resistant
Styrene, monomer	Fair resistance – Only emergency measures, after long-term exposure change is probable
Tallow	Excellent resistance
Tar (see also Tar, hot)	Not resistant
Turpentine	Not resistant
Perchloroethylene	Good resistance – After long-term exposure change is possible
Carbon tetrachloride	Fair resistance – Only emergency measures, after long-term exposure change is probable
Toluene	Not resistant
Grape juice, unfermented	Excellent resistance
Triethanolamine	Not resistant
Tributyl phosphate	Not resistant
Trichloroethane (Chlorothene)	Not resistant
Trichloroethylene	Not resistant
Tricresyl phosphate	Not resistant
Trisodium phosphate	Fair resistance – Only emergency measures, after long-term exposure change is probable
Urine	Excellent resistance
Vinyl chloride, monomer	Not resistant
Hydrogen peroxide 10%	Good resistance – After long-term exposure change is possible
Hydrogen peroxide 30%	Good resistance – After long-term exposure change is possible
Wines red and white	Excellent resistance
Tartaric acid, hydrous	Excellent resistance
Wismut carbonate (Bismuth carbonate)	Excellent resistance
Xylenol	Not resistant
Xylene	Not resistant
Zinc acetate, hydrous	Not resistant
Zinc chloride, hydrous	Fair resistance – Only emergency measures, after long-term exposure change is probable
Zinc sulphate, hydrous	Fair resistance – Only emergency measures, after long-term exposure change is probable
Stannous II chloride, hydrous	Excellent resistance
Citric acid, hydrous	Excellent resistance
Sugar, hydrous	Excellent resistance