



A SMART WAY  
TO REFURBISH  
PROFILED ROOFS.  
**OVER-ROOFING**

The lightweight GRP  
overlay system that  
**keeps disruption down.**

**FILON**<sup>®</sup>  
**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)**



LEADING ROOFING EXCELLENCE

**National Federation of Roofing Contractors (NFRC)**



Liquid Roofing & Waterproofing Association

**Liquid Roofing & Waterproofing Association (LRWA)**



Rural & Industrial Design & Building Association

**Rural & Industrial Design & Building Association (RIDBA)**



**Composites UK Trade Association**



**Metal Cladding & Roofing Manufacturers Association (MCRMA)**



**The NBS (The National Building Specification)**

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

# OVER-ROOFING

## A SMART WAY TO REFURBISH PROFILED ROOFS

The Filon Over-Roofing system is a lightweight solution for refurbishing existing fibre cement or metal profiled roofs. Installed over the existing roof, matched to the existing profile and available in a range of colours, it allows refurbishment work to be carried out with minimal disruption to the building below. The system has been used on hundreds of projects across the UK, including sites for British Steel, Royal Mail, Jewson, Rolls Royce and Marks & Spencer.



## THE BENEFITS:

### LESS DISRUPTION ABOVE AND BELOW

Filon Over-Roofing sheets are available in long lengths to reduce the number of end laps required, helping to shorten installation time. As the original roof covering remains in place, work can usually be carried out with minimal disruption to operations within the building.

### PROFILE MATCHED FOR MINIMAL CHANGE

Filon Over-Roofing is designed to match the original roof as closely as possible. The same profile is used, produced as standard in a cement grey colour with a matt finish. With Profix 25 spacers at 25mm thick (profiled to the top and bottom surfaces), the increase in roof height is typically under 30mm. If Profix 60 spacers are used, the increase is typically around 65mm. With this minimal change, existing gutter systems can often be retained.

### DAYLIGHT LEVELS MAINTAINED

By matching the existing roof profile and maintaining the original sheet cover width, sheets can be laid to accurately match existing rooflight openings without reducing the daylight area. This will help maintain, or

reinstate, the original levels of natural daylight entering the building. Thereby improving the energy efficiency of the building by enabling the electrical lighting system to be used less.

### MINIMAL ADDITIONAL LOAD

The system adds very little weight to the existing roof structure and is therefore suitable for roofs that are at the limits of their design load capacity. As old asbestos fibre cement roof sheets can absorb around 30% of their dry weight in water, once Over-Roofing is installed and the existing roof has dried out, in some cases the overall weight of the roof can even be less than before, due to reduced moisture levels.

### OPTIONAL INSULATION UPGRADE

Glass fibre quilt can be incorporated into the system to upgrade insulation values to improve thermal performance and energy efficiency.

### AVOIDS DISTURBING ASBESTOS

Filon Over-Roofing avoids the costs and landfill charges associated with asbestos removal.

# OVER-ROOFING: IN DETAIL



**The Filon Over-Roofing system** is installed over the existing roof covering using profiled Glass Reinforced Polymer (GRP) sheets and purpose-designed Profix spacers. Opaque GRP sheets are used across the main roof areas, with translucent GRP sheets incorporated where rooflight openings are required. **All Over-Roofing sheets are manufactured to match the profile of the existing roof sheets.**

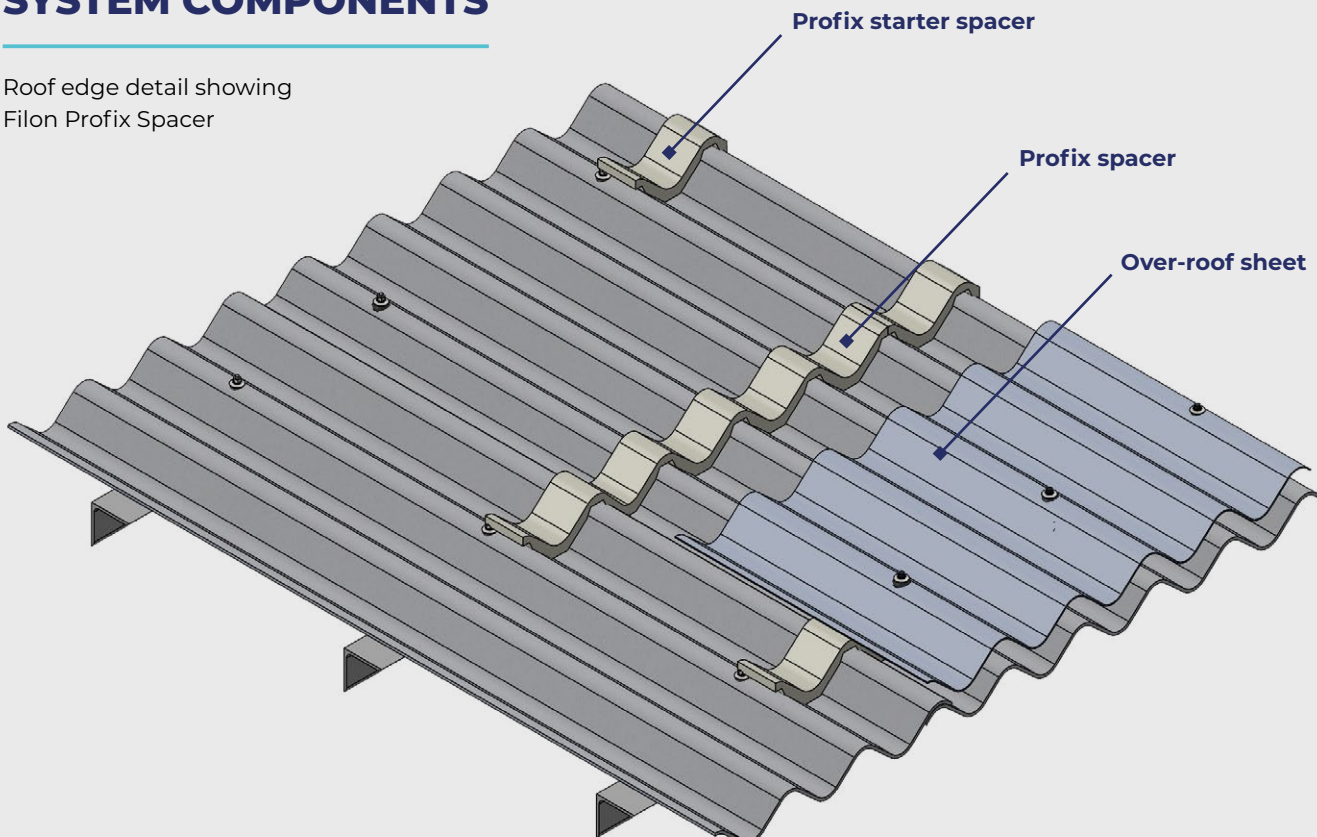
High-compression resistant Profix spacers are installed between the existing roof and the new Over-Roofing sheets. These double-profiled spacers match both the existing roof profile and the Filon sheet profile, and include a formed cavity that allows existing roof fasteners to remain undisturbed during installation.

Profix spacers are available in two depths. Profix 25 may be used where little or no insulation is required. Profix 60 allows the inclusion of quilt insulation.

**Ridge detailing completes the system.** Filon ridge flashings are available to suit certain small ridge types. Larger ridge flashings, along with other flashings, fasteners and sealants, are supplied by others as part of the overall roof refurbishment specification.

## SYSTEM COMPONENTS

Roof edge detail showing  
Filon Profix Spacer



Filon Over-Roofing sheets are available to match a wide range of asbestos cement, fibre cement and metal roof profiles that have been used over many years. If a required profile is not currently available, we can develop tooling to produce a matching sheet.

Many older profiles are included in the Filon Profile Book and Profile Finder on the Filon website. A selection of common asbestos fibre cement and fibre cement profiles is shown below.



**Standard 3"**



**Turnall Combined**



**Trafford Tile**



**Big Six**



**Cape Monad**



**Doublesix**



**Major Tile**



**Cape Fort**



**Gleno 252**



**Doublesix Metric**

Filon Over-Roofing sheets are available in a range of thicknesses and reinforcement types to suit different load resistance and durability requirements. Actual sheet weight will vary depending on profile type. The weights shown below are approximate.

## SHEET TYPES

Over-Roofing Sheet Type	Thickness & Nominal Weight	Reinforcement	Application	Durability Guarantee
<b>OP24E</b> for Main Rooflights / <b>CE24E</b> for Rooflights	1.3mm, 2.3 - 2.4kg/m <sup>2</sup>	Single Layer	Used for normal roof areas that are not subjected to high wind loads, foot traffic or other abnormal loads. The roof should still be treated as fragile once installation is completed.	12 years
<b>OPDR24E</b> for Main Roof / <b>CEDR24E</b> for Rooflights	1.3mm, 2.3 - 2.4kg/m <sup>2</sup>	Double Layer	May be used in areas of higher wind loads or to provide an increased safety factor.	20 years
<b>OPDR30E</b> for Main Roof / <b>CEDR30E</b> for Rooflights	1.7mm, 2.9 - 3.0kg/m <sup>2</sup>	Double Layer	May be used in areas of higher wind loads or to provide an increased safety factor.	25 years
<b>Opaque Supasafe E</b> for Main Roof / <b>Translucent Supasafe E</b> for Rooflights	2.3mm, 4.0 - 4.3kg/m <sup>2</sup>	Triple Layer	May be used to provide optimum safety and load resistance.	30 years

# OVER-ROOFING: SHEET DETAILS

## LENGTH

Filon Over-Roofing sheets are supplied in lengths up to 12m and may be specified to match the existing roof sheets or in longer lengths to reduce the number of end laps. Where longer sheets are used, care should be taken if the existing roof is not straight from ridge to eaves, as this may affect alignment.

Longer length sheets require additional care during handling and positioning. They should not be moved in windy conditions.

## FIRE RESISTANCE

To meet the requirements of Building Regulations, **Filon Grade 300**, rated B<sub>ROOF</sub> (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.

## COLOURS AND FINISH

Filon Over-Roofing sheets for the main roof are available in standard cement grey, (Filon reference 931, British Standard colour 00 A 05). But any British Standard or RAL colour may be supplied subject to availability and minimum order.

Filon Over-Roofing sheets and externally exposed rooflights are protected by a UV absorbing film as follows:

- **Filon Protect Anti-Glare:** This has a matt finish and is the standard surface protection for opaque Over-Roofing sheets to provide UV and weather resistance.
- **Filon Protect:** This provides the same level of protection as Protect Anti-Glare and has a gloss finish. It is the minimum level of protection offered for rooflights.
- **Filon Citadel Plus:** This is the next level of protection and may be used where there are higher levels of pollution, UV exposure or a marine environment. It provides 50% extra protection compared to Protect Anti-Glare and Protect.

## TYPICAL VALUES

<b>Average Glass Content:</b>	35%
<b>Barcol Hardness:</b>	50 - 55
<b>Thermal Conductivity (K):</b>	0.15W/m <sup>2</sup> K
<b>Thermal Transmittance (U):</b>	5.7W/m <sup>2</sup> K
<b>Thermal Movement, Coefficient of Linear Expansion:</b>	25 x 10 <sup>-6</sup> per °C
<b>Constant Operating Temperatures:</b>	-20°C to +100°C
<b>Liquids: Water absorption</b>	0.25% after 24 hours at 20°C
<b>Biological:</b>	Resistant to micro-organisms, fungi, larvae, insects
<b>Compatibility:</b>	No chemical reaction with other construction materials

# U-VALUES

The Filon Over-Roofing system allows insulation to be incorporated as part of a lightweight roof refurbishment, including on roofs operating close to their design load capacity or where maintaining the existing roof appearance is important.

Profix 60 spacers will allow the inclusion of quilt insulation up to a maximum of 100mm compressed down to 60mm between the existing roof and the Over-Roofing sheets, or the use of multi-foil insulation. This can improve thermal performance on unheated buildings and on heated buildings where permitted by Building Regulations.

Where even lower U-Values are required, Filon Over-Roofing sheets may also be used with a bracket and bar system to accommodate thicker insulation, subject to structural assessment and specification.

If there are any doubts regarding what the insulation requirements are for a roof refurbishment project, consult the Local Authority Building Control office.

The table below provides the typical U-Values that may be achieved when using the Filon Over-Roofing system with various insulation types on existing asbestos cement roofs.

<b>Asbestos Fibre Cement Roof Type</b>	<b>Existing Roof U-Value. W/m<sup>2</sup>K</b>	<b>Profix 25, No Insulation. W/m<sup>2</sup>K</b>	<b>Profix 25, 50mm Fibreglass Insulation Compressed to 25mm. W/m<sup>2</sup>K</b>	<b>Profix 60, 100mm Fibreglass Insulation Compressed to 60mm. W/m<sup>2</sup>K</b>	<b>Multifoil Insulation with a K Value of 0.034W/mK. W/m<sup>2</sup>K</b>
Single Skin	6.0	2.56	1.19	0.60	0.48
Double Skin, No Spacer, 25mm Fibre Insulation	1.08	0.89	0.64	0.42	0.36
Double Skin, 19mm Spacers, 25mm Fibre Insulation	0.91	0.76	0.56	0.38	0.33
Double Skin, 19mm Spacers, 60mm Fibre Insulation	0.60	0.53	0.43	0.32	0.28
Double Skin, 32mm Spacers, 80mm Fibre Insulation	0.55	0.49	0.40	0.30	0.27
Over Purlin Foil Backed Plasterboard, 19mm Spacers	1.80	1.30	0.82	0.49	0.41
Over Purlin Foil Backed Plasterboard, 50mm Spacers, 60mm Fibre Insulation	0.56	0.50	0.41	0.31	0.27

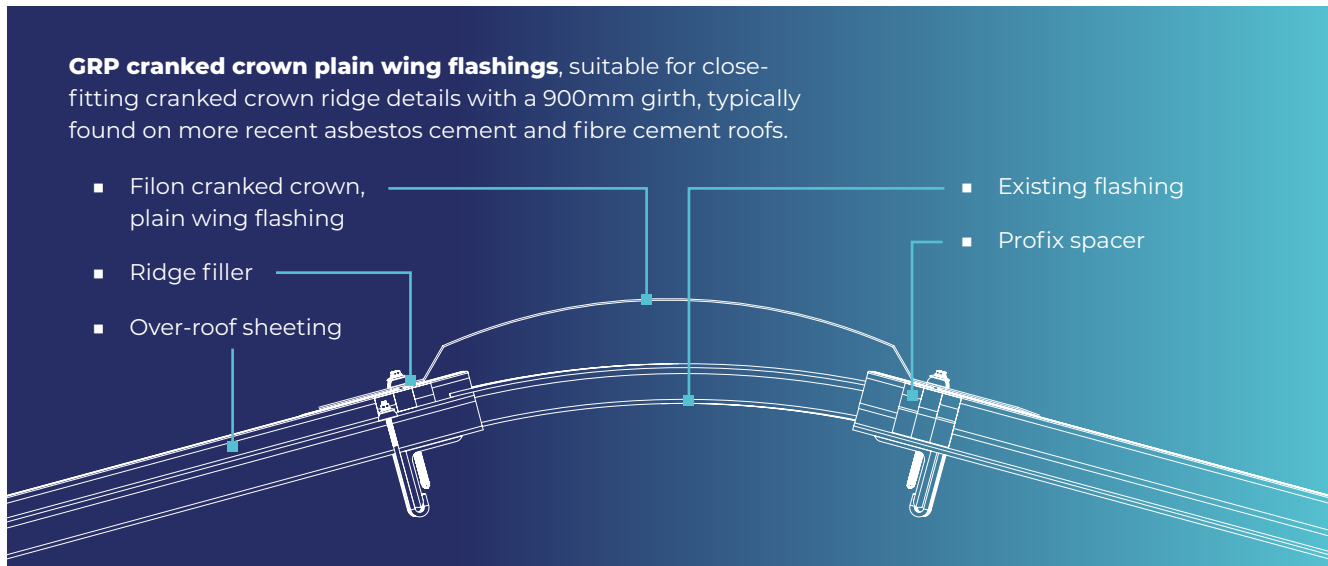
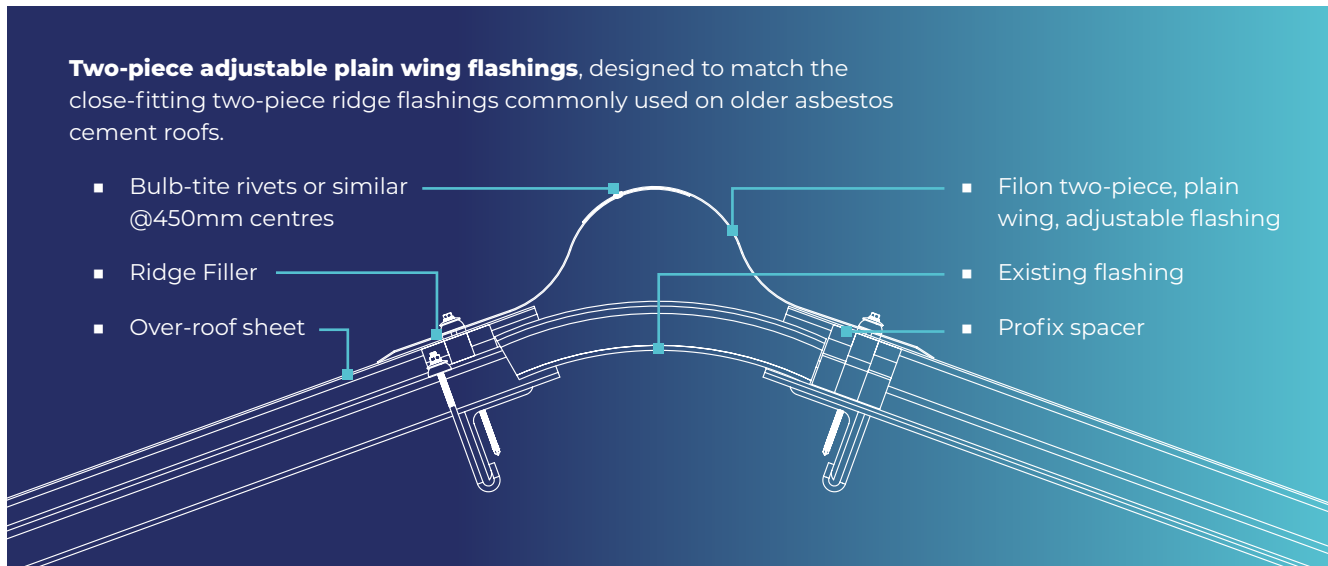
There are Multifoil insulation products on the market that can provide a range of insulation levels, the one listed in the table above being one example.

Please contact the Filon Technical Department should you require assistance.

# FLASHINGS

## Machine-made Filon GRP ridge flashings are available in 3.15m lengths, providing a 3m cover length.

Two Filon ridge flashing types are available:



### Ridge fillers supplied by others are required when using Filon GRP plain wing flashings.

Where required, alternative ridge flashings may be used with the Filon Over-Roofing system. These include moulded GRP cranked crown flashings with a 1.8m girth, plain wing angled moulded GRP flashings, and aluminium or coated steel flashings.

Ridge fillers supplied by others may be required depending on the flashing type.

Other flashings, such as barge boards, may be re-used where they are in suitable condition and the application allows. Moulded GRP, aluminium or coated steel flashings may also be used.

# TYPICAL FIXING ARRANGEMENTS

## **Typical fixing arrangements for the Filon Over-Roofing system will depend on roof construction, profile type, purlin spans, wind loads and roof exposure.**

Fastener frequency will vary depending on the Over-Roofing sheet type, profile and wind loads.

In general roof areas, some profiles may be fixed at alternate corrugations where appropriate.

In areas subject to higher local loads, including ridges, eaves, verges and end laps, fixings should be installed at every corrugation.

Profiles with corrugation pitches of 200mm or greater should be fixed at every corrugation.

With the exception of Standard 3" profiles, Over-Roofing sheets should be fixed at every corrugation at end laps.

Alternative fasteners may be required for different purlin types.

Fixing arrangements should be confirmed as part of the project specification. The Filon Technical Department can provide guidance on suitable fasteners and fixing layouts where required.

## SUPPLY AND SCOPE

**Filon supplies the core components of the Over-Roofing system, including profiled GRP Over-Roofing sheets, Profix spacers and GRP rooflights. Ridge flashings may also be supplied where suitable for the application.**

Fasteners, sealants, insulation materials, flashings not included in the Filon range and any other associated accessories are supplied by others as part of the overall roof refurbishment specification.

The Filon Over-Roofing system is intended to be specified and installed as part of a complete roof refurbishment design. Project-specific requirements, including structural assessment, insulation performance and compliance with Building Regulations, should be confirmed.



# THE FILON PRODUCT RANGE



Filon has been developing GRP profiled sheet solutions since the late 1950s, applying the material's strength, durability and lightweight properties across a wide range of new build and refurbishment applications.

## THE FILON RANGE INCLUDES:

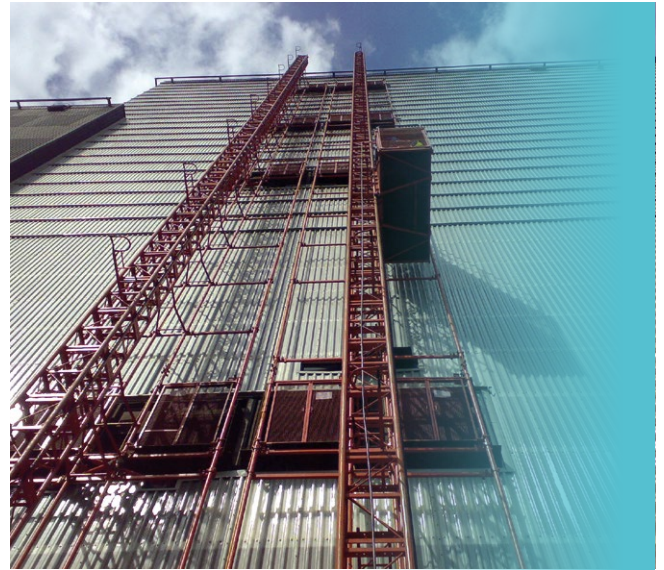
- Standard profiled in-plane GRP rooflights
- Enhanced reinforced rooflights, including DR24, DR30 and Supasafe
- Factory Assembled Insulating Rooflights (FAIRs)
- Fixsafe safety fixing system for replacing rooflights and roof sheets from inside the building
- Citadel opaque and translucent profiled sheets for harsh and corrosive environments
- Monarch-F GRP barrel vault rooflights
- DR Refurb opaque coloured GRP sheets for replacing asbestos cement and metal profiled roof and wall sheets
- Bespoke, specialist profiled and flat sheet products



# SLATE, TILE AND SPECIALIST CONSTRUCTION COMPONENTS INCLUDE:

**GRP valley troughs for dry and mortar-bonded applications**

**Isofil sheets for under water applications, and bespoke profiles**



## IMPORTANT INFORMATION

Information and recommendations contained in this publication are given in good faith without warranty or guarantee. Filon reserves the right to alter product specifications at any time as part of ongoing product development. No liability can be accepted for any claims, losses or demands arising from the contents of this

publication. This statement does not affect statutory rights which cannot be excluded by agreement.

Further technical information, installation guidance and supporting documentation are available separately.

# FILON<sup>®</sup>

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