



Anti-Slip – Product Specification

Identification of the Product & the Company

Product Name:	Anti-Slip Category - Glass Reinforced Plastic (GRP) safe access products
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Product Overview

Anti-Slip is a range of extremely tough and durable slip resistant surfaces, with bespoke manufactured options by Evergrip Limited.

Designed to eliminate slip hazards in industrial, commercial and public access areas and provide a long service life. In many installation scenarios the products are virtually maintenance free.

Product range variants include:

ladder rung cover | stair nosing | stair tread cover | cleat | landing cover | low profile sheet | standard thickness sheet | 6mm thickness sheet

Anti-Slip is manufactured from three key components: a GRP substrate (flat, profiled or hand lay-up), high grade Isophthalic polyester resins and aluminium oxide grit. It is the coating process that lends the product a particularly high resistance to impact, abrasion, most common solvents, chemicals, acids and hydrocarbons.

Available in yellow, black or grey as standard colours or any other BS or RAL matched colour on request. The size of grit granules may be selected, with the standard grades being Barefoot (grade 40), Pedestrian (grade 24), Industrial (grade 16) or Offshore (grade 12).

Typical application scenarios include the following:

- Stairways
- Landings
- Platforms
- Loading ramps
- Walkways
- Access ramps
- Duckboards
- Scissor lifts
- Fire escapes



GRP Sheet or Profile Substrates

Produced by a manufacturer accredited to standard BS EN ISO 9001:2008.

Chemical Resistance Data

Fibreglass products made with polyester resins are resistant to a wide variety of chemicals. However some chemical types may present problems, for instance, strong acids and alkalis. The table below highlights the main chemical groups **unsuitable (NR)** for use.

Chemical Solution	Level of Resistance to Vapours
Weak Acids	
10% Citric Acid	L – C*
10% Acetic Acid	L – C*
Strong Acids	
10% Sulphuric Acid	L – NR*
10% Hydrochloric Acid	NR
10% Nitric Acid	NR
Caustic Alkali	
10% Sodium Hydroxide	NR
10% Potassium Hydroxide	NR
Hydrocarbons	
Benzene	NR
Petroleum	L
Solvents	
Acetone	NR
Ethyl Acetate	NR
Water	C
Chlorinated Solvents	
Methylene Chloride	NR
Chloroform	NR
Salts	
10% Sodium Chloride	C
Saturated Sodium Carbonate	C
Alcohols	
Methanol	NR
10% Phenol	NR
	Key: C - Continuous Exposure L - Limited Exposure NR - Not Recommended * - Exposure is time dependant

Please contact us where chemicals are present and we will be able to provide further advice and guidance. We are also able to offer trial samples to assess suitability in-situ.



Physical Properties

Manufacturing Tolerances			
Substrates			
Type:	Profiled Sheet	Flat Sheet	Hand Lay Up Profile/Sheet
Length	-0mm + 0.8% of stated	+/- 1% of stated	n/a
Width	+/- 0.8% of stated	+/- 2mm	
Nominal Standard Thickness	2.7mm (-0/+0.3mm)	2.7mm (-0/+0.3mm) or 1.0mm (-0.1mm/+0.2mm)	
Squareness	When a rectangular frame is placed at the end of the sheet, the variation from corner to corner shall not exceed 1mm in 100mm		
Glass content	30%	35%	Min 30%
Barcol Hardness	40 min		
Finished Products			
Type:	Low Profile	Standard Flat Sheet/Profile	Heavy Duty Sheet
Nominal Thickness	3mm (-0mm/+0.5mm)	4mm (-0/+1mm)	6mm (-0/+2mm)
Nominal Weight kg/m	3.5	8	13
Fire Performance	Min. Class 3. Also available to 0/1 of BS476 Part 6/7		
Effects of Sunlight	The product is UV stabilised		
Operating Temperatures	-20°C to +55°C		

Resin Top Coat - Isophthalic Polyesters

Produced by a manufacturer accredited to standard BS EN ISO 9001:2008

The resin coating provides the product with its protective/resistant properties. Selection and quality is of paramount importance.

Resin Type	Un-saturated Isophthalic polyester
Monomer Content	43%
Viscosity at 25°C	Thixotropic
Gel Time at 25°C	10 min
Heat Deflection Temp	90°C
Flexural Strength	100Mpa
Tensile Strength	35Mpa
Elongation	0.4%
Barcol Hardness	58



Physical Properties

Chemical Resistance Data

This data has been determined from a number of sources including case histories, laboratory testing and practical experience.

It is emphasised however, that this information is only intended to serve as a guide to resistance as exposure combinations, loadings (both static and dynamic) and general environmental conditions will all play a part in overall performance. As such they do not constitute a recommendation of suitability or guarantee. We are always happy to provide samples of the material for testing where there is any doubt about the operating environment.

The table below shows the maximum working temperature to which the chemical resistant surface should be exposed with corresponding concentrations of various chemical substances.

Chemical	%	Maximum working temp °C	Chemical	%	Maximum working temp °C
Acetic Acid	Glacial	NR	Antimony Trichloride	100	20
	10	60	Aviation Fuel:		
	25	40	AVTAG/JP4	100	20
	50	20	AVTUR	100	25
	78	NR	Barium Chloride	SAT	60
	98	NR	Barium Hydroxide	10	NR
Acetone	10	25	Benzaldehyde	100	NR
	100	NR	Benzoic Acid	SAT	60
Acriflavine	2	50	Boric Acid	SAT	60
Acrylonitrile	100	NR	Brine		60
Alcohols:			Bromine	100	NR
Amyl	100	40	Butyl Acetate	100	NR
Butyl	100	35	Calcium Chloride	SAT	60
Ethyl	100	30	Calcium Hydroxide	20	30
Methyl	100	30	Calcium Oxide		30
Aluminium Chloride	SAT	55	Calcium Nitrate	SAT	60
Aluminium Nitrate	10	60	Calcium Sulphate	SAT	60
Alu Potass. Sulphate	SAT	60	Carbon Disulphide	100	NR
Aluminium Sulphate	SAT	65	Carbonic Acid	SAT	60
Ammonium Bromate	SAT	40	Carbon Tetrachloride	100	20
Amm. Carbonate	5	40	Chloroacetic Acid	25	20
	SAT	NR			
Ammonium Chloride	50	60		50	NR
Ammonium Citrate	SAT	50		100	NR
Ammonium Hydroxide	5	NR	Chlorine Water	SAT	25
Ammonia	20	NR	Chlorobenzene	100	NR
Ammonium Nitrate	SAT	60	Chloroform	100	NR
Ammonium Sulphate	SAT	65	Chromic Acid	10	40



Chemical	%	Maximum working temp °C	Chemical	%	Maximum working temp °C
Chromic Acid	20	20	Magnesium Carbonate	SAT	60
	50	20	Magnesium Chloride	SAT	60
Citric Acid	SAT	60	Magnesium Nitrate	SAT	60
Copper Chloride	SAT	60	Magnesium Sulphate	SAT	60
Copper Cyanide	SAT	60	Maleic Acid	SAT	60
Copper Sulphate	SAT	60	Methylene Chloride	100	NR
Cresol	100	NR	Methyl Ethyl Ketone	100	NR
Cyclohexanol	100	40	Methyl Methacrylate	100	NR
Diesel Fuel	100	40	Mineral Oil	100	50
Diethylene Glycol	100	60	Monochloro Benzene	100	NR
Diethyl Ketone	100	NR	Naphtha	100	35
Diethyl Formamide	100	NR	Naphthalene	100	50
Dimethyl Formamide	100	NR	Nickel Chloride	SAT	60
Dimethyl Phthalate	100	50	Nickel Nitrate	SAT	60
Dipropylene Glycol	100	60	Nickel Sulphate	SAT	60
Ethyl Acetate	100	NR	Nitric Acid	5	50
Ethyl Acrylate	100	NR		10	40
Ethylene Chlorohydrin	50	60		20	NR
	100	60		40	NR
Ethylene Glycol	100	60	Nitroaniline	100	NR
Ferric Chloride	SAT	60	Nitrobenzene	100	NR
Ferric Nitrate	SAT	60	Oleic Acid	100	60
Ferric Sulphate	SAT	60	Oleum		NR
Ferrous Sulphate	SAT	60	Oxalic Acid	SAT	55
Formaldehyde	10	60	Paraffin Wax	100	65
Formic Acid	20	50	Perchloric Acid	25	NR
	50	40	Petrol Lead-Free	100	NR
	100	NR	Phenol Sol	SAT	NR
Furfural	5	NR	Phosphoric Acid	50	60
Glycerol	100	60	Phthalic Acid	SAT	55
Heptane	100	30	Potassium Carbonate	10	20
Hexane	100	30		40	NR
Hydrobromic Acid	20	60	Potassium Chloride	SAT	60
	48	50	Potassium Chromate	SAT	60
Hydrochloric Acid	10	60	Potassium Ferricyanide	SAT	60
	25	50	Potassium Ferrocyanide	SAT	60
	35	30	Potassium Hydroxide	30	NR
Hydrofluoric Acid	10	25	Potassium Permanganate	SAT	20
Hydrogen Chloride	100	60	Potassium Phosphate	SAT	60
Hydrogen Peroxide	20vol	30	Potassium Sulphate	SAT	60
	100vol	NR	Propylene Glycol	100	60
Hydrogen Sulphide	100	50	Pyridine	100	NR
Iodine	2	NR	Sea Water		60
Iso-Octane	100	30	Silicone Oils	100	65
Isopropyl Alcohol	100	20	Silver Nitrate	SAT	30
Kerosene (domestic)	100	40	Sodium Acetate	SAT	60
Lactic Acid	50	60	Sodium Bicarbonate	SAT	60
Lanolin	100	55	Sodium Carbonate	10	25
Lead Acetate	SAT	60		25	20
Lead Nitrate	SAT	60	Sodium Chloride	SAT	60
Linseed Oil	100	80	Sodium Ferricyanide	SAT	60
Lubricating Oil	100	60	Sodium Hydroxide	<1	NR



Chemical	%	Maximum working temp °C	Chemical	%	Maximum working temp °C
Caustic Soda	5	NR	Tannic Acid	SAT	60
Sodium Hypochlorite	14 Aq	NR	Tartaric Acid	SAT	60
Sodium Nitrate	SAT	60	Tetrachloroethylene	100	NR
Sodium Nitrite	SAT	60	Tetrahydrofuran	100	NR
Sodium Perborate	SAT	60	Thionyl Chloride	100	NR
Sodium Perchlorate	SAT	60	Toluene	100	20
Sodium Phosphate	SAT	60	Turpentine	100	20
Sodium Sulphate	SAT	65	Urea	2	40
Sodium Sulphide	SAT	65	Urine	-	25
Sodium Sulphite	SAT	65	Vinyl Acetate	100	NR
Sodium Thiosulphate	SAT	60	Water:		
Stannous Chloride	SAT	60	De-ionised	100	55
Stearic Acid		60	Sea	100	60
Styrene	100	NR	White Spirit	100	35
Sulphuric Acid	25	60	Xylene	100	NR
	50	60	Zinc Chloride	SAT	60
	75	NR	Zinc Nitrate	SAT	60
	98	NR	Zinc Sulphate	SAT	60

Anti-slip Surface – Refined Aluminium Oxide Granules

Produced by a manufacturer accredited to standard BS EN ISO 9001:2008. A very tough media, providing a long life span. Also used extensively for general blasting applications, coated & bonded abrasives, vibratory finishing media, optical and lapidary processes.

Chemical Analysis

Compound / Element	Chemical Formula	Typical Content
Aluminium Oxide	Al ₂ O ₃	99.5%
Silicon Dioxide	SiO ₂	0.02%
Iron Oxide	Fe ₂ O ₃	0.05%
Sodium Oxide	Na ₂ O	0.2 – 0.4%

Physical Properties

Bulk Density	Subject to grade		
Shape	Angular		
Colour	White		
Hardness	9.5 Moh / 2200 knoop Diamond		
Finished Product Surface Options	Grade	Description	Grains / cm²
	Offshore	very coarse	12
	Industrial	coarse	16
	Pedestrian	medium	24
	Barefoot	extra fine	40

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