

Product

DRYSEAL
Semi-rigid
Roofing System

Section

Technical
Information

Reference

G

Technical Information

Technical Information

Dimensions

GRP Membrane

	Standard Weight	Heavy Weight
Thickness	1.0 mm nominal	1.3 mm nominal
Width	1.35 metres	1.25 metres
Length	12 metres	9 metres
Weight	24 kg, nominal	21.6 kg, nominal

Trims

Thickness	1.1 mm nominal	1.4 mm nominal
Length	3 metres	3 metres

Fire

DRYSEAL GRP roofing system with polyester top coat has been treated to the conditions laid down in BS 476 Part 3 1958 extended fire exposure roof test and has been designated FAC.

Other grades are available. Contact our Technical Services Department for details.

DRYSEAL – GENERAL TECHNICAL INFORMATION

Effects of chemicals

Certain acids, alkalis and solutions of water soluble gases may attack GRP sheets and fixings. Where such conditions occur please contact our Technical Services Department for recommendations.

Liquids

Water absorption: 0.3% after 24 hours at 20°C.

Biological

Resistant to attack by micro-organisms, fungi, larvae, insects and mildew. Wash with mild detergents to remove deposits.

Thermal conductivity

Thermal movement

Coefficient of linear expansion: 22×10^{-6} m/m per °C.

Thermal transmittance ('U' value of design purposes) 5.7 W/m² per °C

Effects of Sunlight

All polyester resins used in production of flat sheet and trims, plus those used for laminating are UV stabilised. Further protection is achieved by the application of the resin based top coat.

Compatibility

No chemical reaction with other established constructional materials when fully cured.

Durability

Approximate life expectancy under normal exposure conditions in Northern Europe 30 years, but may remain structurally sound in excess of this period.

Please contact our Technical Services Department for information relating to areas other than Northern Europe.

Working characteristics

Lightweight and shatterproof. Can be cut or drilled with normal hand or power tools.

Handling and Storage

Appropriate care must be taken at all times when handling, storing and installing DRYSEAL GRP roofing system components. Care must be taken to avoid crushing and damage to edges and ends of flat sheet and trims. All components should be stored under cover in dry conditions where possible. When stored in open conditions components should be clear of the ground, i.e. on pallets or laid across timber battens, protected by opaque waterproof covers which should be checked regularly to ensure moisture has not penetrated the protective covering.

COSHH Regulations

The COSHH Regulations, effective from 1st January 1990, are a legal framework for controlling people's exposure to hazardous substances arising from work activities. An essential requirement is for employers (Contractor/Roofers) to make an assessment of the health risks created by the work and the measures that need to be taken. The duty is placed on the employer to make the assessment and cannot be delegated.

A step-by-step guide to the COSHH assessment and the skills needed to do it is published by the Health and Safety Executive.

To assist the employer make the assessment about the substances and risks to health created by working with them, Health and Hazards information with respect to the DRYSEAL system products is included in this manual. Separate and comprehensive Material Safety Data Sheets for the products are available upon request.

Product
DRYSEAL
Semi-rigid
Roofing System

Section
Technical
Information

Reference
G



Technical Information continued

Laminating Resin

Physical data in liquid state at 23°C

Properties	Value	Units	Test Method
Viscosity:			
Brookfield LV SP2/12rpm	1100 - 1300	cps	ASTM D 2196-86
ICI Cone and Plate	180 - 210	cps	ISO 2884 - 1974
Density	1.10	g/cm ³	ISO 2811 - 1974
Acid Value	30	mg KOH/g	ISO 2114 - 1974
Monomer	Styrene		
Monomer Content	40 - 44	%	
Flash Point	34	°C	ASTM D 3278 - 73
Geltime: 1% Butanox M50	10 - 15	minutes	
Stability at 20°C from date of manufacture	6	months	
Vapour Density	3.6	styrene	
Specific Gravity	1.01 - 1.30	g/cm ³	

In common with other pre-accelerated polyesters gel time drift occurs on storage. To compensate for this more catalyst may be required.

Mechanical data in the cured state Fully post-cured

Properties	Pure Resin	Units	Test Method
Tensile Strength	55	N/mm ²	ISO 527-1 - 1993
Tensile Elongation	1.5	%	ISO 527-1 - 1993
Tensile Modulus	4000	N/mm ²	ISO 527-1 - 1993
Flexural Strength	95	N/mm ²	ISO 178 - 1993
Flexural Modulus	4100	N/mm ²	ISO 178 - 1993
Heat Dist. Temp.	80	°C	ISO 75 - 1974
Volume Shrinkage	6 - 7	%	ISO 3521 - 1976
Barcol Hardness	45	934-1	ASTM D 2583 - 75
Water Absorption over 28 days	0.6 - 0.7	%	ISO/R 62 - 1958

Mixing of Catalyst with Laminating and Top Coat Resin

Catalyst	Temp °C	1 Litre	2 Litres	8 Litres
Super Reactive	4 - 6°C	20 - 25 ml	40 - 50 ml	160 - 200 ml
High Reactive	7 - 9°C	25 ml	50 ml	200 ml
	10 - 14°C	20 ml	40 ml	160 ml
	15 - 18°C	15 ml	30 ml	120 ml
	19 - 23°C	10 ml	20 ml	80 ml
Low Reactive	16 - 20°C	20 ml	40 ml	160 ml
	21 - 24°C	15 ml	30 ml	120 ml
	25°C plus	10 ml	20 ml	80 ml

Use of the Catalyst at the rate of less than 1% by volume may result in undercure causing problems later. For specific installation advice with regard to timescale see page F6.

Use of the Catalyst at the rate of more than 3% by volume will not improve cure time and may result in an unbalanced cure causing problems later.

Top Coat

DRYSEAL Top Coat is a pre-accelerated, fire retardant, pigmented topcoat based on iso-modified polyester resin. It is intended for use as a protective/cosmetic coating on the 'weather' side of DRYSEAL.

Physical data in liquid state at 23°C

Properties	Value	Units	Test Method
Viscosity:			
Rotothinner	23 - 26	poise	BS2782 Part 7: Method 730B:1994
Monomer	Styrene		
Flash Point	31.5	°C	BS3900 part A9: 1986
Geltime: 2%			
Butanox M50	7 - 10	minutes	BS2782 Part 8: Method 835C:1980
Stability at 20°C from date of manufacture	4	months	

In common with other pre-accelerated polyesters gel time drift occurs on storage. To compensate for this more catalyst may be required.

Mechanical data in the cured state of the base polyester resin

Properties	Pure Resin	Units	Test Method
Tensile Strength	60 - 80	N/mm ²	BS2782 Part 3: Method 320C: 1976
Tensile Elongation	3.5 - 4.0	%	BS2782 Part 3: Method 320C: 1976
Tensile Modulus	3800	N/mm ²	BS2782 Part 3: Method 320C: 1976
Heat Dist. Temp.	84	°C	BS2782 Part 1: Method 121A: 1991
Barcol Hardness	40 - 45	934-1	BS2782 Part 10: Method 1001: 1997
Water Absorption over 7 days	50	mg	BS2782 Part 4: Method 430A: 1983