SITE ASSEMBLED ROOFLIGHTS & SPECIALIST GRP SHEETS

GRP Rooflights | DR-Refurb
DR and Supasafe | Citadel | Isofil

Enhancing performance
across a wide range of new build, refurbishment and specialist applications.

FILON®
ON YOUR SIDE

THE **FILON WAY**

WE GO **ABOVE AND BEYOND.**

We have been producing high-quality GRP rooflighting and roofing systems **since the 1950s.**

Our manufacturing hub in Burntwood, Staffordshire **carries ISO 14001 environmental certification** and **our whole company is ISO 9001 certified.**

Every Filon rooflight, sheet and valley trough is made by a team that takes **pride in its work and understands the pressures on yours.**

OUR **'ON YOUR SIDE'** APPROACH:

ON TIME

Delivering when it matters with fair lead times and technical advice that saves time. All with a flexible approach and can-do attitude to meet your needs wherever possible.

ON SPEC

Products that meet every detail. Designed and tested for long-term service, with traceable evidence behind every claim.

ON POINT

Expertise that solves problems fast, with over 60 years of UK manufacturing and continuous improvement behind us.

ASSOCIATIONS

Filon is an **active member of a number of recognised trade and industry bodies** that promote best practice, safety and quality across the construction sector:

THE ROOFLIGHT ASSOCIATION

The Rooflight Association (RA)

NFRC LEADING ROOFING EXCELLENCE

National Federation of Roofing Contractors (NFRC)

LRWA Liquid Roofing & Waterproofing Association

Liquid Roofing & Waterproofing Association (LRWA)

RIDBA Rural & Industrial Design & Building Association

Rural & Industrial Design & Building Association (RIDBA)

Composites UK Trade Association

Composites UK Trade Association

MCRMA The Building Envelope Authority

Metal Cladding & Roofing Manufacturers Association (MCRMA)

NBS

The NBS (The National Building Specification)

These memberships reflect Filon's commitment to product integrity, industry collaboration and continuous improvement.

INTRODUCTION

GRP ROOFLIGHTS & SPECIALIST SHEETS

Filon's site-assembled rooflight and roof sheet range is designed to address a wide variety of new build, refurbishment and specialist applications.

Across the range, the focus is consistent: accurate profile matching and dependable material performance. This allows daylighting, replacement or protection strategies to be introduced with confidence, whether the priority is light transmission, added durability, roof safety or environmental resistance.

With hundreds of profiles available, including many obsolete and discontinued types, Filon products are frequently used to resolve problems that standard sheet ranges cannot. This makes them particularly suited to refurbishment and like-for-like replacement, where maintaining existing building geometry is critical.

THE FILON SITE-ASSEMBLED RANGE INCLUDES:

GRP Rooflights

Profiled translucent sheets for introducing natural light through new or existing roofs

DR-Refurb

Opaque Glass Reinforced Polymer (GRP) sheets for replacing or overlaying ageing profiled roof coverings

DR & Supasafe

Reinforced GRP sheets for applications where increased resistance to mechanical damage is required

Citadel

GRP roof and wall systems for aggressive and corrosive environments where metal is unsuitable

Isofil

Specialist GRP sheets for water treatment and process environments

Together these form a comprehensive range of site-assembled, single skin and specialist sheet products, giving confidence that the right solution can be achieved through Filon's manufacturing control, profile capability and technical support.

FLAT SHEET & BESPOKE PROFILES

Whilst Filon is best known for the vast range of roofing related profiles available, our 'can do attitude' and drive for customer satisfaction means we are always pleased to explore unusual product requests. As tooling is relatively cost efficient and quick, bespoke profiles (not necessarily roof sheets) for other applications can be produced.

Flat sheet is often a requirement for a vast range of uses and, as is the case for bespoke profiles, is available in all Filon fire grades and thicknesses up to 3.2mm. Any RAL or BS reference colour can be produced for bespoke applications, whether it is a fully opaque product or tinted to still allow light transmission.

Please discuss your requirements with our Sales and Technical Departments.

GRP ROOFLIGHT OVERVIEW

Filon GRP rooflights are profiled translucent sheets designed to introduce natural daylight into single-skin and insulated twin-skin roof constructions, both new-build and refurbishment.

They are manufactured to match more than 1,500 current and discontinued metal and asbestos cement profiles, allowing rooflights to be added or replaced without altering existing roof geometry. This makes them particularly suited to refurbishment and like-for-like replacement, where maintaining roof form and junction details is critical.

Daylight performance is controlled through the use of light-diffusing additives within the GRP. These scatter light as it passes through the sheet, providing effective diffuse daylighting without hot spots or excessive glare.

Rooflights are available in a range of fire performance grades, sheet weights, and constructions to suit different expectations and requirements around Building Regulation compliance, durability, impact resistance and roof safety. All external application sheets come with Filon Protect, a UV resistant polyester film factory bonded to the weather face, which limits yellowing, helps protect long-term light transmission, and prolongs lifespan. Filon Citadel Plus is an enhanced version offering a 50% longer lifespan on the coating. Filon Protect Antiglare is a matt version of the standard protection, for those areas where reflection from the roof coverings is undesirable.

30+

years expected sheet life

Under normal conditions and correct application, expected sheet life is in excess of 30 years.

Where increased resistance to mechanical damage is required, enhanced reinforcement grades can be specified, or rooflights can be incorporated as part of a wider Filon system solution.

GRP ROOFLIGHT **PERFORMANCE, DIMENSIONS AND OPTIONS**

Filon GRP rooflights offer high impact resistance and durability through material formulation, sheet construction and surface protection. Sheet weight and glass reinforcement options allow performance to be matched to application requirements.

IMPACT RESISTANCE & DURABILITY

DIMENSIONS

GRP rooflights can be supplied up to **12 metres long** for delivery by articulated lorry although special packaging may be required above 8 metres. Longer length sheets can be supplied subject to additional haulage / packaging considerations.

Sheet width is determined by the matched roof profile.

12m

FIRE PERFORMANCE

To meet the requirements of Building Regulations, **Filon Grade 300**, rated B_{ROOF} (t4) to BS EN 13501 Part 5 must only be used as an external roof covering, including rooflights.

For the inner skin of a double- or multi-layered rooflight, **Filon Grade 104** that is rated TP(a) to BS 2782-0 Method 508A must be used.

Filon Grade 101 is available when a higher fire performance is required.

For further information, please refer to Filon Technical Information Sheets TIS003 England, TIS003-1 Wales, TIS003-2 Scotland and TIS003-3 Northern Ireland.

COLOUR AND FINISH

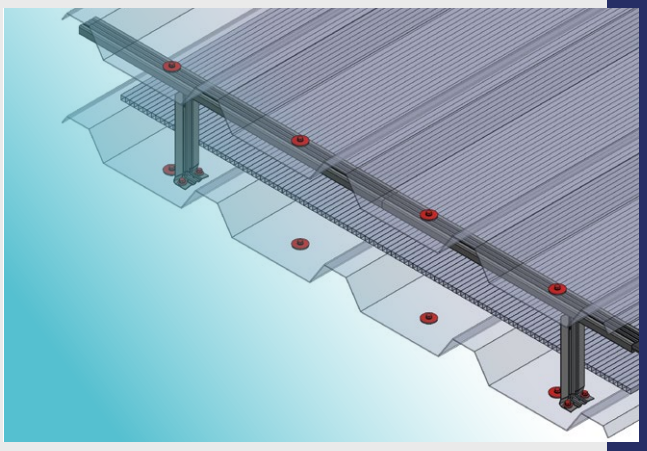
Rooflights are supplied as standard in natural translucent GRP.

External sheets are finished, to the outer surface, with Filon Protect, a UV absorbing film which provides UV protection.

Colour tints can be introduced to produce various levels of coloured light transmission right through to fully opaque sheets. Opaque sheets are commonly used for repair or replacement of asbestos cement roofs and for permanent cladding applications.

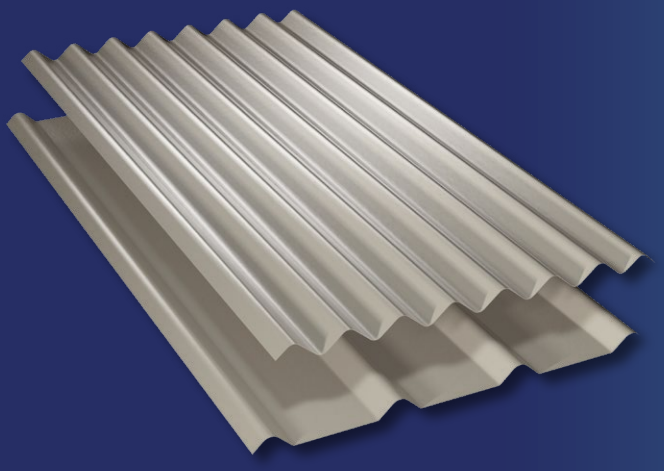
INSULATING CORE PANELS

To improve the insulation value, a site-assembled rooflight system can incorporate 4mm thick twinwall or 10mm thick 4 wall polycarbonate sheets with options of a single or double layer to provide system U-Values of 1.72, 1.37, 1.28 or 0.93 W/m²K. Polycarbonate is supplied 995mm wide as standard, but other widths are available.



*Rendered images for illustrative purposes.

DR-Refurb



DR-Refurb is a double reinforced GRP sheet designed for the repair, replacement or overlaying of damaged profiled roof and wall sheets.

It is manufactured to match a wide range of current and discontinued metal and asbestos cement profiles, allowing defective sheets to be addressed without altering roof geometry or surrounding details. This makes DR-Refurb particularly suited to refurbishment and remedial work, where maintaining the existing roof form is essential.

Sheets can be used either as a direct replacement for defective units or laid over damaged sheets, providing a practical route to extending roof service life while limiting disruption.

PERFORMANCE & OPTIONS

STRENGTH, FLEXIBILITY AND HANDLING

DR-Refurb sheets incorporate an additional stitch woven glass reinforcement layer to enhance strength and impact resistance while retaining sufficient flexibility for handling and fixing.

The lightweight nature of the sheets enables them to be laid over existing damaged coverings, reducing intervention and avoiding unnecessary structural work.

COLOUR

Although it is available in a range of colours, DR-Refurb is supplied, as standard, in cement grey (goosewing grey to BS 00 A 05). Opaque sheets are commonly used for repair or replacement of asbestos cement roofs and for permanent roof or wall coverings.

FINISH

Filon DR-Refurb sheets are finished, to the external surface, with Filon Protect, a UV absorbing film which provides UV protection. Filon Protect Anti-glare, a matt finish UV absorbing film, is also available to reduce glare and reflectivity.

PROFILES

Available in a wide range of profiles, including discontinued asbestos cement and metal roofing profiles.

ROOF SAFETY AND DURABILITY

The increased strength of DR-Refurb sheets reduces the risk associated with damaged or degraded roof coverings during remedial works and subsequent access. Performance is achieved through construction and material choice rather than reliance on site conditions.

FIRE PERFORMANCE

To meet the requirements of Building Regulations, **Filon Grade 300**, rated B_{ROOF} (t4) to BS EN 13501 Part 5 must only be used as an external roof covering, including rooflights.

For the inner skin of a double- or multi-layered rooflight, **Filon Grade 104** that is rated TP(a) to BS 2782-0 Method 508A must be used.

Filon Grade 101 is available when a higher fire performance is required.

For further information, please refer to Filon Technical Information Sheets TIS003 England, TIS003-1 Wales, TIS003-2 Scotland and TIS003-3 Northern Ireland.

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DR & SUPASAFE

ENHANCED REINFORCEMENT GRP ROOFLIGHTS

DR and Supasafe are Filon's double and triple reinforced GRP rooflight grades, developed for applications where increased strength, impact resistance and improved roof safety performance are required.

Both grades use controlled reinforcement within the laminate to enhance load-bearing capability and durability, without relying on increased sheet thickness. This approach allows accurate profile definition to be maintained, ensuring rooflights sit correctly at side and end laps alongside adjacent metal sheets.

HOW THE REINFORCED SYSTEM WORKS

Rather than increasing thickness, additional stitch woven glass reinforcement layers are integrated within the GRP laminate. This improves strength and impact resistance while preserving sealing performance and profile accuracy.

The enhanced reinforced construction allows rooflights to be specified according to the level of roof safety and durability required, without compromising fit or daylight performance.

ROOF SAFETY AND DURABILITY

Reinforced rooflights are assessed in accordance with ACR(M)001 – Test for Non-Fragility of Large Element Roofing Assemblies.

- In addition to the standard glass matt, DR (double reinforced) rooflights incorporate a stitch woven reinforcement layer
- Supasafe (triple reinforced) rooflights incorporate an additional preformed chopped strand glass matt and a stitch woven reinforcement layer

All enhanced reinforcement rooflights for external use are supplied with Filon Protect, a durable UV resistant protective film to the weather face. This limits surface degradation and yellowing, supporting long-term daylight performance. Under normal atmospheric conditions and correct application, expected service life is in excess of 30 years.

Reinforced rooflights can be used as single-skin rooflights or as part of multi-layer assemblies, including factory-assembled systems.

GRADES, PERFORMANCE AND COMPARISON

DR and **Supasafe** are available as double reinforced and triple reinforced constructions, allowing strength and roof safety performance to be matched to application requirements.

This approach increases strength and impact resistance without significantly increasing sheet thickness, preserving profile accuracy.

83%

standard GRP **light transmission**

LIGHT TRANSMISSION

When measured using an integrated sphere in accordance with BS EN 1013:

- Enhanced reinforcement rooflights provide light transmission levels of **up to 66%**
- Standard GRP rooflights provide light transmission levels of **up to 83%**

FIRE PERFORMANCE

Supasafe and DR rooflights are available in three fire performance grades.

To meet the requirements of Building Regulations, **Filon Grade 300**, rated B_{ROOF} (t4) to BS EN 13501 Part 5 must only be used as an external roof covering, including rooflights.

For the inner skin of a double- or multi-layered rooflight, **Filon Grade 104** that is rated TP(a) to BS 2782-0 Method 508A must be used.

Filon Grade 101 is available when a higher fire performance is required.

For further information, please refer to Filon Technical Information Sheets TIS003 England, TIS003-1 Wales, TIS003-2 Scotland and TIS003-3 Northern Ireland.

SHEET TYPES AND WEIGHTS

Sheet construction	Grade	Approx. weight (kg/m²)
Standard GRP	CE18	1.8
Standard GRP	CE24	2.4
Standard GRP	CE30	3.0
Standard GRP	CE36	3.6
Double reinforced	CEDR24	2.4
Double reinforced	CEDR30	3.0
Triple reinforced	Supasafe	4.3

PROFILE ACCURACY AND FIXING BEHAVIOUR

Enhanced reinforcement rooflights are manufactured with controlled sheet thickness to maintain accurate profile definition. This allows DR and Supasafe rooflights to sit down tightly at side and end laps when installed alongside adjacent metal sheets.

By achieving enhanced reinforcement through laminate construction technology rather than simply increasing thickness, sealing performance is improved compared with thicker standard sheets that do not conform as closely to the roof sheet profile.

Supasafe and DR rooflights are fixed in accordance with Filon recommendations. In all cases, fasteners and sealants should be selected to suit the expected service life of the rooflight.

CITADEL

GRP ROOF AND WALL SYSTEMS FOR HARSH ENVIRONMENTS

Citadel is Filon's GRP roof and wall system designed for use in aggressive, corrosive and exposed environments where conventional metal or standard GRP sheets are unsuitable.

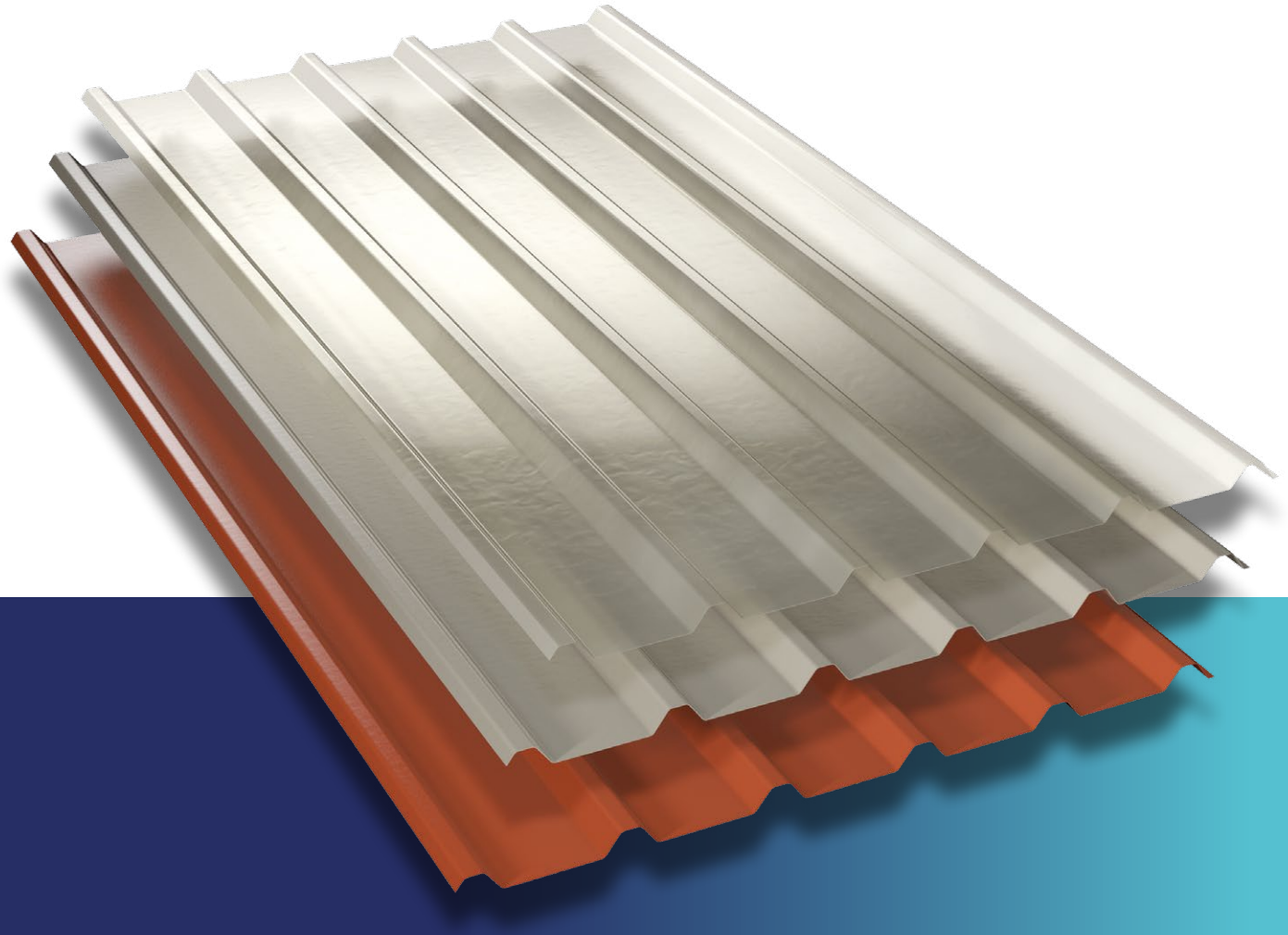
The system is intended for complete roof and wall cladding applications, providing long-term durability in locations such as: galvanizing plants, aluminium smelting works, salt stores, fertiliser plants and composting facilities, chemical processing plants, marine and coastal sites, power stations and heavy industrial facilities.

Citadel sheets combine enhanced chemical resistance with enhanced reinforcement construction, allowing the building envelope to be protected without relying on coatings, frequent maintenance or early replacement.

Citadel is available as translucent sheets for daylighting or as opaque sheets and panels where environmental protection is the primary requirement.

Filon GRP ridge units and flashings are available to support full roof and wall system continuity.

Where environmental exposure varies, Citadel configurations can be selected to suit site-specific conditions, always ensuring performance is defined by application.

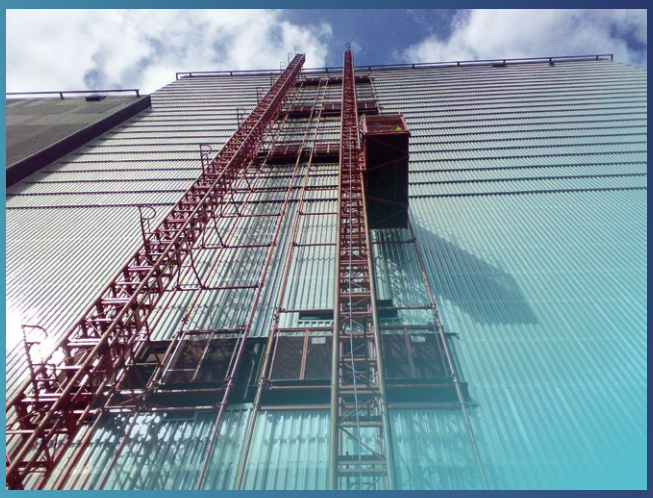


*Rendered images for illustrative purposes.

RESISTANCE TO CHEMICALS AND ENVIRONMENT

Citadel sheets are manufactured using resin systems and protective coatings selected to suit aggressive operating conditions. Enhanced chemical resistance is provided compared with conventional GRP sheets, with vinyl ester resin grades available for extremely harsh environments.

This makes Citadel suitable for long-term use in atmospheres where corrosion, salt exposure, chemical vapours or industrial by-products would compromise metal cladding systems.



STRENGTH, DURABILITY AND ROOF SAFETY

Citadel sheets are supplied in double reinforced (DR) weights or triple reinforced (Supasafe) construction, allowing strength and roof safety performance to be matched to application requirements.

When fixed as recommended:

- **DR Citadel sheets achieve a Class B non-fragility rating**
- **Triple reinforced Supasafe Citadel sheets provide Class B non-fragility**

Standard Filon GRP sheets can also be supplied where environmental and static and live load conditions allow.

FIRE PERFORMANCE

To meet the requirements of Building Regulations, **Filon Grade 300**, rated B_{ROOF} (t4) to BS EN 13501 Part 5 must only be used as an external roof covering, including rooflights.

For the inner skin of a double- or multi-layered rooflight, **Filon Grade 104** that is rated TP(a) to BS 2782-0 Method 508A must be used.

Filon Grade 101 is available when a higher fire performance is required.

For further information, please refer to Filon Technical Information Sheets TIS003 England, TIS003-1 Wales, TIS003-2 Scotland and TIS003-3 Northern Ireland.

COLOUR, FINISH AND SYSTEM COMPONENTS

Citadel sheets are produced in:

- **Natural translucent GRP**
- **Tinted colours**
- **Fully opaque colours**

Filon GRP ridge units and flashings are available to support the full system design and installation.

ISOFIL

GRP SHEETING FOR WATER TREATMENT PLANTS

A specialist GRP sheeting range developed for use within water and wastewater treatment environments.

It is intended for applications involving prolonged contact with water, including continuous immersion, and for process conditions where operating temperatures and chemical exposure would make standard roofing or cladding products unsuitable.

WHERE ISOFIL IS USED

Isofil sheets are commonly used for:

- **Oil and water separators**
- **Microflotation processes**
- **Crossflow separators**
- **Biological waste processing**
- **Similar water treatment and process applications**

PERFORMANCE & OPERATING LIMITS

Isofil sheets are suitable for continuous immersion in water and are supplied in resin grades selected to suit operating temperature and process conditions.

Isophthalic polyester resin grades

- Operating temperatures from **–20°C to +50°C**

Vinyl ester resin grades (Isofil HT)

- **Operating temperatures from –30°C to +120°C,** including continuous immersion in water at temperatures above +50°C

PRODUCT FORM AND LIMITATIONS

Isofil sheets are supplied in translucent GRP material and are available as flat panels and profiled sheets, with lengths produced to suit individual applications. Standard nominal thickness is 1.2mm but others are available.

Isofil sheets can be cut, drilled and machined using appropriate tools and methods to suit specific process requirements. Guidance on handling, reworking and fixing is provided separately in Filon technical literature.

PERFORMANCE CHARACTERISTICS

	ISOFIL Isophthalic	ISOFIL HT Vinyl ester
Tensile Strength (BS 2782 Part 3)	129N/mm²	94N/mm²
Elongation E Break	1.4%	1.0%
Initial Flexural Strength (BS 2782 Part 3)	223N/mm²	170N/mm²
Flexural Strength after immersion for 2 hours in boiling water (BS 2782 Part 3)	192N/mm²	160N/mm²
Strength Retention	86%	94%
Flexural (Bending) Modulus (BS 2782 Part 3)	7.8kN/mm²	7.0kN/mm²
Flexural (Bending) Modulus Strength after 2 hours in boiling water (BS 2782 Part 3)	6.6kN/mm²	6.9kN/mm²
Strength Retention	85%	98%
Barcol Hardness	50-55	60-65
Thermal Movement Coefficient of Linear Expansion	20×10^{-6} per °C	
Operating Temperatures (Atmospheric)	-20 to +50°C	-30 to +120°C
Operating Temperatures (Constant immersion in hot water)	Up to +50°C	+51 to +120°C
Water Absorption (24 hours at 20°C)	0.29%(10mg)	0.27%(10mg)
Water Absorption (7 days at 20°C)	0.53%(19mg)	0.64%(24mg)
Density	1.480g/cm³	
Glass Content	Minimum 30% by weight	

Isofil sheets should not be used for roofing or cladding without reference to Filon technical guidance.

Technical advice and application support are available from Filon's Technical Department.

FILON®

CONTACT US

Filon Products Ltd
Unit 3 Ring Road, Zone 2,
Burntwood Business Park
Burntwood, Staffordshire
WS7 3JQ, UK

Tel: +44 (0)1543 687300
Email: sales@filon.co.uk
www.filon.co.uk