

POLYESTER GRATING FIRE CLASSIFICATION M1 and ASTM E84



For the creation of walkways, floors, steps, filters, gutters, etc. in corrosive environments.

STANDARD: ISOPHTHALIC resin with non-slip silica grains

- LIGHTWEIGHT
- UV RESISTANCE
- EASY INSTALLATION AND MODULARITY
- LOW INSTALLATION COST
- CARRIERS IN BOTH DIRECTIONS.
- CORROSION RESISTANCE
- NON-CONDUCTIVE (thermal and electrical)
- MECHANICAL AND IMPACT RESISTANCE

Ref.	Color	Mesh mm	Dimensions mm	Height mm	% Free surface	kg/m ²
CAIL50	GREEN RAL 6010	19X19	2000 X 1000	30	42%	15,90
CAIL50GR	GRAY RAL 7040	19X19	2000 X 1000	30	42%	15,90
CAIL50G	GRIS RAL 7040	19 X 19	3660 X 1220	30	42%	15,90
CAIL51	VERT RAL 6010	38 X 38	3660 X 1220	30	70%	14,00
CAIL56	VERT RAL 6010	38 X 38	996 X 2026	30	70%	14,00
CAIL52	VERT RAL 6010	38 X 38	3660 X 1220	38	70%	19,00

Loading chart*							
Mesh 19 x 19 mm – Compliant Safety ball Ø 20 mm – Maximum deflection 1/125 of the range							
Height	Load	Load Span between supports (mm), panel width 300mm					Applications
30mm		457	610	914	1219	1372	Pedestrian crossing on footbridge
	Ukg/m ²	15429	11532	7714	5786	5143	
	P kg	2944	2201	1472	1104	981	
Mesh 38 x 38 mm - Maximum deflection 1/125 of the span							
Height	Load	Load Span between supports (mm), panel width 300mm					Applications
30mm		457	610	914	1219	1372	Pedestrian crossing in gutter Moderate loads
	Ukg/m ²	-	2596	1151	-	-	
	P kg	-	822	527	-	-	
38mm	Ukg/m ²	13399	10049	6699	5302	3731	Heavy demands Heavy distributed loads
	P kg	2557	1918	1278	1012	712	

Solid floors mechanical resistance = grating equivalent x 1.20 (+15%)

U = uniformly distributed load in kg/m²

P = point load on line in Kg

CHEMICAL RESISTANCE TABLE POLYESTER FRP GRATING

The molded gratings and structural elements are made from isophthalic polyester resin. Regarding the chemical resistance of isophthalic resin, it is assessed as follows:

The first letter P, I, O means: P = permanent contact I = intermittent contact
O = occasional contact

Example: HYDROCHLORIC ACID: 37% P30



The gratings and traffic floors resist permanent contact with HYDROCHLORIC acid with a concentration equal to 37%, at temperatures up to 30°C.

Chemical resistance depends on the resin used and the usage.

(mechanical stresses supported by the element, frequency of contact with the liquid, temperature variations, etc.).

The information given in this table comes from experience and cannot constitute a total guarantee or a limitation of use, nor engage our liability.

PRODUCTS	CONCENTRATION	ISOPHTHALIC	PRODUCTS	CONCENTRATION	ISOPHTHALIC
Acetaldehyde		NO	Cresylic acid		NO
Amyl acetate		30	Dichloroacetic acid	40%	I30
Ammonium acetate		P75	Dodecyl benzene acid sulfonic	-	-
Barium acetate		P75	Fluoboric acid	10%	P75
Butyl acetate		NO		100%	-
Cuprous acetate		P75		37%	O30
Cupric acetate		P75	Fluosilicic acid	10%	NO
Ethyl acetate		NO		30%	I30
Ferrous acetate	100%	P75	Formic acid	30%	I30
Ferric acetate	100%	P75		100%	O30
Methyl acetate		NO	Unsaturated fatty acid		P75
Ferrous acetate	100%	P75	Saturated fatty acid		P75
Lead acetate		P90	Hypochlorous acid	50%	P30
Sodium acetate		P75	Hydroiodic acid	10%	P60
Vinyl acetate		NO		20%	P30
Acetone	25%	P50	Lactic acid		P75
	100%	I30	Lauric acid		P75
Acetonitrile	100%	NO	Levulinic acid		P75
Acetophenone		NO	Linoleic acid		P75
Acetic acid	10%	P95	Linolenic acid		P75
	25%	P50	Maleic acid	100%	P60
	50%	P25	Acid monochloroacetic	50%	P30

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PRODUCTS	CONCENTRATION	ISOPHTHALIC	PRODUCTS	CONCENTRATION	ISOPHTHALIC
	100%	NO	Myristic acid		P75
Acrylic acid	100%	NO	Naphtic acid		P75
Arsenious acid		P75	Nitric acid	5%	P30
Benzene sulfonic acid	25%	P25		10%	O30
	SATURATED	NO		50%	NO
Benzoic acid		P80		100%	NO
Boric acid		P75	Octoic acid		P40
Hydrobromic acid	25%	P50	Oleic acid		P90
	50%	I30	Oxalic acid		P75
Butyric acid	25%	P30	Palmitic acid		P75
	100%	P20	Perchloric acid	10%	O20
Capric acid		P75	Phosphoric acid	10%	P60
Caprylic acid		P40		75%	P40
Chloroacetic acid (mono)	50%	P30		100%	-
	100%	-	Phthalic acid		75
Hydrochloric acid	10%	P60	Picric acid		NO
	20%	P30	Poly phosphoric acid	115%	-
(concentrate)	37%	P30	Polyvinyl acid	100%	P30
Chromic acid	10%	I65		EMULSION	P30
	20%	NO	Propionic acid	50%	P25
Citric acid	100%	P65	Selenious acid		P75
			Stearic acid		P75
			Sulphanilic acid		P75
			Sulfamic acid		-
			Hydrogen sulfide	GAS	P30
Sulfuric acid	10%	P30	Borax		-
	25%	I30	Bromine (dry and wet)	GAS	NO
	75%	O30	Bromine (water)	5%	NO
	98%	NO	Methyl bromide (liquid or gas)		P20
Super phosphoric acid	115%	-	Potassium bromide	30%	P90
Tannic acid		P75	Sodium bromide	30%	P90
Tartaric acid		P75	Butane diol		P70
Trichloroacetic acid	50%	I30	Butane triol		P70
Amyl alcohol		P30	Butanol	100%	P30
Benzyl alcohol		NO	Butylamine		NO
Butyl alcohol	50%	P40	Butylbenzylphthalate		P75
Ethyl alcohol	100%	I40	Butylcellosolve		NO
Isobutyl alcohol	100%	P60	Btylene glycol		P75
Methyl alcohol		I40	Butyraldehyde		O30
Polyvinyl alcohols		-	Camphor		P20

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PRODUCTS	CONCENTRATION	ISOPHTHALIC	PRODUCTS	CONCENTRATION	ISOPHTHALIC
Food (products)		P80	Barium carbonate		P30
Alums		-	Magnesium carbonate	SATURATED	P90
Ammonia	GAS	NO	Potassium carbonate	10%	O30
	5%	P20		SATURATED	NO
	18%	I30	Sodium carbonate	10%	O30
	SATURATED	NO		SATURATED	NO
Quaternary ammoniums		-	Auto fuel		P30
Amylamine		NO			
Acetic anhydride		O30	Lime	5%	I35
Phosphoric anhydride		NO		10%	O35
Phthalic anhydride		P75		SATURATED	NO
Sulfur dioxide	GAS	P40	Sodium chlorate	10%	P80
Sulfuric anhydride	GAS	NO	Sodium chlorate	46%	NO
Aniline		NO	Chlorine (dry or wet gas)	GAS	P30
Barite	10%	I50	Chloethanol		P30
	SATURATED	NO	Sodium chlorite		I30
Benz aldehyde		NO	Aniline hydrochloride		P75
Benzene		I30	Chlorobenzene		P20
Ammonium benzoate	100%	P75	Chloroform		NO
Sodium benzoate	100%	P75	Aluminum chloride	SATURATED	P75
Ammonium bicarbonate	20%	P65	Ammonium chloride		P80
	50%	I30	Amyl chloride		NO
	SATURATED	O30	Barium chloride		P80
Potassium bicarbonate (KHCO ₃)	50%	P80	Benzyl chloride		NO
Baking soda	100%	P75	Calcium chloride	100%	P80
Potassium dichromate	10%	I65	Cupric chloride	SATURATED	P90
Sodium dichromate	10%	I65	Ethyl chloride	100%	P70
Chlorine dioxide	10%	P60	Ferrous chloride	10%	P70
	SATURATED	I60	Ferric chloride	10%	P70
Sodium bisulfate		P75	Magnesium chloride	100%	P75
Calcium bisulfite		P75	Mercury chloride		P75
Sodium bisulphite		P75	Mercuric chloride		P75
			Methyl chloride (liquid or gas)		P20
Methylene chloride		NO	Distilled water		P50
Nickel chloride		P75	Bleach	10° Chlorine	I30
Lead chloride		P90		20° Chlorine	I30
Potassium chloride	SATURATED	P80		47° Chloro	NO
Sodium chloride	SATURATED	P75	Oxygenated water	5%	NO
Sulfuryl chloride		NO	Aqua regia	STEAM	P30
Thionyl chloride		NO		LIQUID	NO
Zinc chloride		P75	Ethylene diamine tetraacetic acid (EDTA)	100%	-
Potassium chromate	10%	I65	Fertilizer		P80
Sodium chromate	10%	I65	Mineral spirits		P50
Aluminum citrate	100%	P80	Engine gasoline		P30
Ammonium citrate		P75	Turpentine oil		I30
Citrate of soda		P75	Fatty acid esters		-
Creosote		NO	Ethanol	100%	I40

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PRODUCTS	CONCENTRATION	ISOPHTHALIC	PRODUCTS	CONCENTRATION	ISOPHTHALIC
Cresol	10%	NO	Ethanolamine (mono)		I30
Cuproammonium (solution)		P75	Ethyl ether		O30
Silver cyanide		NO	Petroleum ether		P30
Cuprous cyanide		P80	Ethylene chlorohydrin		I30
Cupric cyanide		P80	Ethylene diamine		NO
Potassium cyanide	5%	P30	Ethylene glycol		P75
	15%	P30	Ethyl glycol		P75
Sodium cyanide	5%	P30	Potassium ferrocyanide		P80
	15%	P30	Sodium ferrocyanide		P80
Cyclohexane		P40	Potassium ferricyanide		P80
Cyclohexanol		P40	Sodium ferricyanide		P80
Cyclohexanone		O20	Fluorine		NO
Decanol		P75	Aluminum fluoride		NO
Detergents		P80	Formaldehyde	44%	P50
Diallylphthalate		P75	Formalin	44%	P50
Dibutylphthalate		P75	Carbon dioxide (saturated solution)		P90
Dichloroethylene		NO	Sulfur gas (SO2)		P40
Dichlorobenzene		NO	Sodium glutamate		P75
Potassium dichromate		I80	Glycerin		P90
Diethylamine		-	Glycol		P75
Diethyl ketone		I30	Tars		I50
Diethylene glycol		P90	Heptane		P30
Diethyl ether		O30	Hexane		P30
Diethyl maleate	5%	I30	Mineral oils		P75
	100%	NO	Plant-based oils		P75
Dimethylformamide (DMF)		NO	Hydrazine		NO
Dimethyl sulfoxide (DMSO)		-	Hydrogen sulphide	GAS	P30
Dinitrobenzene		NO	Sodium hypchlorite (bleach)	10° Chlorine	P30
Dinitrophenol		NO	or calium	20° Chlorine	I30
Dioxane		I30		47° Chloro	NO
Sulfur dioxide	GAS	P40	Sodium hyposulphite		-
Dipropylene glycol		P90	Isobutanol		P60
Water		P50	Isodecanol		P75
Chlorine water		I30	Isooctane		P50
			Isopropanol		P40
Kerosene		P75	Phenol	1%	NO
Latex		P70		10%	NO
Malathion	57%	P30	Ammonium phosphate		-
Diethyl maleate	5%	I30	Potassium phosphate	10%	NO
	100%	NO	Trisodium phosphate	10%	NO

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PRODUCTS	CONCENTRATION	ISOPHTHALIC	PRODUCTS	CONCENTRATION	ISOPHTHALIC
Fuel oil		P75	Butylbenzyl phthalate		NO
Methanol		P40	Diallyl phthalate		P75
Methyl ethyl ketone (MEC)		O20	Dibutyl phthalate		P75
Methyl glycol		P75	Diocetyl phthalate		P75
Methyl isobutyl ketone		NO	Polyelectrolyte		P75
Monobutylamine		NO	Poglycols		P75
Ethyl monochloroacetate		NO	Potash	10%	I50
Methyl monochloroacetate		NO		25%	O30
Monochloroethane		P30	Propanol		P40
Monoethanolamine		I30	Propylene glycol		P75
Mononitrobenzene		NO	Pyridine		NO
Naphtha		P80	Sorbitol		P75
Naphtaline		P40	Soude	10%	O30
Nitrate d'ammonium	45%	P75		20%	NON
	60%	P30		50%	NON
	SATURE	I30	Styrène		O30
Nitrate d'argent		P75	Sulfate d'aluminium	100%	P80
Nitrate de calcium		P75	Sulfate d'ammonium		P75
Cuprous nitrate		P90	Aniline sulfate	20%	P75
Cupric nitrate		P90		100%	P20
Ferrous nitrate		P75	Barium sulfate		P30
Magnesium nitrate	100%	P80	Calcium sulfate	100%	P80
Mercury nitrate		P80	Chromium sulfate	100%	P80
Nickel nitrate		P75	Cuprous sulfate		P80
Lead nitrate		P80	Cupric sulfate		P80
Potassium nitrate		P75	Ferrous sulfate		P80
Sodium nitrate		P75	Ferric sulfate		P80
Zinc nitrate		P80	Isopropyl sulfate	100%	O20
Sodium nitrite		P30	Magnesium sulfate	100%	P75
Nitroaniline		NO	Nickel sulfate		P75
Nitrobenzene		NO	Potassium sulfate	100%	P75
Nitrophenol		NO	Sodium sulfate		P75
Nitrotoluene		NO	Zinc sulfate		P75
Oleum		NO	Barium sulphite		P30
Phosphorus oxychloride		NO	Potassium sulphite		P50
Paraffin		P75	Sodium Sulphite		P50
Parathion	85%	P30	Barium sulfide	100%	I30
Perchloroethylene		O30	Carbon disulfide		NO
Iron perchloride	10%	P70	Carbon tetrachloride		O20
Hydrogen peroxide	25%	NO	Tetrahydrofuran (THF)		I30
Ammonium persulfate	100%	P80	Tetrahydronaphthalene		NO
Potassium persulfate	100%	P80	Ammonium thiocyanate		P75
Crude oil		P75	Sodium thiocyanate		P75
			Thiophene		I30
Sodium thiosulfate		-			
Toluene		I30			
Toluene di isocyanate (TDI)		NO			
Trichlorethylene		NO			
Antimony trichloride	50%	P80			
	SATURATED	I30			
Phosphorus trichloride		NO			
Triethanolamine		I30			
Triethylamine		NO			
Urea		-			
Nitrous vapors		O30			
White spirit		I30			
Xylene		I30			

ELECTRICAL RESISTANCE OF POLYESTER GRATS AND FLOORS

Transverse resistance = 10^{14} ohms/cm

Surface resistance = 10^{13} ohms/cm

Dielectric strength value = 40 K volts/mm²

Dielectric constant = < 0.5

Dielectric loss factor = Tang α 0.05