

Chemical resistance of plastics and seals

When evaluating if an Enclosure is resistant against the influences of chemical substances, not only the enclosure material has to be considered but also the type of seal. The most important basic materials, which are frequently used in MULTI-BOX and the most frequently used chemical substances, are shown in the chart below. This chart only contains information where the materials are generally resistant against these medias. The concentration and the surrounding temperature also have to be considered. It is advisable to carry out an exact analysis to be able to evaluate the chemical resistance of the materials where more chemicals which are used in the same area at the same time.

Chemicals	ABS	Polyamide	Poly-carbonate	Polyester GRP	Chloroprene CR	PU-foamed	Silicone
	Enclosure				Seal		
Acetone	—	□	—	—	■	—	□
Formic acid	—	—	30	10	■	—	□
Ammoniac	—	20	—	—	■	■	■
Petrol	—	■	□	■	■	□	■
Benzene	—	—	—	■	—	—	—
Brake fluid	—	60	—	■	□	—	■
Butane	—	■	■	—	■	■	■
Butanol	—	■	—	■	■	□	—
Calcium chloride	—	■	■	■	—	■	—
Chlorobenzene	—	□	—	■	—	—	—
Diesel oil	■	—	□	■	□	□	□
Acetic acid	10	—	10	40	—	□	—
Formaldehyde	—	■	—	30	—	—	■
Frigen 113	—	—	■	■	■	—	—
Fruit juice	—	■	■	■	■	■	■
Glycerine	■	■	□	■	■	■	■
Heating oil	□	■	□	■	□	□	□
Hydraulic oil	—	■	■	■	■	—	□
Caustic potash	—	—	—	—	■	—	—
Potassium chloride	—	■	■	■	■	■	■
Potassium hydroxide	■	—	—	—	■	■	□
Linseed oil	—	■	■	■	■	□	□
Methanol	—	□	—	—	■	□	■
Methyl chloride	—	—	—	—	—	—	—
Lactic acid	■	10	10	■	■	■	—
Mineral oil	■	■	■	■	□	■	■
Engine oil	—	■	■	■	□	□	■
Sodium carbonate	—	■	■	■	—	—	—
Sodium chloride	—	10	■	■	■	■	■
Sodium hydroxide	■	—	—	—	■	■	□
Caustic soda	—	10	—	40	50	□	—
Nitric acid	30	—	10	10	□	—	—
Hydrochloric acid	10	—	20	■	■	□	—
Lubricating oil	—	■	■	■	□	□	■
Sulfur-carbon	—	□	—	—	—	—	—
Sulfuric acid	30	—	50	70	50	—	25
Soap sud	—	■	□	■	■	■	■
Dish soap	—	—	■	—	■	□	■
Turpentine oil	—	■	—	■	■	□	—
Carbon Tetrachloride	—	□	—	■	—	—	—
Toluene	—	■	—	■	—	□	—
Trichloroethylene	—	—	—	—	—	□	—
Water (distilled, river, tap, sea)	■	■	■	■	■	■	■
Wine acid	—	■	10	■	■	—	■
Xylene	—	■	—	■	—	□	—
Zinc sulphate	—	—	■	■	■	—	■
Lemon acid	10	10	10	■	■	■	■

■ = Resistant against all concentrations, □ = Conditionally resistant, 10 = Resistant against maximum % concentration, — = Non resistant