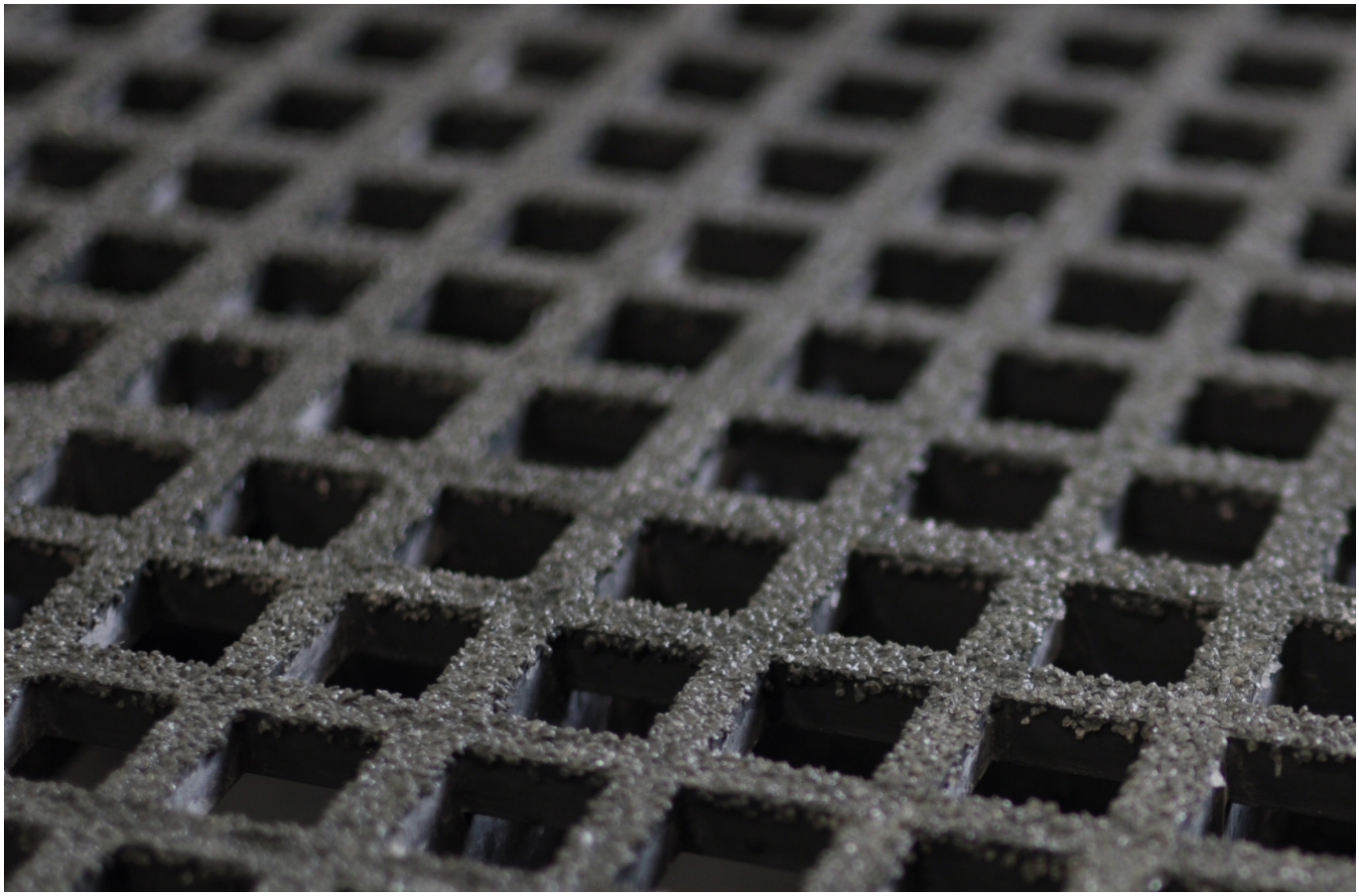
Chemical Resistance Sheet

Orthophthalic Polyester Resin System

Glass Reinforced Polymer (GRP) Composites are produced from glass fibres laminated together using a thermosetting resin system. Once the glass fibre is woven together, different resins may be added to give the product increased strength, as well as allow it to be moulded into various shapes. The resin system binds the composite together, transfers mechanical loads through the fibres to the rest of the structure and helps protect from impact, abrasion, corrosion, other environmental factors.

Which Dura Composites Products Are Relevant?

The chemical resistance data shown on the following page details the performance of the Orthophthalic Polyester Resin used as standard in our **d^1 & d^2 Dura Grating (including Solid Top), Dura Slab Open & Closed, Dura Grating Stair Treads** and **Dura Tread** ranges.



What is Orthophthalic Polyester Resin?

Orthophthalic Polyester Resin is widely used across the industrial, construction, automotive, commercial, and marine industries and its use is expected to grow at a compound annual growth rate of 4.6%* thanks to its great combination of value for money and effective physical properties.

It`s important to check that the resin system of your chosen grating is suitable for the intended application and the desired performance requirements. Your Dura Composites representative can help confirm suitability prior to purchase and installation, which will avoid any potential future issues and/or product failure. Other resin systems available from Dura Composites include Isophthalic Polyester which offers better performance in corrosive and/or in extremely hot environments, and Phenolic resin which is available in selected products where structural integrity post-fire is required. Please note these options are subject to extended lead times and are not available for all products.

Although care has been taken to ensure, to the best of our knowledge, that all data and information contained in this document is accurate at the time of publication, Dura Composites assumes no responsibility for any errors in or misrepresentation of such data and/or information or any loss or damage arising from or related to its use.

(* Source: Global Molded FRP Grating Market - Industry Trends and Forecast to 2027, Data Bridge Market Research).

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Orthophthalic Polyester Chemical Resistance Table

We are committed to ensuring that all users of our products are as informed as possible on suitability of different resin Dura Composites is committed to ensuring that all users of our products are as informed as possible on suitability of different resin systems for their project. It is highly recommended that you conduct tests in your own working conditions before using the product. Material samples are freely available on request. The following table provides reference information regarding the performance of the Orthophthalic Polyester Resin under specific chemical environments and temperatures.

Chemicals	Percentage of Mass concentration	Recommended Service Temperature in °C (FL-P22 – ISO RESIN)
Acetic Acid	50	20
Aqueous Ammonia	28	Not Recommended
Aluminium Hydroxide	100% or saturated solution	Not Recommended
Ammonium Bicarbonate	100% or saturated solution	Not Recommended
Ammonium Chloride	100% or saturated solution	60
Ammonium Sulphate	100% or saturated solution	50
Benzene	-	Not Recommended
Benzoic Acid	100% or saturated solution	-
Chlorine, Dry Gas	99	Not Recommended
Chlorine, Wet Gas	100% or saturated solution	Not Recommended
Chromic Acid	20	Not Recommended
Copper Chloride	100% or saturated solution	60
Copper Cyanide	100% or saturated solution	Not Recommended
Ethylene Glycol	99	40
Ferric Chloride	100% or saturated solution	60
Ferrous Chloride	100% or saturated solution	50
Gasoline	99	35
Glucose	99	Not Recommended
Glycerine	99	60
Hydrobromic Acid	25	Not Recommended
Hydrochloric Acid	<10	Not Recommended
Hydrochloric Acid	20	Not Recommended
Hydrochloric Acid	37	Not Recommended
Hydrogen Peroxide	30	-
Kalium Nitrate	99	40
Lactic Acid	99	40
Manganese Sulphate	100% or saturated solution	45
Natrium Hydroxide	10	Not Recommended
Natrium Hydroxide	25	Not Recommended
Natrium Hydroxide	50	Not Recommended
Nitric Acid	5	25
Phosphoric Acid	85	Not Recommended
Potassium Dichromate	99	40
Potassium Nitrate	100% or saturated solution	40
Propylene Glycol	99	40
Sodium Cyanide	100% or saturated solution	-
Sulphuric Acid	25	20
Vinegar	99	30
Water, Distilled	99	25
Water, Fresh	99	40
Zinc Sulphate	100% or saturated solution	45

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