

# General information

## Material reference

### UL & IEC enclosure standards comparison



#### Material and characteristics

No ozone depleting substances in the products.

	Material						
	PC	PSU	PA	Zinc	Light-alloy	Rubber	
						Chloro-prene	Nitrile
Pushbutton	X	X	X			X	X
Double pushbutton	X	X	X				X
Mushroom pushbutton, momentary maintained	X	X	X			X	X
Selector switch	X	X	X				X
Toggle switch	X		X				X
Pilot light	X		X				X
Lock in lockable operators				X			
Non-metallic enclosure	X					X	
Metallic enclosure					X	X	

	Material	Characteristics
PC	Polycarbonate	High impact strength, good outdoor resistance. Can withstand light acid solutions, aliphatic hydrocarbons, paraffin, alcohols, animal and vegetable greases.
PSU	Polysulphone	Can withstand high temperatures, acids, basic solutions, alkaline compounds, oils, alcohols.
PA	Polyamide	Can withstand high temperatures, aliphatic, aromatic and chlorinated hydrocarbons, esters, ketone-aldehydes, alcohols and basic solutions.
	Zinc	Good corrosion resistance in inland, sea and industrial atmosphere.
	Light-alloy	Good corrosion resistance in inland, sea and industrial atmosphere.

#### UL & IEC enclosure standards comparison ①

IEC definition	Protection to IEC 144/BS5420	Protection to UL 50 enclosure type	UL 50 definition
Protected against solid objects greater than 12mm	IP 20	1 (ventilated)	General purpose indoor
Protected against solid objects greater than 2.5mm	IP 30	1	General purpose indoor
Protected against solid objects greater than 12mm and dripping water	IP 21	2 (ventilated)	Falling water and dirt, indoor
Protected against solid objects greater than 2.5mm and dripping water	IP 24	3R (ventilated)	Rain proof, sleet (ice) resistant, outdoor use
Protected against solid objects greater than 2.5mm and dripping water	IP 34	3R	Rain proof, sleet (ice) resistant, outdoor use
Protected against dust & splashing liquid	IP 54	—	—
Dusttight, protected against waterjets	IP 65	12	Indoor use, dusttight and driptight
Dusttight, protected against heavy seas	IP 66	3S	Dusttight, driptight
Dusttight, protected against heavy seas	IP 66	4	Dusttight, watertight
—	—	4X	Dusttight, watertight, corrosion resistant
Dusttight, protected against heavy submersion	IP 68	6	Submersible, watertight, dust-tight, sleet (ice), resistant indoor or outdoor
—	—	13	Oiltight and dusttight, indoor
Protected against dust & splashing liquid	IP 54	5	Protection against settling airborne dust, falling dirt and dripping noncorrosive liquids, indoor

① Cross references are approximate.