RESISTANCE TO CHEMICALS

Since the aggressive agents in liquid or gas form can destroy the plastic parts of the lighting fixtures, increased attention must be paid to the selection of the proper materials. The following table will help in this selection. It contains the most frequently used chemicals.

CHEMICALS	PMMA diffuser	PC diffuser housing	GRP housing
ALCOHOLS			
Alcohol up to 30%	+++	+++	+++
Alcohol concentrate	o	o	o
Methanol	o	o	o
Glycerine	+++	++	+++
Glycol	+++	+++	+++
AQUEOUS SOLUTIONS			
Sea water	+++	+++	+++
Hydrogen Peroxide up to 40%	o	++	o
Hydrogen Peroxide over 40%	o	++	o
Metal salts and their aqueous solutions	+++	+++	+++
Salt solutions	+++	+++	
GASES			
Carbon dioxide		+++	
Carbon monoxide	+++	+++	+++
HYDROCARBONS			
Benzene	o	o	o
Diesel oil	+++	++	+++
Petroleum Ether	+++	++	+++
Aliphatic Hydrocarbons	++	+++	++
Aromatic Hydrocarbons	o	o	++
OILS			
Aniline	o	o	o
Machine-tool oils	o	o	+++
Diesel oil	o	o	+++
Brake oil	o	o	o
Flammable acid oils	o	++	+++
Camphor oil	o	o	o
Lubricating oil	++	+++	+++
Silicone oil	+++	+++	+++
Paraffin oil	++	+++	+++
Saturated mineral oil	o	o	++

	PMMA diffuser	PC diffuser housing	GRP housing
INORGANIC ACIDS			
Battery acid	+++	+++	+++
Bromic acid	o	o	o
Hydrochloric acid up to 20%	+++	+++	
Hydrochloric acid over 20%		++	+++
Nitric acid up to 10%	+++		+++
Nitric acid between 10% and 20%	++	++	++
Nitric acid over 20%	o	o	o
Sulphydric acid	+++	+++	+++
Sulphuric acid up to 50%		+++	
Sulphuric acid up to 70%	++	++	+++
Sulphuric acid over 70%	o	o	o
Sulphurous acid up to 5%	++	o	++
ORGANIC ACIDS			
Acetic acid up to 5%	++	+++	+++
Acetic acid up to 30%	o	++	+++
Butyric acid	o	++	+++
Citric acid	++	+++	+++
Lactic acid	++	+++	+++
BASIC COMPOUNDS			
Ammonia 0,005% *	+++	o	+++
Milk of lime	+++	++	+++
Synthetic basic compounds	+++	++	+++
Sodium hydroxide up to 2%	+++	o	++
Sodium hydroxide up to 10%	+++	o	o
SOLVENTS			
Acetone	o	o	o
Ketone	o	o	o
Chlorofenol	o	o	o
Chloroform	o	o	o
Methylene Chloride	o	o	o
Dioxane	o	o	+++
Ether	o	o	++
Ethyl Acetate	o	o	o
Phenol	o	o	o
Methyl-ethyl ketone	o	o	o
Turpentine	++	++	+++
Pyridine	o	o	o
Carbon tetrachloride	o	o	+++
Xylene	o	o	o

Before selecting the product, please check the chemical environment for the lighting application. The above table refers to an ambient temperature of 25°C±10°C. The chemical resistance is only valid if there are no mechanical effects, which may cause surface deformation, elongation or evolution of capillary cracks.

Legend:

+++ **resistant**
++ **limited resistance**
o **not resistant**

* Occupational Exposure Limit - EC (2000)

It is recommended to consult the manufacturer before any product is selected for potentially chemically aggressive applications.