

PVCu is used for the production of extrusions and mouldings and is universally accepted as having the most suitable properties for use within the electrical industry.

Standards and Approvals

All Gilflex PVCu products are manufactured in accordance with the requirements of BS 4678: Part 4 and BS 4662. The PVCu material used has been tested by an approved laboratory in accordance with the requirements of the following British Standards: BS 4607: Part 1, BS 6099-2-2, BS 476: Part 7. Copies of test certificates are available upon request. Gilflex has been awarded ISO 9002 accreditation. Trunking and conduit systems can be installed to comply with all relevant requirements of the latest edition of the (BS7671) IEE Wiring Regulations.

CE marking

All relevant Gilflex products in this brochure are CE marked, confirmation that they meet the EMC and LV directives.

Performance (Strength)

Impact resistance	High impact resistance under normal climatic conditions, BS4678: medium duty
Charpy notched impact strength	25 kJ/m ²
Tensile strength	at yield 34.62 N/mm ² at break 42.00 N/mm ²

Fire performance

The PVCu materials used in the manufacture of Gilflex products are non-flame propagating in accordance with BS 6099 and BS 4678. Extrusion material has been tested by an accredited laboratory in accordance with the requirements of BS 476: part 7 and has achieved a Class 1Y classification. Moulding material has been tested by an accredited laboratory and conforms with IEC 695-2-1 at a severity of 750°C.

Thermal properties

All Gilflex PVCu products are designed to accommodate local thermal expansion. Fitting instructions explain the procedure required to deal with the differential movement at the interface with the building fabric.

Coefficient of linear expansion	5.5 x 10 ⁻⁵ per °C (5mm/3000mm with a temperature rise of 25°C)
Operating temperatures	-5° to 60°C
Vicat softening point	81°C
Thermal conductivity	0.19W/m/k

Chemical	Concentration	Unplasticised PVC 20°C 60°C
acetaldehyde	40% aq. solution	▲ ■
acetic acid	60% aq. solution	▲ ▲
acetic anhydride		■ ■
acetone	Traces	■ ■
alcohol, ethyl	40% w/w water	▲ ●
alcohol, isopropyl		▲ ▲
alcohol, menthyl	6% aq. solution 100%	▲ ▲ ▲ ●
aliphatic hydrocarbons		▲ ▲
aluminium chloride		▲ ▲
aluminium hydroxide		▲ ▲
ammonia	0,885.G., aq. solution Anhydrous gas Anhydrous liquid	▲ ▲ ■ ■ ■ ■
ammonium chloride		▲ ▲
ammonium hydroxide		▲ ▲
aniline		■ ■
animal oils		▲ ▲
aqua regia	Dilute Concentrated	▲ ▲ ■ ■
barium sulphate		▲ ▲
beer		▲
benzine		■ ■
benzoyl chloride		■ ■
borax		▲ ▲
boric acid		▲ ▲
brine		▲ ▲
bromide	Traces, gas 100% (dry gas) Liquid	● ■ ■ ■ ■ ■
calcium chloride	aq. solution 20% in methyl alcohol	▲ ▲ ▲
calcium hydroxide		▲ ▲
calcium hypochlorite		▲ ▲
carbon dioxide		▲ ▲
carbonic acid		▲ ▲
carbon monoxide		▲ ▲
carbon tetrachloride		● ■
castor oil		▲
chloric acid		▲
chlorine	100% (dry gas) 10% (moist gas)	▲ ● ●
chlorine water	Sat. solution	● ●
chloroform		■ ■
chrome alum		▲ ▲
chromic acid	Plating solution	▲ ▲
cider		▲
citric acid		▲ ▲
copper chloride		▲ ▲
copper cyanide		▲ ▲
copper nitrate		▲ ▲
copper sulphate		▲ ▲
cupric sulphate		▲ ▲
cyclohexanone		■ ■
detergent, synthetic	All concentrations	▲ ▲
developers, photographic		▲ ▲
dextrin		▲ ▲
dextrose		▲ ▲
dialzo salts		▲ ▲
dichlorodifluoromethane		▲ ▲
diethyl ether		■ ■
emulsifiers	All concentrations	▲ ▲
emulsions, photographic		▲ ▲
ethyl acetate		■ ■
ethylene glycol		▲ ▲
ethylene oxide		■ ■
fatty acids		▲ ▲
ferric chloride		▲ ▲
ferric nitrate		▲ ▲
ferric sulphate		▲ ▲
ferrous ammonium citrate		▲ ▲
ferrous chloride		▲ ▲
ferrous sulphate		▲ ▲
fixing solution, photographic		▲ ▲
fluorine		● ●
formaldehyde	40% w/w water	▲ ▲
formic acid	50% solution 100% solution	▲ ▲ ▲ ■
fructose		▲ ▲
fruit pulp		▲ ▲
glucose		▲ ▲
glycerol		▲ ▲
grape sugar		▲ ▲
heptane		▲ ▲
hydrobromic acid	100%	▲ ▲
hydrochloric acid	22% aq. solution Concentrated	▲ ▲ ▲ ▲
hydrochloric acid	40% aq. solution 60% aq. solution Concentrated	▲ ● ● ■ ▲ ▲
hydrogen bromide	Anhydrous	▲ ▲
hydrogen chloride	Anhydrous	▲ ▲
hydrogen fluoride	Anhydrous	▲ ▲
hydrogen peroxide	3% (10vol) 12% (40vol) 30% (100vol) 90% and above	▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲
hydrogen sulphide		▲ ▲
iodine	Solution in potassium iodine	■ ■
lactic acid	10% aq. solution 100%	▲ ▲ ● ●

Electrical

PVCu is non-conductive.

Dielectric strength	40 kV/mm in DBP 17 kV/mm in tx oil
Resistivity	1014 Ω cm ²

Biological

Resistant to vermin and termites.

Workability

All Gilflex PVCu products are lightweight and can be readily cut and drilled with hand tools. Short component lengths can be readily incorporated, reducing wastage of material. All covers and accessories are manufactured to fine tolerances to ensure a tight fit with ease of removal. Stop ends are secured to the carriers. For details, see the relevant installation guide.

Durability

All Gilflex PVCu products are stable and will maintain its performance characteristics in accordance with the terms and conditions described above.

Maintenance

Clip-on covers with optional screw fix and interchangeable accessories provide continuous accessibility for rewiring, extensions and modifications to an installation. Covers and accessories can be cleaned with a damp cloth and household detergent. The surface can be decorated with commercial paints if required.

Mechanical performance

Impact resistance under normal climatic conditions, BS 4678: medium duty.

Chemical resistance (See Below)

PVCu is non-corrosive and not affected by sea water. It has excellent resistance to mineral acids, alkalis and detergents, good resistance to alcohols, but liable to attack from solvents such as ketones, aromatics and hydrocarbons.

Chemical	Concentration	Resistance
▲ Satisfactory		
● Some attack or absorption: the material may be considered for use when alternative materials are unsatisfactory and where limited life is acceptable. When PVC is to be used with such chemicals full scale trials under realistic conditions are necessary.		
■ Unsatisfactory: so rated because of decomposition, solution, swelling, loss of ductility etc, of the samples tested.		

lanoline		▲ ▲
linoleic acid		▲ ▲
linseed oil		▲ ▲
magnesium hydroxide		▲ ▲
maleic acid	50% aq. solution Concentrated	▲ ▲ ▲ ●
metallic soaps	(water soluble)	▲ ▲
methyl bromide		■ ■
methyl chloride		■ ■
methyl cyclohexanone		■ ■
methyl ethyl ketone		■ ■
methyl isobutyl ketone		■ ■
methylated spirit		■ ■
methylene chloride		■ ■
milk		▲ ▲
mineral oil		▲ ▲
mixed acids	(sulphuric/nitric Various proportions)	● ■
molasses		▲ ▲
naphtha		▲ ▲
naphthalene		■ ■
nicotine		▲ ▲
nitric acid	5% aq. solution 50% aq. solution	▲ ▲ ▲ ●
nitrobenzene		■ ■
oleic acid		▲ ▲
oxalic acid		▲ ▲
oxygen		▲ ▲
ozone		▲ ▲
paraffin		▲ ▲
pentane		▲ ▲
petrol		▲ ▲
phosphoric acid	30% aq. solution 95% aq. solution	▲ ▲ ▲ ▲
photographic developers		▲ ▲
potassium bromide		▲ ▲
potassium carbonate		▲ ▲
potassium cyanide		▲ ▲
potassium ferricyanide		▲ ▲
potassium hydroxide	10% aq. solution Concentrated	▲ ▲ ▲ ▲
potassium hypochlorite		▲ ▲
potassium permanganate		▲ ▲
propane		▲ ▲
propylene glycol		▲ ▲
propylene oxide		■ ■
saccharose		▲ ▲
sea water		▲ ▲
silver nitrate		▲ ▲
soap solution		▲ ▲
sodium bicarbonate		▲ ▲
sodium bisulphate		▲ ▲
sodium borate		▲ ▲
sodium bromide		▲ ▲
sodium carbonate		▲ ▲
sodium chlorate		▲ ▲
sodium chloride		▲ ▲
sodium cyanide		▲ ▲
sodium ferricyanide		▲ ▲
sodium ferrocyanide		▲ ▲
sodium fluoride		▲ ▲
sodium hydroxide	40% aq. solution Concentrated	▲ ▲ ▲ ▲
sodium hypochlorite 15% Cl		▲ ▲
sodium hyposulphate		▲ ▲
sodium nitrate		▲ ▲
sodium peroxide		▲ ▲
sodium silicate		▲ ▲
sodium sulphate		▲ ▲
sodium sulphide	25% aq. solution Concentration	▲ ▲ ▲ ▲
sodium sulphite		▲ ▲
soft soap		▲ ▲
surface active agents (All concentrations)		▲ ▲
(emulsifiers, synthetic detergents and wetting agents)		▲ ▲
starch		▲ ▲
stearic acid		▲ ▲
sucrose		▲ ▲
sulphur	Colloidal	▲ ▲
sulphur dioxide	Dry Liquid	▲ ▲ ● ■
sulphuric acid	80% aq. solution 90% aq. solution Fuming	▲ ▲ ▲ ● ■ ■
sulphurous acid	10% aq. solution	▲ ▲
tallow		▲ ▲
tanning extracts		▲ ▲
tartronic acid		▲ ▲
transformer oil		▲ ▲
trichloroethane		■ ■
trichloroethylene		■ ■
turpentine		▲ ▲
vegetable oils		▲ ▲
vinegar		▲ ▲
water		▲ ▲
wetting agents	All concentrations	▲ ▲
wines and spirits		▲ ▲
xylylene		■ ■
zinc carbonate		▲ ▲
zinc chloride		▲ ▲
zinc sulphide		▲ ▲