DALES™
ALUMINIUM IN ARCHITECTURE

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ALUMINIUM SOLAR SHADING

(BRISE SOLEIL) SYSTEMS

ENGINEERING EXCELLENCE

Combined with Innovative Design

Contents

Introduction

All the solar shade systems manufactured by Dales are designed on an individual project basis using a series of standard parts, which includes our range of custom-designed extruded elliptical blades. Utilising a modular approach with standard items keeps delivery times to a minimum whilst offering the specifier solar shading solutions to suit almost any application or project. Dales Solar Shading systems offer methods of support to suit structural steelwork, curtain walling or masonry or concrete.

All design and specification work is undertaken under the control of Dales Project Management System. The project manager is appointed on receipt of the architect or contractor's enquiry and provides a single point of contact for the project.
If you would like any assistance with a specific project or would like one of our experienced Technical Managers to attend site or your offices for a meeting, please contact our Project management team on Tel: 0115 930 1521 or email drawings to sales@dales-eaves.co.uk

Project Management Design & Specification Service

On receipt of project drawings, we assign a Project Manager to each project. They provide a single point of contact throughout the life of the project, from initial design to completion.

Relevant criteria, including support methods, material requirements and budget are established with the specifier. The Project Manager can prepare CAD drawings, calculations, NBS Specifications and quotations, providing a complete specification service.

To discuss the requirements for your project, our Project Management Team can be contacted on Tel: 0115 930 1521

Accountable Solutions

Dales believe in total quality: quality of design, manufacture, advice and service. This commitment, combined with our ability to create total solutions uniquely suited to individual projects, puts the responsibility for system integrity and functionality on us rather than you, the specifier.

BS EN ISO 9001: Design & Manufacture

Dales Fabrications have been working within the constraints of BS EN ISO 9001 accreditation for over 20 years.

ISO 9001: 2015
Design & Manufacture
Certificate: 041494

To view our Quality Policy Statement and ISO 9001: Design & Manufacture certificate please visit our website at www.dales-eaves.co.uk

Aluminium: The sustainable choice

Aluminium is recognized as one of the most sustainable materials for use in the building industry. This is due to the vast, natural deposits of bauxite (aluminium ore) and longevity of service combined with low recycling costs. Around 96% of the aluminium used in construction projects around the world is recycled.

The Environment and Dales

Our current environmental policy is available to view at www.dales-eaves.co.uk

Professional Indemnity Insurance

Dales Fabrications hold full Design/Professional Indemnity Insurance with a first class security in the London market. This allows architects and specifiers to use our products with confidence.

Specify via www.dales-eaves.co.uk

Our website has been designed so that you can specify any Dales system swiftly and quickly. CAD drawings and NBS specifications all our products, including our solar shades, wall copings and gutters or rainwater pipes, are available for download with minimum difficulty.

There is a substantial number of complete eaves system section CAD drawings from typical installations available in both PDF or DWG format and these are linked to corresponding NBS Specification clauses. Both the section drawings and specification clauses are easily downloaded for simple integration into your project documentation.

For simplicity and ease of use the NBS clauses are designed to be cut and pasted into your specification document. If there is a drawing or NBS specification clause that you feel needs some modification to suit your project, please call us directly on Tel: 0115 930 1521 and we'll be happy to discuss the design further.

Preferred Installer Network

Our network of carefully selected preferred installers are on hand to provide a full supply and fix package. These companies specialise in the installation of our materials and fit them on a regular basis.

Reasons to Use Dales

- 2D CAD details on demand
- NBS Specifications on demand
- Efficient website to aid easy specification: www.dales-eaves.co.uk
- Engineering led company ethos
- Project Management System for each and every project
- Full Design Service: Backed by Professional indemnity Assurance
- Over 35 years of design and manufacturing experience
- Over 20 years of ISO 9001: Design and Manufacture Quality Assurance
- Preferred Installer Network
- Excellent Lead Times

ALUMINIUM SOLAR SHADE SYSTEMS

Project Sector: Education

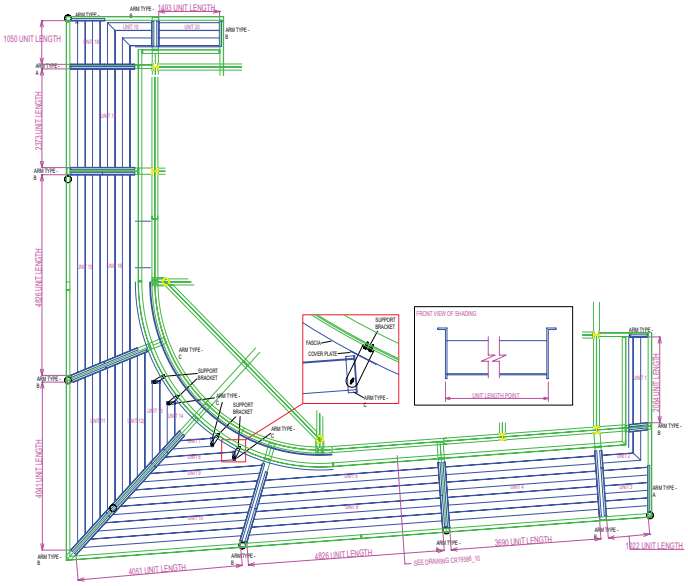
260 Shadex Solar Shades, Curved Plain Fascia with Panelled Soffit & Meridian Wall Coping

Beths Grammar School, Bexley, Kent

Architect: Ingleton Wood LLP architects, www.ingletonwood.co.uk
Main contractor: Horizon Construction, www.horizonconstruction.co.uk
Preferred fixer: Specialised Fixings of Ipswich, www.specialisedfixings.co.uk

"We have worked successfully with Dales Fabrications and Ingleton Wood LLP on this project and we're very pleased with the result. Not only have we helped to create additional space at Beths Grammar School to accommodate more pupils, but through creative design we've constructed a centralised hub for the administrative support and senior management team. In addition, the new main entrance and reception correct the safeguarding issues that surrounded the location and accessibility of the existing school reception."

***Steve Hart**, Senior Contracts Manager, Horizon Construction*



Project Sector: Education

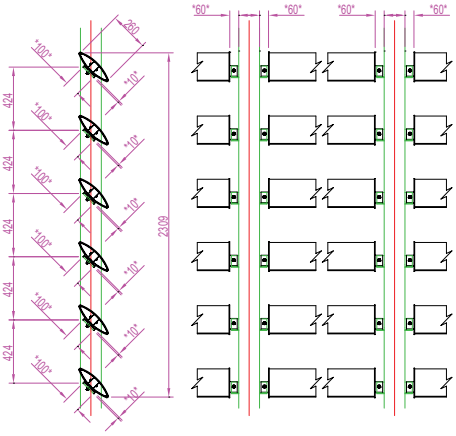
260 Shadex Solar Shades, Elliptical Bullnose & Secret-Fix Panels

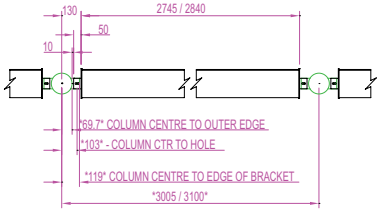
New Refectory for Stonyhurst College, Clitheroe

Architect: Cassidy + Ashton, www.cassidyashton.co.uk
Main contractor: Globe Construction

"Cassidy + Ashton Group Ltd has worked successfully with Dales on many projects. The Refectory building at the historic Stonyhurst College site presented many challenges in delivering a modern building; surrounded by listed buildings, however the use of sympathetic materials in the design, along with implementation of Dales solar shades, and elliptical fascia with secret fix soffit systems, to create clean roof line profiles, all helped to achieve this successfully"

Cassidy + Ashton Architect



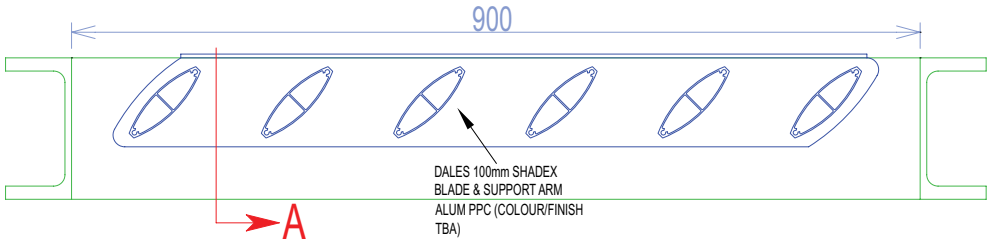


Project Sector: Commercial Offices

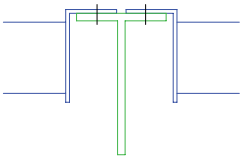
Shadex 150 Blade: Structural Steel Support

Torotrak Offices, Leyland, Lancashire

Architect: Cassidy + Ashton, www.cassidyashton.co.uk
Main contractor: Conlon Construction, www.conlon-construction.co.uk



SECTION A-A

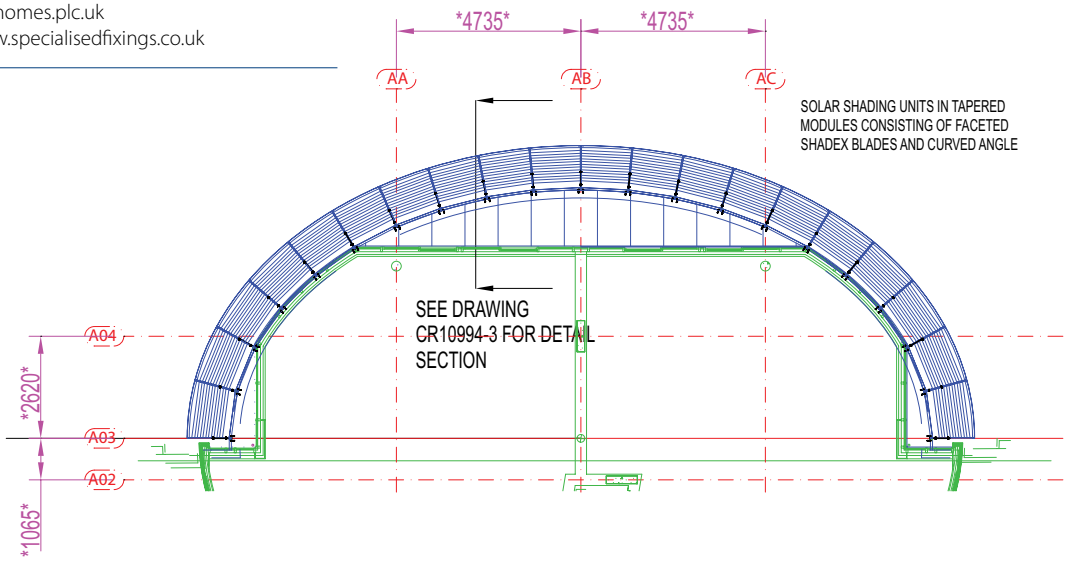


Project Sector: Housing

Facetted 100 Shadex Blades with Fascia & Secret-Fix Soffit Panels & Meridian Wall Coping

Island Gardens, Isle Of Dogs, London

Architect: R M A Architects, www.rmaarchitects.co.uk
Developer: Telford Homes Plc, www.telfordhomes.plc.uk
Preferred fixer: Specialised Fixings Ltd, www.specialisedfixings.co.uk

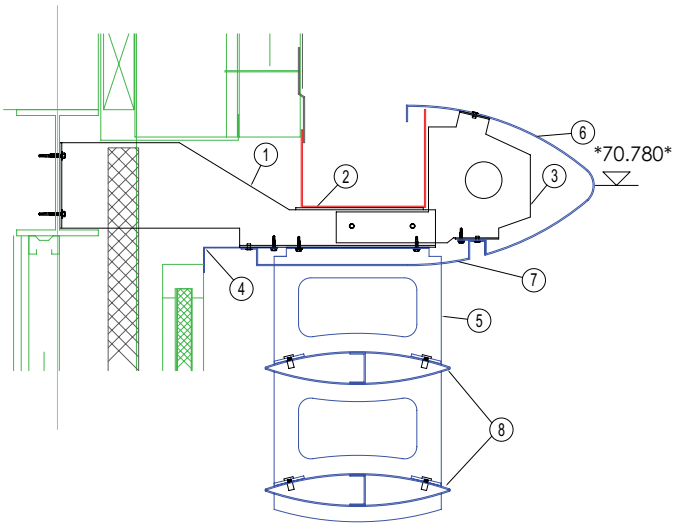


Project Sector: Education

Vertical Stack & Horizontal Solar Shading with Elliptical Bullnose Fascia Soffit System, Hidden Gutter and Rainwater Pipes

Homewood School & Sixth Form, Tenterden, Kent

Architect: Latham Architects, Derby, www.lathamarchitects.co.uk
Main Contractors: Willmott Dixon Construction Ltd, www.willmottdixongroup.co.uk
Preferred fixer: Roweaver Developments Ltd, www.roweaver.co.uk



LEGEND

1. DALES SUPPORT BRACKET, 3.2mm(10G) GALV STEEL @ MAX 750mm C/C REF CR10020-X01
2. DALES INTERNAL BOX GUTTER, MILL FINISHED ALUMINIUM REF CR10020-X02
3. DALES FASCIA BRACKET, GALV STEEL @ MAX 750mm C/C REF CR10020-X03
4. DALES CLOSURE ANGLE, ALUMINIUM PPC (COLOUR TBA) REF CR10020-X04
5. DALES FIN BRACKET, 4mm(8G) ALUMINIUM PPC (COLOUR TBA) REF CR10020-X05
6. DALES BULLNOSE FASCIA, ALUMINIUM PPC (COLOUR TBA) REF CR10020-X06
7. DALES SOFFIT PANEL, ALUMINIUM PPC (COLOUR TBA) REF CR10020-X07
8. DALES FINS, ALUMINIUM PPC (COLOUR TBA) REF CR10020-X08

Project Sector: Education

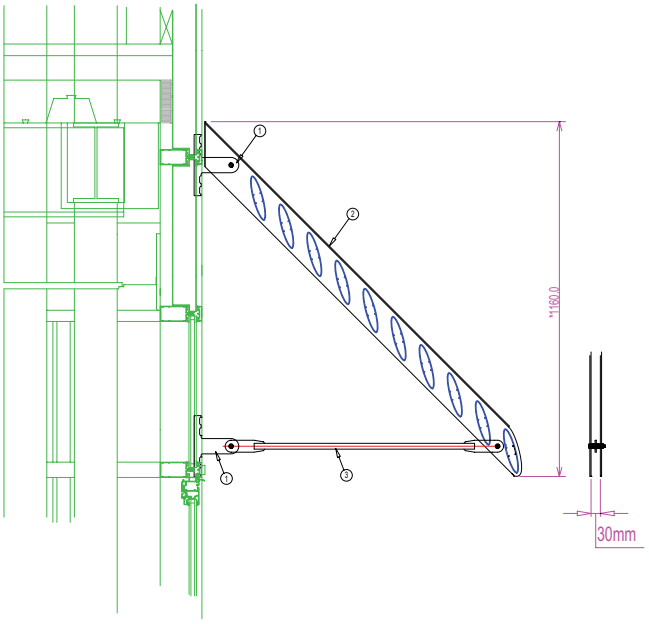
150 Elliptical Blade with Quadrant Fascia & Kwik Fix Soffit Planks, Hidden Gutter & Rainwater Pipes

Isle of Wight College, Isle of Wight

Architect: Rainey Petrie Johns, www.raineypetrie.co.uk
Main Contractor: Stoneham Construction Ltd, www.stonehamconstruction.co.uk
Subcontractor: Paktron Ltd, www.paktron.co.uk

LEGEND

1. SOLAGLAS MC6560 FIXING BRACKET
2. DALES SOLAR SHADING UNIT, ALUMINIUM, P.P.C. (RAL9016 Satin)
3. DALES SUPPORT STRUTT, ALUMINIUM, P.P.C. (RAL9016 Satin)



Reducing Solar Gain

Reducing Solar Gain: Building Regulations

Part L

Parts L1A and L2A (2013 Editions) of the building regulations both require that solar gain is minimised in any new residential or commercial building to reduce carbon dioxide production. Targets for Carbon Dioxide savings have been increased to 6% for dwellings (L1A) and 9% for commercial buildings, L2A, (cf. 2010 figures).

The Department for Communities and Local Government (DCLG) has issued the following replacement Approved Documents: L2A and L2A with corresponding compliance guides. The Approved documents come into effect from April 2014.

In addition there are amendments to Approved documents L1B and L2B 2010 Editions. All documents cited are available for download at: www.planningportal.gov.uk/buildingregulations/approveddocuments/partl/changes

Solar Gain: Performance Comparisons

Abstracted from BRE IP11 02 : table 1 summary of performance. Data for different shading systems

SHADING METHOD	COST	PRACTICAL	ADVERSE EFFECTS	LONG TERM
Curtains	low	attract dust	light shield	Will fade
Blinds	medium	cleaning issues	light shield	will degenerate
Glass Film	high	maintenance issues	winter light loss	degradation
Fans	energy user	noise disturbance	turbulent air space	-
Solar Glass	initially expensive	retro-fit very intrusive	-	degradation
Reduce window area	neutral	neutral	reduces natural light	neutral
Eaves Overhang	expense on roof	yes	-	maintenance
Solar Shading/Brise Soleil	high but sustainable	yes	minimal	maintenance
CONTROL METHOD				
Air Conditioning	high energy user	high maintenance	health issues	cost

Research by the Building Research Establishment suggests that installing external solar shading systems is, arguably, one of the more cost effective and least adverse methods of reducing solar gain, and therefore the carbon dioxide use of a building. Using aluminium solar shades is an excellent way of reducing solar gain whilst keeping maintenance to a minimum.

With the new timber effect finishes now available from Dales (see page 17) it is now possible to obtain the appearance of timber and yet eliminate the algae, warp, deviation and regular turning traditionally associated with timber blades

Advantages of Aluminium Solar Shading/ Brise Soleil

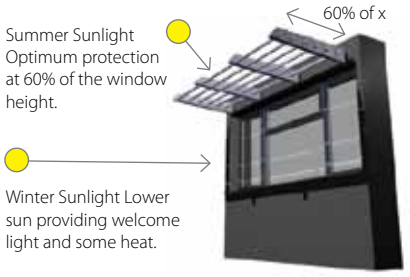
- **Works naturally, when needed: No energy required**
- **Sustainable: Aluminium is 100% Recyclable**
- **Excellent Durability: 40 years plus**
- **Low Maintenance: Polyester Powder or Anodised**
- **Available in Timber finish**
- **Easy to retrofit with low interference to occupancy**
- **Allows natural working environment for all**

Calculating The Projection

Calculating the Projection

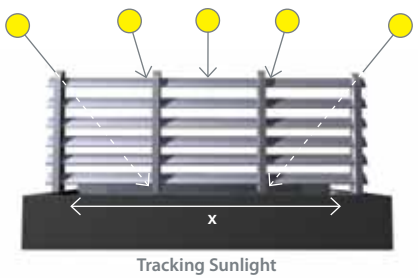
The sun's rays playing directly upon a clear glazed surface will allow solar gain to penetrate the interior of a building and create varying levels of discomfort within. On a south facing façade a horizontal solar shade / brise soleil projecting a distance that is approximately 60% of the window height provides optimum protection.

Overhangs exceeding 60% will provide little additional protection and are likely to reduce daylight to a point where artificial lighting will be needed, which increases the carbon footprint. In winter such an installation will allow lower sun to reach the interior space and provide welcome light and some heat also.



Plan View

If solar shades are installed individually above each window the sun's arcing trajectory will allow rays to penetrate diagonally and therefore it is advisable to have continuous runs of shading or allow adequate overlap width.



Tracking Sunlight
Installed individually above each window

Blade Characteristics

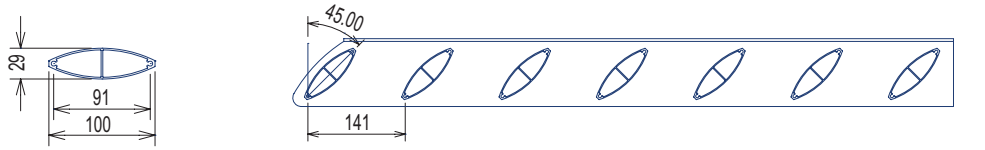
Shadex Elliptical Section Blades

The Shadex blades have been carefully designed to give relatively large maximum spans thus reducing immediate supports to a minimum.

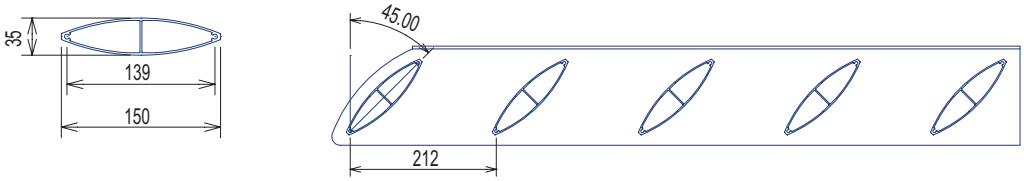
Blades in all sizes can be installed with an horizontal projection, stacked vertically above one another horizontally or installed vertically. The last two suggestions tend to be used more with the largest two blades.

The profile shapes with self weight and maximum span possible are noted below.

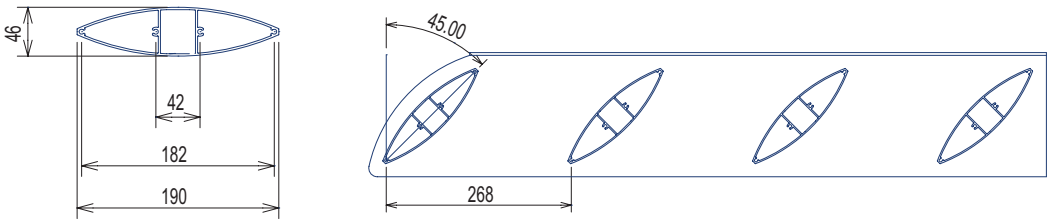
100 Blade



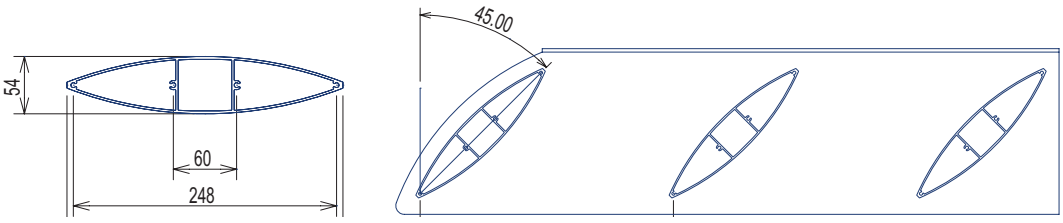
150 Blade



190 Blade



260 Blade

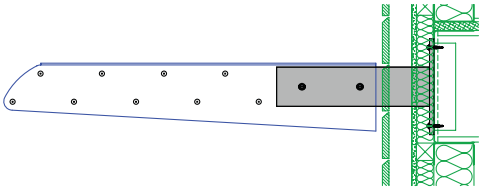


SIZE mm	CENTRES mm SET OUT AT 45°	BLADES/m PROJECTION	MAXIMUM SPAN/m	BLADE WEIGHT kg/m
100	141	7	3.5	1.1
150	212	5	4.0	1.8
190	268	4	4.5	2.8
260	367	3	5.0	4.0

Methods of Support

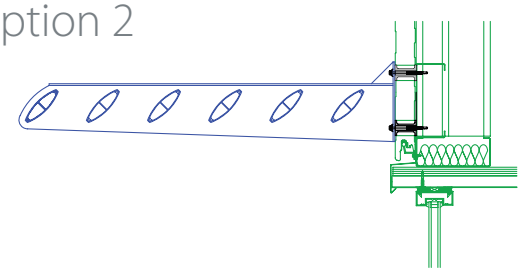
Structural Frame: Through Cladding - Option 1

This two-stage process separates the shading unit from the cladding, allowing the shading unit to be fitted independently. Care and attention should be given to the issue of cold bridging and there are a variety of solutions to that issue, for more information please call our Project managers on Tel: 0115 930 1521.



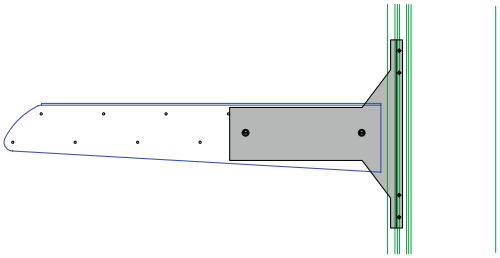
Structural Frame: Surface fixing and Cladding - Option 2

The alternative approach with cladding and solar shades is to fix the solar shade brackets or side frame arms of the shade unit to the structural steel through the claddings, using 'bobbins' to prevent the solar shading unit crushing or otherwise affecting the cladding.



Curtain-walling Flitch Plates - Option 3

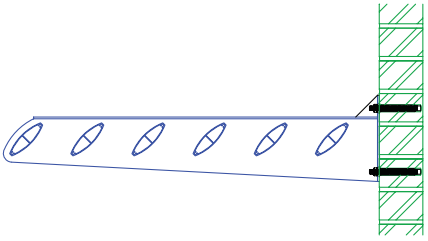
Dales frequently work with curtain-walling subcontractors to design solar shades supported by flitch plates that fix into the mullions of the curtain walling. Consultation between the various parties at an early stage is recommended.



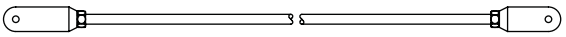
Direct to Concrete or Masonry: Option 4

Where design loadings allow, it is possible to face fix directly to the masonry using either expanding bolts or resin anchors. It is Dales standard practice to liaise with the Structural engineers to ensure that all parties are content with the potential loadings and fixings to be used.

The issue of fixings is particularly important when required into the edge of concrete slabs. Dales use resin/ chemical anchors or expanding bolts, depending on the characteristics of the slab/ masonry type and loading values.



Additional Supports:



Whether for aesthetics or merely for a particular design appearance, struts or ties can be introduced.

Corner Units

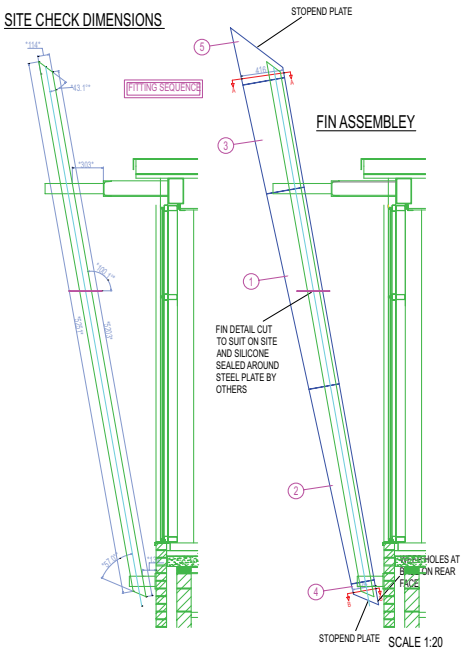
Generally, Dales supply solar shades in prefabricated units which fix directly to the first fix brackets or on to the structure. Corners are also usually supplied in units, however, these may be supplied in two halves. For larger spans, corner units may require additional support in the form of a bracket across the mitre of the corner.

Facades, Vertical Fins and Visual Screens

Larger solar shade blades can be used to create a visual screen to limit sight lines by installing them vertically as fins or horizontally as a vertical stack.

Alternatively, a vertical shade hung in front of windows can reduce the effects of reflected solar glare that is sometimes created by large expanses of south facing glazing.

Dales are regularly asked to provide vertical fins of varying heights and dimensions that are specified for design impact or to create solar shading. Each design is unique and early discussion with our Project managers on Tel: 0115 930 1521 is recommended.



LEGEND

1. DALES FIN TRIMMER, GALV STEEL REF CR10758-X01
2. DALES FIN DETAIL, ALUMINIUM PPC (RAL 7004 MATT) REF CR10758-X02
3. DALES BACK PLATE, ALUMINIUM PPC (RAL 7004 MATT) REF CR10758-X03

Window Reveal Pods

Dales design and manufacture window pods to clad large window reveals. These are frequently designed to project a short distance whilst the window is recessed by design to allow for the increased levels of insulation now necessary for compliance with current building regulations. These designs frequently assist to reduce solar glare. To discuss your requirements please call us on Tel: 0115 930 1521.

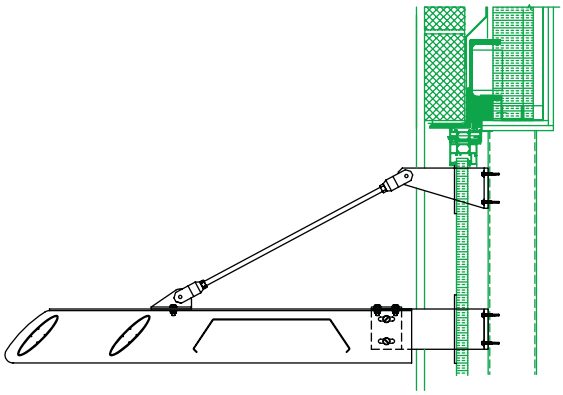
DESIGN CONSIDERATIONS:

Perforated Panels, Light Shelves & Curves

Perforated Panel Solar Shades & Light shelves

Dales are able to manufacture perforated panels for solar shades, when required. These offer a lightweight solution when the support available is reduced.

Light shelves work by producing shade to reduce solar gain, yet reflect light back up into the ceiling to help provide greater natural light in larger rooms. This can reduce carbon use by reducing the length of time that electric light is required through the year.



Curves and Slopes

Dales have been designing and curving products since the business was first established back in 1977. Although accuracy and manufacturing equipment has improved dramatically since then, an attention to detail remains crucial to ensure success. Curved solar shades may be manufactured to a pure radius, a series of facets or perhaps, facetted units with a curved front item, such as a tube, bullnose or rectangular section. Faceted units with a curved front item can be a (relatively) cost effective and intelligent solution to the curved system requirement.

Curving systems, or part of a system, involves a longer manufacturing process that produces more scrap with corresponding increases in costs and lead times. Resting against those drawbacks is the fact that the visual effect of a finished curved system is often quite exceptional and will give the finished project a 'landmark' quality. Close liaison is always necessary with curved solar shades or eaves systems and it is recommended that one of our more experienced Technical Managers meet with the project design team to discuss the possibilities. Our Technical managers are available on Tel: 0115 930 1521.

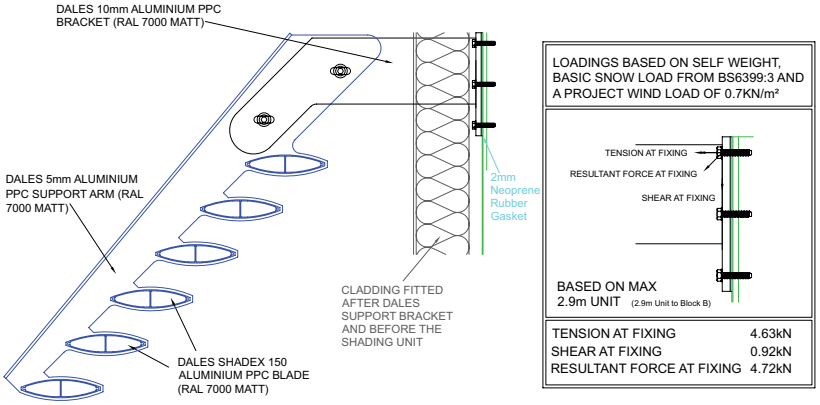
Additional Design Considerations

Fixings

Fixings always present a potential weak link in any system, as such Dales take the process of fixing selection as seriously as the design of the system itself. All fixings have been selected after careful consultation with manufacturers and rigorous testing for both ultimate strengths and potential incompatibility issues. All necessary fixings are supplied as part of the complete package from Dales.

Thermal Breaks

Thermal breaks are important where cold bridges might arise to ensure that anticipated u-values are achieved. Dales are content to provide specialist isolating thermal break products, or can provide more simple EPDM or nylon breaks.



Durabilty

When maintained in accordance with the care regimes recommended, Dales Solar Shading systems are designed to give a low maintenance life of 40 years in rural and suburban conditions and 25 years in industrial environments.

For marine environments the exact project requirements should be discussed with our Project Managers or Technical Managers on Tel: 0115 930 1521.

Loadings

Specific loading requirements for any system should be discussed at an early stage to ensure that the finished system meets the design criteria. Dales are familiar with working with structural engineers to ensure that the likely loadings are identified so that the system can be designed to accommodate the necessary support.

Thermal Movement

Dales design all systems to accomodate the extremes of temperature typical in the UK. For projects overseas, please contact Dales to discuss the particular requirements for your project.

Finishes

Finishes

There are three main architectural finishes that can be applied to aluminium. These are polyester powder coating, PVF2 and anodising. Details of the colours available for each finish can be found at www.dales-eaves.co.uk

Polyester powder coating (Dales Standard Finish)

Easily the most popular choice for aluminium coating. It offers significant low maintenance life and a wide colour range, including attractive metallic finishes. All polyester power coating meets or exceeds BS EN12206:2004. For a small size sample of a particular colour for your finishes board, please contact Dales Project Management team on Tel: 0115 930 1521.

Anodised

Anodising is a controlled method of forming a protective layer of oxide to the aluminium products. It requires higher priced grades of aluminium than those used for paint finishes such as polyester powder. Anodising creates a particularly high quality metallic finish with a range of colours available. Anodised finish is particularly suited to coastal installations.

PVF2

Less widely used in the UK than polyester powder coating but is still the preference of some clients and specifiers. PVF2 is a two or three part wet spray coating which is applied after components are manufactured. It does give significant low maintenance life but is generally more expensive than polyester powder coating and can increase lead times.

Mill Finish

Whilst hidden items are generally supplied in mill finished aluminium, Dales do not recommend it as a suitable finish for visible surfaces.

	PPC	PVF2	Anodising
Impact Resistance	Excellent	Good	Excellent
Scratch Resistance	Good	Poor	Excellent
Repair Characteristics	Excellent	Good	None
Available Colour Range	Excellent	Good	Poor
Metallic Finishes	Good	Very Good	Excellent
Guarantee	25 Years	25 Years	25 Years
Cost	Effective	High	High

Timber Effect Polyester Powder Coating

With seven different wood grain effects from light oak through to mahogany now available on Dales Shadex blades of all sizes, there is no longer any need for clients to suffer the maintenance problems often associated with wood.

For a timber effect sample of the blade of your preference, please don't hesitate to call or email our project managers.

NBS Guidance

The NBS specification clauses within Dales product literature have been compiled in collaboration with NBS Services Ltd using NBS Plus project specifications based on the National Building Specification. The clauses are intended to enable the contractor to clearly identify the product required and the work involved in installation. (The contractor is required to comply with Dales' sitework instructions by NBS Preliminaries clause A33 / 130).

Individual Project Specifications

Any member of Dales Project Management team will be pleased to review any completed NBS clause to ensure compliance with this guidance. Alternatively, we are happy to provide complete NBS specification clauses tailored to suit your individual project requirements. For more information please contact Dales Project Management team on Tel: 0115 930 1521.

NBS Specification Services

NBS Plus subscribers go to www.nbsplus.co.uk and search for Dales Fabrications under 'The Content' in the 'Manufacturers' drop down menus.

Relevant Sections Within NBS

Dales Solar Shade Systems should be specified within L10 Windows/ Rooflights/ Screens/ Louvres

Guidance for Quantity Surveyors

As all corners, transitions and junctions etc are factory manufactured, these components must be measured as "extra over" items within the bills of quantities. Please contact Dales on tel: 0115 930 1521 or email sales@dales-eaves.co.uk for further clarification.

L10 WINDOWS/ROOFLIGHTS/SCREENS /LOUVRES

670 Brise Soleil

Manufacturer: Dales Fabrications Ltd, Crompton Road Industrial Estate, Ilkeston, Derbyshire. DE7 4BG. Tel: 0115 930 1521.
Email: sales@dales-eaves.co.uk Website: www.dales-eaves.co.uk. The supplier shall design and manufacture the system in accordance with BS EN ISO 9001 and hold Professional Indemnity Insurance to cover their design activities.
The Design of the system, including components, support structure, fixings and sealant, shall accommodate typical loadings/stresses in accordance with relevant British Standards.

Product Reference: Dales Shadex 100/ 150/ 190/ 260 **(Delete as applicable)**

Blades: High Tensile Extruded Aluminium to BS EN 755 Part 1, 2 & 9 2001 6063 T6

Support Arms: Aluminium Sheet to BS EN 485/515/573: Grade 1050 AH14, supplied by BS EN ISO 9002 registered stockist to ensure traceability.

Struts: M12 stainless steel threaded bar with machined high tensile aluminium ends. (delete if not required)

Brackets: 10-12mm aluminium alloy 5083. (delete if not required)
Size of Overhang/ Vertical Drop: ……..

Finish: Architectural Polyester Powder coated to BS 6496, coated only by BS EN IS 9002 registered applicators. Struts: self finish

Colour: Colour from Dales' standard range (available from www.dales-eaves.co.uk/finishes)

Fixings: Fixings recommended for the purpose and supplied by Dales Fabrications Ltd.

Accessories: Corners/Special items to be designed and factory manufactured specifically for the application.

Method of Fixing: Fixed in accordance with project specific drawings and installation instructions provided by Dales Fabrications Ltd.

Dales Customer Support Ethic

'One to One' Technical Support & CPD

Dales have an experienced team of technical advisors who can visit site or your premises to discuss individual project requirements.

As part of their ongoing commitment to CPD provision, each technical advisor can organise and present a CPD seminar on various subjects relating to the products that Dales manufacture. For more details or to arrange a seminar contact us on Tel: 0115 930 1521 or email us on sales@dales-eaves.co.uk

Specification Service & Project Managers

We assign an individual Project Manager to each project. The Project Manager will remain the single point of contact throughout the various stages of the project, from initial design to completion.

Relevant criteria, including support methods, material requirements and budget, are established with the specifier.

The Project Manager can prepare CAD drawings, calculations, NBS specifications and quotations, thereby providing a complete specification service.

All our design activities are underwritten by Professional Indemnity Insurance.

In-house Design & Fabrication

Dales' manufacture under the control of ISO 9001: 2015 Design & Manufacture Quality Assurance.

ISO 9001: 2015
Design & Manufacture
Certificate: 041494

Continuous investment in the latest CAD/CAM technology, manufacturing equipment and training for personnel enables us to maintain the highest standards in customer service and product quality.

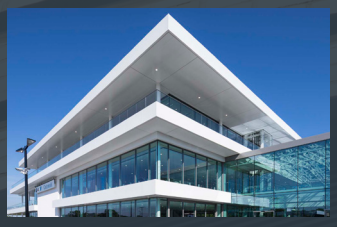
Preferred Installer Network

Our network of carefully selected preferred installers are on hand to provide a full supply and fix package. These companies specialise in the installation of our materials and are fixing them on a regular basis.

Front cover:
Hyde Park Corner: Dales 260 Shadex Cassette Panel Solar Shading curved in Anodic Ice Silver

Back cover:
The Exchange, London: 150 Shadex Solar Shade System in RAL 7009 Gloss

Also available:



Complete eaves solutions

Dales design and manufacture a wide range of fascia soffit systems that suit both traditional and contemporary building designs. These designs often include the integration of rainwater goods and secondary support to provide complete, low maintenance eaves systems.

Rainwater systems

Dales design and manufacture a wide range of rainwater goods that include both standard and bespoke systems. These systems can be integrated into our fascia soffit systems to provide acomplete, low maintenance eaves system.

Coping systems

Dales design and manufacture a range of wall capping systems in aluminium which provide an attractive and low maintenance alternative to more traditional stone copings.

Rainscreen cladding

Dales design and manufacture elegant and performance-driven rainscreen solutions.

DALES™
ALUMINIUM IN ARCHITECTURE

Dales Fabrications Ltd, Crompton Road, Industrial Estate, Ilkeston, Derbyshire, DE7 4BG
Email: sales@dales-eaves.co.uk Tel: 0115 930 1521 dales-eaves.co.uk

Intertek
ISO 9001: 2015
Design & Manufacture