

Chemical resistance of the materials

	PC	PMMA	CHEMO		PC	PMMA	CHEMO
Acetic acid < 10 %	■	■	■	Hydrochloric acid (HCL) < 10 %	■	■	■
Acetic acid > 10 %	—	□	—	Hydrochloric acid (HCL) > 10 < 20 %	■	■	—
Acetone	—	—	□	Hydrogen peroxide < 10 %	■	■	■
Aliphatic hydrocarbons	■	■	■	Hydrogen peroxide > 10 % < 30 %	■	■	—
Ammonia < 25 %	—	■	■	Hydrogen sulphide	—	—	—
Aniline	—	—	—	Isopropyl alcohol	■	—	—
Aromatic hydrocarbons	—	—	■	Ketones	—	—	□
Beer	■	■	■	Lime milk	□	■	■
Benzene	—	—	■	Methanol	—	—	—
Benzine (cleaning spirit)	■	■	■	Methylene chloride	—	—	—
Blood	■	■	■	Nitric acid < 20 %	—	—	—
Bromic acid	—	—	—	Nitric acid > 10 % < 20 %	□	■	—
Carbon dioxide gasförmig	■	■	■	Nitric acid up to 10 %	■	■	—
Carbon monoxide gasförmig	■	■	■	Petroleum ether	□	■	■
Carbon tetrachloride	—	—	■	Phenol	—	—	—
Chlorine (concentration in indoor bath air)	■	■	■	Potassium hydroxide < 30 %	—	■	■
Chloroform	—	—	—	Pyridine	—	—	■
Chlorphenol	—	—	—	Regular petrol	—	—	■
Cresol	—	—	—	Seawater	■	■	■
Diesel fuel	—	—	■	Saline solution	■	■	■
Dioxane	—	—	■	Soapsuds	■	■	■
Ethanol < 30 %	■	□	—	Soda (sodium carbonate)	■	■	■
Ethanol > 30 %	■	—	—	Sodium hydroxide solution < 10 %	—	■	■
Ether	—	—	■	Spirit of turpentine	■	■	■
Ethyl acetate	—	—	■	Sulphuric acid (H2SO4) < 30 %	■	■	■
Fats: animal	—	■	■	Sulphuric acid (H2SO4) > 30 % < 50 %	■	—	—
Fats: mineral	—	■	■	Sulphuric acid (H2SO4) > 50 %	—	—	—
Fats: vegetable	—	■	■	Toluene	—	—	■
Fuel oil	—	—	■	Trichloroethane	—	—	■
Glycerol	□	■	■	Water up to 60 °C	■	■	■
Glycol	■	■	—	Xylene	—	—	■

Cleaning agents, disinfectants and coolants

	PC	PMMA	CHEMO
ACMOSIL 37-5504	—	—	■
Coolants QUAKERCOOL 7200 HBF	—	□	■
Coolants QUAKERCOOL 7200 BFF	—	□	■
Coolants QUAKERCOOL 7100 HD	—	□	■
GORAPUR LI 2920-40 E	—	—	■
MV Quartacid plus from Schülke	■	■	■
MV Quartasept plus from Schülke	□	■	■
MV perform classic alcohol IPA from Schülke	■	■	■
P3-topactive OKTO (disinfectant; acid solution with peroxide) from ECOLAB	□	■	■
P3-topax 66 (cleaner/disinfectant; alkaline with chlorine) from ECOLAB	—	■	■
P3-topactive 200 (cleaner, alkaline with tenside) from ECOLAB	□	■	■
P3-topactive 500 (cleaner, acid solution with tenside) from ECOLAB	□	■	■
P3-topax 990(neutral disinfectant; basis alkylaminacetat) from ECOLAB	□	■	■
PU-5408H, PU-1706M, PU-5421H, PU-4111M from Chem-Trend	—	—	■
PU-HS-Antiblock 6291/21, A-PU-Antiblock 6/428-5 from Bomix	—	—	■

DISCLAIMER: our recommendations concerning the chemical resistance of the materials are based upon information from material suppliers, careful examination of available published documents and our experience in different industry applications. However, since the resistance of metals, plastics and elastomers can be affected by the concentration, temperature, presence of various chemicals and other factors, the above datasheet should be considered as a general guide rather than an unqualified guarantee. Ultimately, the customer must determine the suitability of the luminaires in various solutions and applications.

Suitable materials and temperature ranges

	PC	PMMA	CHEMO
Resistance to ageing of the material	very good	good	good
Flammability according to UL94 (ISO 60695)	not applicable	not applicable	not applicable
Requirements for the new parking standard met	yes	yes	yes
FOOD INDUSTRY:			
Food suitability (FOOD DESIGN)	yes, HACCP, EU VO 852/2004	yes, plus HACCP, FOOD (EU VO 852/2004), ECOLAB, DLG (ammonia)	yes, plus HACCP, FOOD (EU VO 852/2004), ECOLAB
Chemical resistance (ECOLAB certificate)	no	yes, ECOLAB, DLG (ammonia)	yes, ECOLAB
Glow wire test	850 °C	650 °C	850 °C
Halogen-free	yes	yes	yes
Suitability for use in agriculture (livestock farming – DLG cert.)	no	yes	no
Impact resistance (IK rating)	IK08	IK03	IK07
Silicone-free	yes *	yes *	yes *
Temperature resistance	-40 °C - +54 °C	-10 °C - +35 °C	-40 °C - +35 °C

* Not for types with through wiring

DISCLAIMER: the above is not showing all available variants (for example, variant with emergency, variant through wiring), therefore for more details please consult the full product datasheet.

POLYCARBONATE (PC)

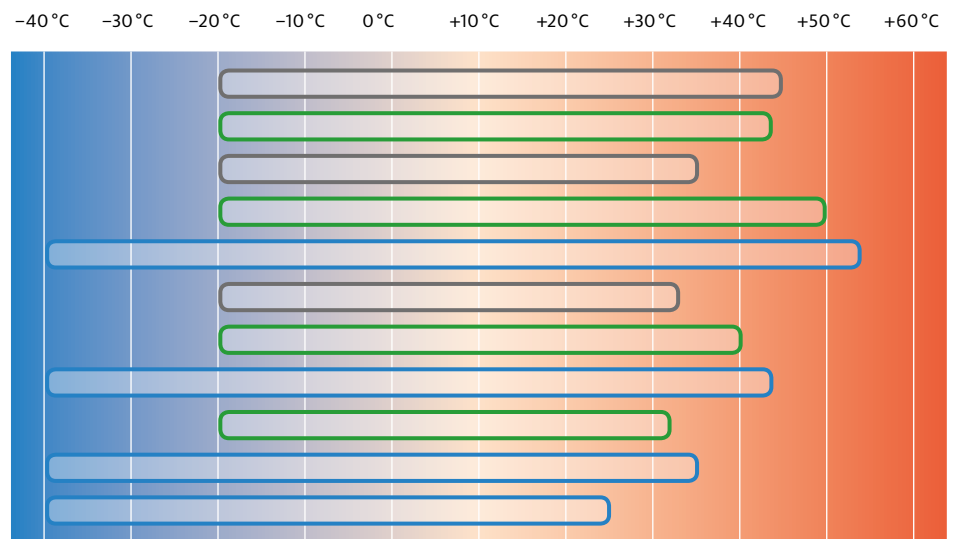
- the most mechanically robust luminaire in the portfolio
- UV-stable and high impact resistant
- chemical resistant against alcohol, ethanol or hydrogen peroxide

ACRYLIC (PMMA)

- highly transparent
- resistant against impacts, weather and UV-radiation
- minimised risk of tension cracking
- chemical resistant against a variety of acids, alkalis, halogens, mineral oils, fats and oils

CHEMO (CH)

- highly transparent
- high impact resistance and durability
- no tension cracks
- highly translucent luminaire is also able to cope with alkalis, unorganic salts, solvents, fuels, fats and oils



Basic, Regular, Low and Extreme variants: what's the difference?

Basic has got no special gear tray/additional cooling kit. For Regular and Low and Extreme temperature variants we developed a special gear tray/additional cooling kit for an improved thermal management.

AMPHIBIA S (short version): 2900 lm, 4600 lm

AMPHIBIA L (long version): 4600 lm, 6400 lm, 8000 lm, 10000 lm

DLG: the DLG (German Agricultural Society) has tested and certified the resistance to ammonia of AMPHIBIA PM version.

ECOLAB: the ECOLAB Product Certificate confirms the resistance of AMPHIBIA PM and AMPHIBIA CH to the most common cleaning agents in Food Industry as Topactive 200, Topactive 500, P3 Topactive OKTO (and more) and demineralized water.

HACCP/Food: the HACCP Food Product Certificate guarantees the suitability of luminaires as food-safe and suitable for use in facilities or environments where food is produced or traded.

The certificates can be downloaded from Zumtobel Group website.